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AN EMPIRICAL ANALYSIS OF THE INTERRELATIONSHIP BETWEEN ENTREPRENEURSHIP AND ECONOMIC GROWTH IN INDIA – STATE WISE ANALYSIS

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ABSTRACT

Entrepreneurship is a source of innovation and change, and as such spurs improvements in productivity and economic competitiveness. Recently two established models Wennekers and Thurik (1999) and the Global Entrepreneurship Monitor (GEM) (2002) have succeeded in providing explanations for economic growth to the realm of entrepreneurship. India can generate additional economic growth by fostering entrepreneurial activities within its

borders, particularly within its burgeoning middle class. In this context, a research study on **"An empirical analysis of the interrelationship between entrepreneurship and economic growth in India – State wise analysis"** was formulated with the objectives of finding out the state wise variation in the number of entrepreneurial units and net state domestic product and identifying the role of entrepreneurship in economic growth. The study was related to 16 major states of India for 2006-07. The required information were compiled from the Handbook of Indian economy, Annual survey of micro, small and medium enterprises and Statistical Abstract of India. The study calculated Theil's inequality index and applied multiple regression analysis. The study found that Rajasthan, Uttar Pradesh, West Bengal, Madhya Pradesh, Maharashtra, Andhra Pradesh, Kerala and TamilNadu are having high economic growth. However Rajasthan, Uttar Pradesh, West Bengal, Madhya Pradesh, Maharashtra, Andhra Pradesh, Kerala and TamilNadu are having more number of micro, small and medium enterprises. The extent of inequality was found to be more in net state domestic product (0.5587) as compared to the number of micro, small and medium enterprises (0.5177). As per the study, entrepreneurship (Number of Micro, Small and medium enterprises) is a significant variable influencing economic growth. Hence there is a need for development of entrepreneurial skills and separate small industrial estate may be setup for micro, small and medium enterprises to create special environment.

One of the more recent microeconomic approaches to economic growth is the promotion of entrepreneurial activities. Entrepreneurial efforts have been found to generate a wide range of economic benefits, including new business, new jobs, innovative products and services, and increased wealth for future community investment (Kayne, 1999).

The hypothesis that entrepreneurship is linked to economic growth finds its most immediate foundation in simple intuition, common sense and pure economic observation:

activities to convert ideas into economic opportunities lie at the very heart of entrepreneurship. Entrepreneurship is a source of innovation and change, and as such spurs improvements in productivity and economic competitiveness.

Adam Smith (1776) whose overriding goal was to understand the wealth-creation process began his treatise with the lesson that the division of labor is limited by the extent of the market. As markets grew, entrepreneurship would lead to innovation which would lead to an increasing division of labor and increased productivity. David Ricardo (1821) in contrast, envisioned economic output as being a function of the inputs of land, labor, and capital. Investment could produce more capital, but because of diminishing marginal factor productivity and the existence of fixed factors such as land, population growth would always dominate economic growth, keeping most of the population at a subsistence level of income. The ideas of Ricardo and contemporary Malthus (1798) created the view of economics as the dismal science, which contrasts sharply with Smith's view of entrepreneurship and innovation that would lead to ever-increasing wealth.

The role of entrepreneurship as the driving force of economic growth found its most explicit foundation in Joseph Schumpeter's theory (1911) of long waves. According to Schumpeter, "Everyone is an entrepreneur when he actually carries out new combinations". Finding new combinations of factors of production is a process of entrepreneurial discovery that will become the engine that drives economic development. These "new combinations" constitute better ways to meet existing demand or create new products, often making current technologies and products obsolete. Business cycles are seen as the result of innovation, which consists of the generation of a new idea and its implementation in a new product, process or service, leading to the dynamic growth of the national economy.

the process of acting upon a previously unnoticed p...

ntrepreneurship can provide an engine to drive Smithian economic growth. ntrepreneurial opportunities tend to appear within the context of a specific time and lace, so following Hayek (1945), a decentralized economy that allows individuals to act on heir entrepreneurial insights, and rewards them for doing so, produce an environment where additional entrepreneurial insights are likely to be produced. Looked at in this way, entrepreneurship is the foundation for economic growth. Entrepreneurial insights lay the foundation for additional entrepreneurial insights, which drive the growth process.

Following an extensive study of entrepreneurship in 21 countries, Reynolds, Hay, Camp and Autio (2000) concluded that successful entrepreneurial activity is strongly associated with economic growth.

