HUMAN DEVELOPMENT AND ECONOMIC GROWTH: A COMPARATIVE STUDY OF PUNJAB AND HARYANA

THESIS SUBMITTED IN
PARTIAL FULFILMENT OF THE REQUIREMENTS
FOR THE AWARD OF DEGREE OF
MASTER OF PHILOSPHY
(ECONOMICS)

By

LAKHWINDER KAUR

ROLL NO: 881201004

Under the Supervision of:

Dr Rakesh Kumar Sharma
Assistant Professor
School of Behavioral Sciences and Business Studies
Thapar University, Patiala

Dr (Ms) Ravi Kiran
Professor and Head
School of Behavioral Sciences and Business Studies
Thapar University, Patiala

SCHOOL OF BEHAVIORAL SCIENCES AND BUSINESS STUDIES

THAPAR UNIVERSITY,

PATIALA 147001(INDIA)

July 2013

DEDICATED TO

God,

My Father

S. Shamsher Singh Sidhu,

And

My whole family

CERTIFICATE

*I here certify that the work, which is being presented in this thesis entitled '**HUMAN DEVELOPMENT AND ECONOMIC GROWTH: A COMPARATIVE STUDY OF PUNJAB AND HARYANA'** in partial fulfillment of the requirements for award of the Degree of Masters of Philosophy in Economics, submitted in School of Behavioral Science and Business Studies, Thapar University Patiala, is an authentic record of my own work, carried out under the supervision of Dr (Ms) Ravi Kiran, Professor and Head; and Dr Rakesh Kumar Sharma, Assistant Professor, School of Behavioral Sciences and Business Studies, Thapar University Patiala*

The matter presented in this thesis has not been submitted for the award of any other degree of this or any other degree of this or any other University.

Lakhwinder Kaur

LAKHWINDER KAUR

(Registration No.881201004)

This is to certify that the above statement made by the candidate is correct to the best of my knowledge.

Rakesh

Dr Rakesh Kumar Sharma
(Supervisor)
Professor and Head
School of Behavioral Sciences and Business Studies
Thapar University, Patiala

Ravi Kiran

Dr (Ms) Ravi Kiran
(Supervisor)
Professor and Head
School of Behavioral Sciences and Business Studies
Thapar University, Patiala

Countersigned by:

Ravi Kiran

Dr (Ms) Ravi Kiran
Professor and Head,
School of Behavioral Sciences and Business Studies
Thapar University, Patiala

Dr. S. K. Mohapatra
Dean of Academic Affairs
Thapar University, Patiala

ACKNOWLEDGMENT

The completion of this thesis has involved a lot of people to whom I would like to express my sincere thanks and gratitude for their help.

Firstly, I would like to pass my appreciation and gratitude to my honorable supervisors, Dr (Ms) Ravi Kiran Professor and Head and Dr. Rakesh Sharma, Assistant Professor, School of Behavioral Sciences and Business Studies, Thapar University, Patiala for their invaluable guidance, prudent advice and encouragement in accomplishing this research work, moreover for mentoring me when I needed it the most.

I would also like to thank my beloved parents for their unconditional support and deep trust in me, without whom my project would have been a mere dream rather than a reality.

I am equally grateful to Dr (Ms) Ravi Kiran, Professor and Head, Dr (Ms) Hitashi Lomash and Dr. A.N. Sah Assistant Professors in School of Behavioral Sciences and Business Studies, Thapar University, Patiala for providing keen interest, unfailing support, inspiration and ingenious suggestions.

I am thankful to my friends Harvinder, Satveer, Hartaj and Rohit who also contributed a lot in accomplishing this piece of work to be a successful one.

Lakhwinder Kaur

LAKHWINDER KAUR

ACKNOWLEDGMENT

The completion of this thesis has involved a lot of people to whom I would like to express my sincere thanks and gratitude for their help.

Firstly, I would like to pass my appreciation and gratitude to my honorable supervisors, Dr (Ms) Ravi Kiran Professor and Head and Dr. Rakesh Sharma, Assistant Professor, School of Behavioral Sciences and Business Studies, Thapar University, Patiala for their invaluable guidance, prudent advice and encouragement in accomplishing this research work, moreover for mentoring me when I needed it the most.

I would also like to thank my beloved parents for their unconditional support and deep trust in me, without whom my project would have been a mere dream rather than a reality.

I am equally grateful to Dr (Ms) Ravi Kiran, Professor and Head, Dr (Ms) Hitashi Lomash and Dr. A.N. Sah Assistant Professors in School of Behavioral Sciences and Business Studies, Thapar University, Patiala for providing keen interest, unfailing support, inspiration and ingenious suggestions.

I am thankful to my friends Harvinder, Satveer, Hartaj and Rohit who also contributed a lot in accomplishing this piece of work to be a successful one.

LAKHWINDER KAUR

LIST OF TABLES

ABSTRACT

Human development is the end- economic growth is a means. So, the purpose of growth should be to enrich people's lives. For many years growth has been a major economic goal of policy makers and political leaders as delivering a larger quantity of goods and services is the best way to improve people's standard of living. But quality of people's lives can be poor in the midst of plenty so undoubtedly more economic growth is needed but more attention must go to the structure and quality of that growth-to ensure that it is directed to supporting human development, reducing poverty, protecting the environment and ensuring sustainability. . Human development goes far beyond income and growth to cover the full flourishing of all human capabilities. It emphasizes the importance of putting people, their needs, their aspirations, and their choices at the center of development effort. Human development reports have defined Human Development as the process of enlarging people's choices. The most critical areas are to lead a long and healthy life, to be educated and to enjoy a decent standard of living.

The study is designed to observe the trends in human development indicators as, literacy rates, enrolment rate, and infant mortality rates. Trends for growth of Net state domestic product have been analysed. The study also observes the trends in growth rates of human development indicators to compare performance of Punjab and Haryana. Regression techniques have been used for analyzing the relation between economic growth and Human development indicators. Keeping in view the importance and scope of research in this area, the present study has been undertaken to study the Economic performance by growth indicators for Punjab and Haryana with special emphasis on performance in the 2001 onwards era and to study the human development indicators with special emphasis on health and Educational indicators. This research also analyses the relationship between economic growth and human development. The basic purpose is to find main predictors of growth. Results of the present study highlight the relation between economic growth and human development. Thus this implies that there is a need to focus on improving human development to finally aim at higher

TABLE OF CONTENTS

CHAPTER 1
ECONOMIC GROWTH AND HUMAN DEVELPOMENT

1 INTRODUCTION

Is Economic growth a meaningful goal? Or is Human development the real objective? If it is human development, growth should be judged not by the abundance of commodities it produces, but how it enriches people's lives. Human development is the end- economic growth is a means. So, the purpose of growth should be to enrich people's lives. For many years growth has been a major economic goal of policy makers and political leaders as delivering a larger quantity of goods and services is the best way to improve people's standard of living. But quality of people's lives can be poor in the midst of plenty so undoubtedly more economic growth is needed but more attention must go to the structure and quality of that growth-to ensure that it is directed to supporting human development, reducing poverty, protecting the environment and ensuring sustainability.

Amartaya Sen also emphasized that the case of human well being is freedom of choice. Both the fasting monk and the starving pauper may be hungry-the difference is that one exercises a free choice, and the other does not. Human development goes far beyond income and growth to cover the full flourishing of all human capabilities. It emphasizes the importance of putting people, their needs, their aspirations, and their choices at the center of development effort. Human development reports have defined Human Development as the process of enlarging people's choices. The most critical areas are to lead a long and healthy life, to be educated and to enjoy a decent standard of living.

During the late 1980s and early 1990s new theories of economic growth underpinned the human development position that the real motive force of economic progress is people. Paul Rower and Robert Lucas tested the effect of human capital on long-term growth rates. The theories concentrated mainly on productive capacities. The earlier conventional 'Neoclassical" theory of

growth regarded that economic growth was the result of accumulation of physical capital and on expansion of labor force combined with an “exogenous” factor, technological progress that makes capital and labor more productive.

In the new theories productivity does not increase as a result of the exogenous factor but “endogenous” ones-related to behavior of people responsible for accumulation of productive factors and knowledge. Some new models argue that the crucial factor behind the increase is human capital. Others advocate Research and Development (R&D) as the key source of productivity growth-though this too depends on human capital. Both types of models depend heavily on expanding human capabilities. The human capital models show that educated people use capital more efficiently, so it becomes more productive. They are also likely to innovate-to diverse new and better forms of production. Moreover they spread the benefits to co-workers, who learning from them become more productive. Even if innovations come from R&D, they require an educated work force-both people with higher skills to carry out research and those with more basic skills to put the results into practice. The new growth models thus confirm the human development position that the driving force of all economic growth is people.