CONCEPTUAL FRAMEWORKS TO LINK ENTREPRENEURSHIP TO ECONOMIC GROWTH

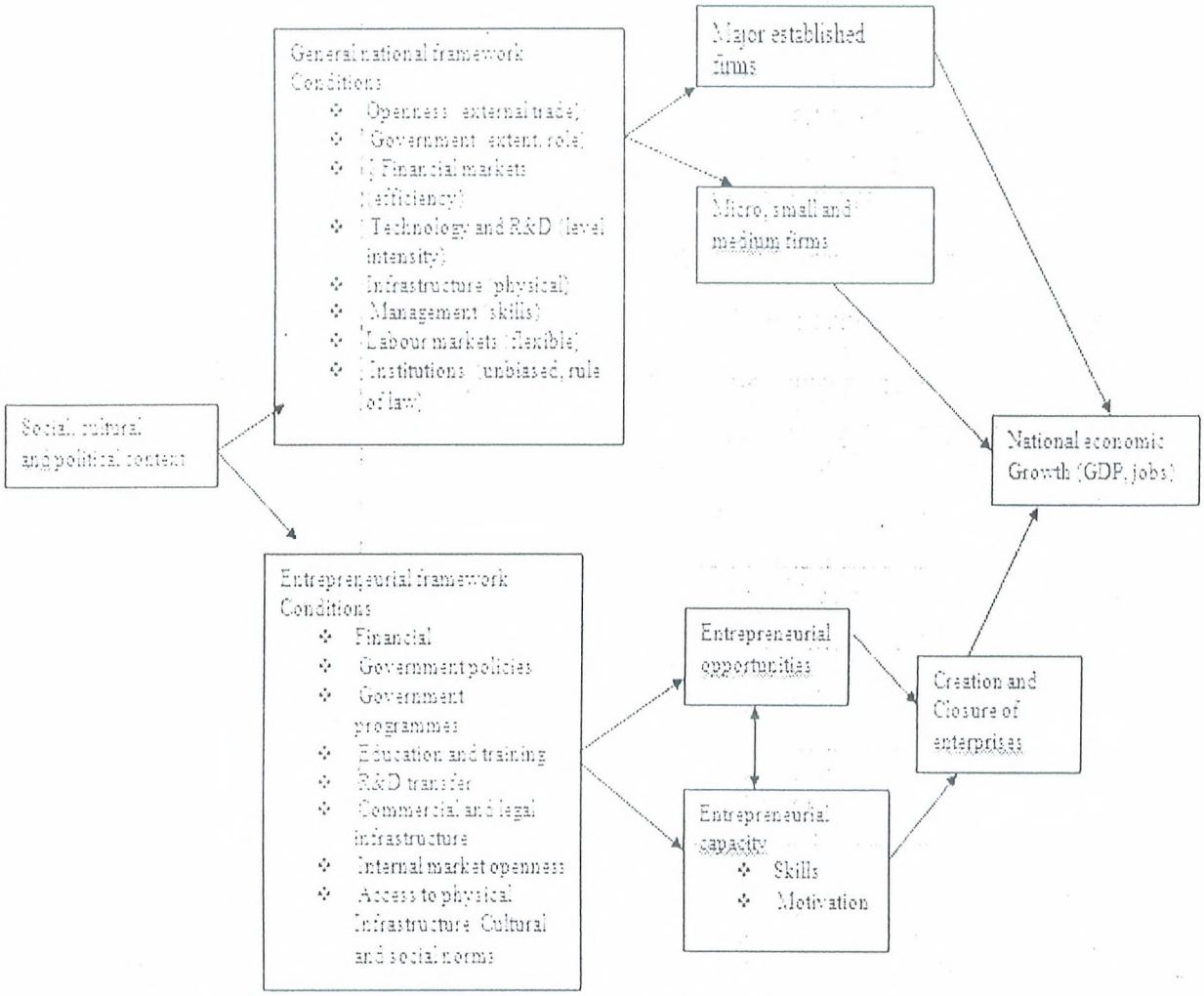
Recently two established models have succeeded in providing explanations for economic growth to the realm of entrepreneurship. The related framework models are proposed by Wennekers and Thurik (1999) and the Global Entrepreneurship Monitor (GEM) research programme.

Wennekers and Thurik model distinguishes between three levels of analysis: the individual level, the firm level and the macro level. Entrepreneurial activity originates at the individual level and is always traceable to a single person, the entrepreneur. Entrepreneurship is, hence, induced by an individual's attitudes or motives, skills and psychological endowments.

The conceptual framework of GEM (2002) takes a slightly different angle. It analyses the success of large firms advancing market opportunities for small and medium enterprises (SMEs) and the role of entrepreneurship in the growth process as the main mechanism driving macroeconomic growth along with their complementary nature.

FIGURE-I

GEM MODEL



Source: Adapted slightly from Reynolds et al. (2002): 40.

The top portion focuses on the role of large established enterprises. Depending on national framework conditions, large firms, generally integrated into international trade markets, can promote self-expansion and maturation. The economic success of large enterprises tends to create new market opportunities for SMEs through technological spill-over, spin-offs, and an increase in domestic demand for goods and services.

ENTREPRENEURSHIP AND ECONOMIC GROWTH IN INDIA

India can generate additional economic growth by fostering entrepreneurial activities within its borders, particularly within its burgeoning middle class. India specifically has reached a point in its development where it can achieve significant economic growth through entrepreneurial efforts. Among other things, India is poised to generate new business startups in the high technology area that can help it become a major competitor in the World economy. For example, it has a strong education base suited to entrepreneurial activities, increased inflows of foreign capital aimed at its growing information technology services sector, and a host of successful new business startups.

In this context, a research study on **"An empirical analysis of the interrelationship between entrepreneurship and economic growth in India – State wise analysis"** was formulated with the following **objectives:**

1. To find out the state wise variation in the number of entrepreneurial units and net state domestic product and
2. To identify the role of entrepreneurship in economic growth.

METHODOLOGY

The study was related to 16 major states and union territories of India (Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Uttar Pradesh, West Bengal, and TamilNadu). These states accounts for 92% of the population of India.

The study considered net state domestic product as the yard stick of economic growth and number of Micro, Small and Medium enterprises as an indicator of entrepreneurial activities.

The study was related to 2006-07 since it is the latest year for which state wise data on MSMEs were available. The required information was compiled from the following sources:

1. Handbook of Indian economy published by Reserve bank of India, New Delhi.
2. Annual survey of MSMEs published by All India census of micro, small and medium enterprises and
3. Statistical Abstract of India published by Central Statistical Organization, New Delhi

HYPOTHESIS FORMULATED

1. There is no significant relationship between the number of micro, small and medium enterprises and economic growth and
2. The extent of inequality in economic growth do not differ from the extent of inequality in the number of micro, small and medium enterprises.

TOOLS APPLIED

i. Theil's inequality index:

To analyse the disparity in NDSP, MSMEs, Population, Cropped area, Gross capital formation and Plan outlay for public sector, Theils inequality index was estimated. The formula used was

$$\text{Theil's inequality index} = \text{Log } N - \sum [\alpha_i (\log 1/x_i)]$$

$$Xi = xi / \sum xi \text{ and } N = \text{Number of observation.}$$

ii. Multiple regression analysis:

The study applied multiple regression analysis to find out the impact of entrepreneurship on economic growth. The estimated multiple regression equation is of the form

$$Y = bo+b1X1+b2X2+b3X3+b4X4+b5X5+E$$

Where,

Y= Net state Domestic product (Rs in crores):

X1= Number of MSMEs:

X2= Population:

X3 = Cropped area ('ooo hectares):

X4=Gross capital formation (Rs in lakhs):

X5=Plan outlay for public sector (Rs in crores) and

E= Error term.

FINDING OF THE STUDY

a) State wise variations in economic growth:

Economic growth as indicated by Net state domestic product differ in various states. Table I represents state wise Net state domestic product.

Table-I

State wise Net State Domestic Product- 2006-07

S. No	Name of the State	Net State Domestic Product Rs in crores (at current prices)
1	Andhra Pradesh	269120
2	Assam	57033
3	Bihar	92132
4	Gujarat	240733
5	Haryana	117590
6	Himachal Pradesh	26247
7	Jammu & Kashmir	26973
8	Kerala	135104
9	Madhya Pradesh	127663
10	Maharashtra	524137

11	Orissa	85987
12	Punjab	112388
13	Rajasthan	151428
14	Uttar Pradesh	294031
15	West Bengal	238625
16	TamilNadu	276987

Source: Handbook of Indian economy published by Reserve bank of India,

New Delhi. 2007-08

From Table-I, it is evident that Maharashtra, Uttar Pradesh, TamilNadu, etc. are having high economic growth as compared to other states.