Keeping in view the importance and scope of research in this area, the present study has been undertaken to study the Economic performance by growth indicators for Punjab and Haryana with special emphasis on performance in the 2001 onwards era and to study the human development indicators with special emphasis on health and Educational indicators and to study the relationship between growth and human development with emphasis the specified time period.

The study is designed to observe the trends in human development indicators as, literacy rates, enrolment rate, and infant mortality rates. Trends for growth of Net state domestic product have been analysed. The study also observes the trends in growth rates of human development indicators to compare performance of Punjab and Haryana. Regression techniques have been used for analyzing the relation between economic growth and Human development indicators.

Human Development Index is a composite index to measure the development of human resources in each country and four indicators of life expectancy, income per capita, the average number of years studying and hope to the number of years of education will be formed. “Human development is concerned with what I take to be the basic development idea: namely, advancing the richness of human life, rather than the richness of the economy in which human beings live, which is only a part of it.” The human development indices provide an assessment of country achievements in different areas of human development. Human Development Index is a composite index to gauge success in each country, based on three criteria of human development: a long and healthy life, access to knowledge and wisdom and good living.

People are real wealth of every nation. The purpose of human development is creating conditions in which its people can live a long life and a healthy and productive benefit. People are the real wealth of a nation. The basic objective of development is to create an enabling environment for people to enjoy long, healthy and creative lives. This may appear to be a simple truth. But it is often forgotten in the immediate concern with the accumulation of commodities and financial wealth.

Technical considerations of the means to achieve human development - and the use of statistical aggregates to measure national income and its growth - have at times obscured the fact that the primary objective of development is to benefit people. There are two reasons for this. First, national income figures, useful though they are for many purposes, do not reveal the composition of income or the real beneficiaries. Second, people often value achievements that do not show up at all, or not immediately, in higher measured income or growth figures: better nutrition and health services, greater access to knowledge, more secure livelihoods, better working conditions, security against crime and physical violence, satisfying leisure hours, and a sense of participating in the economic, cultural and political activities of their communities. Of course, people also want higher incomes as one of their options. But income is not the sum total of human life. This way of looking at human development is not really new.

The idea that social arrangements must be judged by the extent to which they promote "human good" goes back at least to Aristotle. He also warned against judging societies merely by such

things as income and wealth that are sought not for themselves but desired as means to other objectives. "Wealth is evidently not the good we are seeking, for it is merely useful and for the sake of something else." Aristotle argued for seeing "the difference between a good political arrangement and a bad one" in terms of its successes and failures in facilitating people's ability to lead "flourishing lives". Human being as the real end of all activities was a recurring theme in the writings of most of the early philosophers. Emmanuel Kant observed: "So act as to treat humanity, whether in their own person or in that of any other, in every case as an end withal, never as means only."

The same motivating concern can be found in the writings of the early leaders of quantification in economics – William Petty, Gregory King, François Quesnay, Antoine Lavoisier and Joseph Lagrange, the grandparents of GNP and GDP. It is also clear in the writings of the leading political economists - Adam Smith, David Ricardo, Robert Malthus, Karl Marx and John Stuart Mill. But excessive preoccupation with GNP growth and national income accounts has obscured that powerful perspective, supplanting a focus on ends by an obsession with merely the means.

Human Development (HD) goes well beyond the Human Development Index (HDI), with which it is often equated. Human Development has been defined as ‘a process of enlarging people’s choices. The most critical ones are to lead a long and healthy life, to be educated, and to enjoy a decent standard of living.

Human development is a process of enlarging people's choices. The most critical ones are to lead a long and healthy life, to be educated and to enjoy a decent standard of living. Additional choices include political freedom, guaranteed human rights and self-respect - what Adam Smith called the ability to mix with others without being "ashamed to appear in public". It is sometimes suggested that income is a good proxy for all other human choices since access to income permits exercise of every other option. This is only partly true for a variety of reasons:

- Income is a means, not an end. It may be used for essential medicines or narcotic drugs. Well being of a society depends on the uses to which income is put, not on the level of income itself.

- Country experience demonstrates several cases of high levels of human development at modest income levels and poor levels of human development at fairly high income levels.
- Present income of a country may offer little guidance to its future growth prospects. If it has already invested in its people, its potential income may be much higher than what its current income level shows, and vice versa.
- Multiplying human problems in many industrial, rich nations show that high income levels, by themselves, are no guarantee for human progress. The simple truth is that there is no automatic link between income growth and human progress. The main preoccupation of development analysis should be how such a link can be created and reinforced.

The term human development here denotes both the process of widening people's choices and the level of their achieved wellbeing. It also helps to distinguish clearly between two sides of human development. One is the formation of human capabilities, such as improved health or knowledge. The other is the use that people make of their acquired capabilities, for work or leisure. This way of looking at development differs from the conventional approaches to economic growth, human capital formation, human resource development, human welfare or basic human needs. It is necessary to delineate these differences clearly to avoid any confusion:

GNP growth is treated here as being necessary but not sufficient for human development. Human progress may be lacking in some societies despite rapid GNP growth or high per capita income levels unless some additional steps are taken.

Theories of human capital formation and human resource development view human beings primarily as means rather than as ends. They are concerned only with the supply side - with human beings as instruments for furthering commodity production. True, there is a connection, for human beings are the active agents of all production. But human beings are more than capital goods for commodity production. They are also the ultimate ends and beneficiaries of this process. Thus, the concept of human capital formation (or human resource development) captures only one side of human development, not its whole. Human welfare approaches look at

human beings more as the beneficiaries of the development process than as participants in it. They emphasize distributive policies rather than production structures.

The basic needs approach usually concentrates on the bundle of goods and services that deprived population groups need: food, shelter, clothing, health care and water. It focuses on the provision of these goods and services rather than on the issue of human choices. Human development, by contrast, brings together the production and distribution of commodities and the expansion and use of human capabilities. It also focuses on choices - on what people should have, be and do to be able to ensure their own livelihood. Human development is, moreover, concerned not only with basic needs satisfaction but also with human development as a participatory and dynamic process. It applies equally to less developed and highly developed countries.

1.1 HISTORY OF HUMAN DEVELOPMENT INDEX

The Human Development Index first came about three decades ago, in 1990 as development economics took on a new focus moving the spotlight from national income to people-centered policies designed to increase standards of living in countries all over the world. The first step in the process was to develop a method for determining the level of a country's human development as compared to other countries. So, an economist from Pakistan by the name of Mahbub-ul-Haq developed a methodology and mathematical formula for determining the human development index of a given country. This formula made the index one-fifth life expectancy, one-fifth education, one-fifth adult literacy, one-fifth gross enrollment, and one-fifth GDP. Then, Mahbub-ul- Haq and a group of other well-known development economists set out on the trek to determine an index for each country of the world and then categorize and rank each country.

This formula and methodology was used up until 2009 when it was modified in 2010 to include only three main indices (life expectancy, education, and income) with the HDI being the geometric mean of all three.

While there are many supporters of how HDI is calculated, there are also critics who beleive that the calculation only focuses on national performance and ranking rather than taking more of a global or ecological approach. However, a valid alternative has not yet been fully developed nor accepted by a majority of the world.

The human development concept was developed by economist Mahbub ul Haq. At the World Bank in the 1970s, and later as minister of finance in his own country, Pakistan, Dr. Haq argued that existing measures of human progress failed to account for the true purpose of development to improve people's lives. In particular, he believed that the commonly used measure of Gross Domestic Product failed to adequately measure well-being. Working with Amartya Sen and other gifted economists, in 1990. Dr. Haq published the first Human Development Report, which had been commissioned by the United Nations Development Program. The human development model emphasizes the everyday experience of ordinary people, including the economic, social, legal, psychological, cultural, environmental and political processes. The first Human Development Index was presented in 1990. It has been an annual feature of every Human Development Report ever since, ranking virtually every country in the world. The HD Index has become one of the most widely used indices of well-being and has succeeded in broadening the measurement and discussion of well-being beyond the important but nevertheless narrow confines of income. What's more, the index has encouraged countries to invest in data collection on their citizens' well-being and spurred many countries to try to improve their rankings on the index.

According to Mahbub ul Haq, "the defining difference between the economic growth and the human development schools is that the first focuses exclusively on the expansion of only one choice – income – while the second embraces the enlargement of all human choices – whether economic, social, cultural or political."

According to Streeten (1994) human development is necessary on account of the following reasons. Human development is the end while economic growth is only a means to this end. Human development is a means to higher productivity. It helps in lowering the family size by slowing human reproduction. Human development is good for physical environment. Reduced

poverty contributes to a healthy civil society, increased democracy and greater social stability. Human development can help in reducing civil disturbances in a society and in increasing political stability.