On the basis of average net state domestic product the states are classified into two groups **States having high economic growth:** Andhra Pradesh, Rajasthan, Uttar Pradesh, West Bengal, Madhya Pradesh, Maharashtra, Kerala and TamilNadu. **States having low economic growth:** Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Bihar, Assam, Orissa and Gujarat

b) **State wise variations in entrepreneurship**

The number of Micro, small and medium enterprises differs among the states. Table II represents the information on the number of Micro, small and medium enterprises in various States of India

Table II

STATE WISE NUMBER OF MICRO, SMALL AND MEDIUM ENTERPRISES- 2006-07

Name of the State	Number of Registered Units	Number Unregistered units	Total
Andhra Pradesh	24892	1980152	2005044
Assam	18671	584870	603541
Bihar	54188	952071	1002259
Gujarat	229830	867271	1097101
Haryana	33783	570312	604095
Himachal Pradesh	11937	172914	184851
Jammu & Kashmir	14534	246803	261337
Kerala	149847	1318257	1468104
Madhya Pradesh	108804	1181732	1290536
Maharashtra	86635	2496235	2582870
Orissa	19587	1042099	1061686
Uttar Pradesh	187522	2925794	3113316
Punjab	50113	753872	803985
Rajasthan	55108	1216355	1271463
West Bengal	42635	2470668	2513303
TamilNadu	233996	2361131	2595127

Source: All India Census of micro, small and medium enterprises- 2007-08

Table-II makes it clear that the States of Uttar Pradesh, TamilNadu, Maharashtra, etc., are having high entrepreneurship development as indicate by the number of MSMEs.

On the basis of average number of MSMEs the States are classified into two groups

States having more number of MSMEs: Rajasthan, Uttar Pradesh, West Bengal, Madhya Pradesh, Maharashtra, Andhra Pradesh, Kerala and TamilNadu. **States having less number of MSMEs:** Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Bihar, Assam, Orissa and Gujarat.

c) **Estimated inequality index of Net state domestic product, Number of Micro, Small and Medium enterprises, Population, Cropped area, Gross capital formation and Plan outlay for public sectors:**

The current study tries to find out the extent of variation in economic growth and selected variables calculating Theil's inequality index. Table-III presents the estimated Theil's inequality index of Net state domestic product, Number of Micro, Small and Medium enterprises, Population, Cropped area, Gross capital formation and Plan outlay for public sectors.

Table-III

Estimated Theil's inequality index of Net state domestic product, Number of Micro, Small and Medium enterprises, Population, Cropped area, Gross capital formation and Plan outlay for public sectors

S. No	Items	Theil's inequality index
1	Net state domestic product	0.5587
2	Number of Micro, Small and Medium enterprises	0.5177
3	Population	0.2523

4	Cropped area	0.1825
5	Gross capital formation	0.5596
6	Plan outlay for public sectors	0.4917

Source: Calculated values based on the compiled data.

The extent of inequality was found to be more in Net state domestic product (0.5587) as compared to the number of Number of Micro, Small and Medium enterprises (0.5177). Among the selected variables the inequality was found to be the lowest in the cropped area (0.1825).

d) **Identification of factors influencing economic growth**

The current study tries to find out the role of entrepreneurship in economic growth by applying Multiple regression analysis. Table-IV represents the estimated Multiple regression co-efficients of Net state domestic product as related to the selected variables.

Table-IV

The estimated Multiple regression co-efficients of

Net state domestic product as related to the selected variables

S. No	Variable	Regression Co-efficient	Standard error	t value
1	Number of MSMEs (x1)	.943	.033	4.033**
2	Population (x2)	-.270	.001	-.757
3	Cropped Area (x3)	.063	5.006	.212
4	Gross Capital Formation (x4)	.385	.093	2.271*
5	Plan outlay for public sector (x5)	.037	2.211	.309

*Statistically significant at 5% level R^2=0.86

** Statistically significant at 5% level N=16

Table-IV implies that entrepreneurship (Number of Micro, Small and medium enterprises) is a significant variable influencing economic growth. An increase in the number of micro, small and medium enterprises by one unit is expected to increase economic growth by 0.9 units. Gross capital formation is also having a positive and significant impact on economic growth. The estimated multiple regression equation is valid as indicated by the calculated R^2=0.86.

CONCLUSION

1. There is a significant interrelationship between entrepreneurship and economic growth.
2. The states having more number of MSMEs have evidence of high economic growth.
3. There exist regional inequality in economic growth and also entrepreneurship.

RECOMMENDATIONS

1. There is a need for development of entrepreneurial skills covering management of enterprise, maintaining accounts, enhancing productivity, marketing, selling, etc.
2. Separate small industrial estate may be setup for Micro, small and medium enterprises to create special environment.
3. Policies and programmes need to be formulated and implemented to enhance the skills, of entrepreneurs and
4. Tie up can be evolved with media to give circle publication about entrepreneurs and entrepreneurial success.

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