1.2 BRIEF HISTORY OF CRITIQUES AND EVOLUTION OF HDI:

Ever since the HDI was first published, it has drawn critiques from many sides. Some critiques claim that it uses the wrong variables, and that it is not reflecting the human development idea accurately (Srinivasan , 1994). Sagar and Najam (1998) opined that "the HDI presents a distorted picture of the world". Others argued that the HDI depicts an oversimplified view of human development by relying on only a few indicators often derived from data of low quality (Murray, 1993, Srinivasan, 1994).

In response to critiques of this kind, the UNDP developed additional complementary tools such as the Human Poverty Index, the gender-related development index, and the gender empowerment measure. However, although these indices complement the HDI's explanatory power, they have not been widely used.

A possible alternative to having separate indices would be to incorporate more dimensions into the HD itself. However, others argue that the current composition of the HDI is stable and that adding new dimensions may affect such stability. For example, Streeten, 1994, voices concerns against the addition of political and human rights variables to the HDI on the grounds of differential objectivity with which these dimensions are measured, differential volatility, and the importance of each concept in its own.

One long standing stream of critique has been that a pure economic indicator (GDP, GNI or similar) focused on economic growth alone is sufficient for any serious discussion regarding human development, especially given the intrinsic high correlation of all the HDI components among themselves as well as with the HDI, (Srinivansan, 1994). Ogwang (1994) argues that the HDI doesn't reveal anything beyond that portrayed by the GDP or by the life expectancy

alone. Sugden (1993) questions if there is an alternative to “measurements of real income, and the kind of practical cost-benefit analysis which is grounded in Marshallian consumer theory

“that can be used to assess “the rich array of functioning’s that Sen takes to be relevant.”

There are also critiques of statistical quality and methodological soundness of the HDI, which highlight the measurement errors and biases inherent in the international data (Srinivansan, 1994 b), violation of the evidence-based character of the HDI by increasing reliance on mathematical interpolations, imputations, and modeling (Lind, 1992, Ogwang, 1994), as well as the arbitrariness of the choice of aggregation and weighting strategy (Kelley, 1991, Srinivasan, 1994).

Diener and Suh, (1997) prefer a multidimensional “dashboard” approach to a scalar composite index as a way to avoid an arbitrary choice of the functional form and an arbitrary weighting scheme, but also not to lose information unnecessarily due to aggregation across indicators. Although, the use of multiple indicators allows the researcher to observe an object of interest from multiple angles, it does not allow a parsimonious understanding of the phenomenon under consideration. Indeed, one can find arguments for both – for composite indices and against them. According to Saisana et al. (2005), the arguments in favour of composite indices are listed as follows:

Composite indices can be used to summarize complex or multi-dimensional issues, in view of supporting decision-makers; they can provide the big picture; they facilitate the task of ranking countries on complex issues; composite indices can help attracting public interest, and they could help to reduce the size of a list of indicators. As arguments against the composite indices, Saisana et al. states that "composite indices may send misleading, non robust policy messages if they are poorly constructed or misinterpreted or may invite politicians to draw simplistic policy conclusions." Also, the construction of composite indicators involves stages where judgements are necessary such as the selection of component indicators, choice of functional model, weighting, etc. The perceived arbitrariness in the context or in the process could lead to more frequent disagreement among, say, countries about composite indices than on individual indicators.

"[…] it is hard to imagine that debate on the use of composite indicators will ever be settled […] official statisticians may tend to resent composite indicators, whereby a lot of work in data collection and editing is "wasted" or "hidden" behind a single number of dubious significance. On the other hand, the temptation of stakeholders and practitioners to summarise complex and sometimes elusive processes (e.g. sustainability, single market policy, etc.) into a single figure to benchmark country performance for policy consumption seems likewise irresistible." (Saisana et al., 2005).

1.3 DEFINITION OF HUMAN DEVELOPMENT

Rawls (1999) identifies primary goods through 'deliberative rationality. According to the Theory of Justice, primary goods 'are in general necessary for the framing and execution of a rational plan of life' 'following full deliberative rationality, that is, with careful consideration of the relevant facts and after a careful consideration of the consequences' (Rawls, 1999, p. 359, p. 380). They are derived from 'some general facts about human wants and abilities' and the necessities of social interdependence.

Finnis' approach is derived from practical reasoning (Finnis et al. 1987) which has a lot in common with 'deliberative rationality', as it is derived from 'critical reflection about the planning of one's life' (Nussbaum 2000, p. 79); or the 'internal reflection of each person upon her own thoughts, reading, imagination and experiences' (Nussbaum 2000, p. 39).

Doyal and Gough's definition of basic needs is based on the principle of the avoidance of serious harm where harm is defined as preventing people realizing activities which are essential to their plan of life (Doyal and Gough 1991).

Nussbaum's list, which broadly follows Rawls but is more extensive and detailed, is largely based on 'overlapping consensus' (a concept developed by Rawls (1993)) as a basis for justice in a plural society) plus intuition as to what is needed to be 'truly human' (Nussbaum 2000). An overlapping consensus is an informed view of what people agree about, even with different overall philosophies or religions.

The 'Voices of the Poor' analyzes of Chambers, Narayan-Parker and others (Narayan-Parker 2000), represent what the poor identify as their needs, based on focus groups of poor people carried out around the developing world.

The Human Development Index (HDI) is a statistical tool used to measure a country's overall achievement in its social and economic dimensions. The social and economic dimensions of a country are based on the health of people, their level of education attainment and their standard of living. Description: Pakistani economist Mahbub ul Haq created HDI in 1990 which was further used to measure the country's development by the United Nations Development Program (UNDP).

A tool developed by the United Nations to measure and rank countries' levels of social and economic development based on four criteria: Life expectancy at birth, mean years of schooling, expected years of schooling and gross national income per capita. The HDI makes it

possible to track changes in development levels over time and to compare development levels in different countries.

The HDI-human development index- is a summary composite index that measures a country's average achievements in three basic aspects of human development: longevity, knowledge, and a decent standard of living. Longevity is measured by life expectancy at birth; knowledge is measured by a combination of the adult literacy rate and the combined primary, secondary, and tertiary gross enrolment ratio; and standard of living by GDP per capita (PPP US$). A summary composite index that measures a country's average achievements in three basic aspects of human development: longevity, knowledge, and a decent standard of living. Longevity is measured by life expectancy at birth; knowledge is measured by a combination of the adult literacy rate and the combined primary, secondary, and tertiary gross enrollment ratio; and standard of living is measured by GDP per capita. The Human Development Index (HDI), reported in the Human Development Report of the United Nations, is an indication of where a country is development wise. The index can take value between 0 and 1. Countries with an index over 0.800 are part of the High Human Development group. Between 0.500 and 0.800, countries are part of the Medium Human Development group and below 0.500 they are part of the Low Human Development group.

1.4 HUMAN DEVELOPMENT AND GROWTH

The discourse on human development signifies a shift away from the growth ‑ centric notions of development to a more human ‑ centric approach towards social goals. Indexes that evolved to measure various levels of deprivation attracted policy issues for obvious reasons. However the shift in the approach is not limited to just adding new parameters of development but since public policies involve normative positions, deeper issues related to philosophical reasoning are involved in such changes. The focus on human development and assigning intrinsic values to various dimensions related to command over goods and services, health and education redefines the social good very different from the way of thinking that such goods follow from increased command over goods and services captured in the growth of per capita income.

It brings the issue once again at the centre of economic goals and constitutes the crux of Sen's argument much in the tradition of Aristotle that wealth is not the good people actually seek after rather it is useful for the sake of achieving something else that the individual values as good (Clerk,2006). Sen's critique to the traditional notions of welfare economics is that it relies on revealed preference and conceives such preferences as the ultimate choice made by individuals among options and hardly considers the processes through which the choices emerge. The focus on human development primarily arises because of Sen's capability approach that establishes the objectivity of the well‐being. The critique of welfarism is primarily a critique of the contractarian or libertarian thought where it is assumed that the primarily role of the government is not to maximize the social good rather maintain a framework of rules within which individuals are left free to pursue their own ends (Sen, 1992).

Sen's position was on the contrary that social good can be defined with intrinsic values and one can arrive to some operational definition of such good and policies need to be formulated to promote the social good. The core argument however is that the information base of traditional welfare theory is too thin to arrive into some acceptable or coherent account of social good. The capability approach defines a person's state of being as a vector of functioning 's (Sugden, 1993). The set of feasible vectors for any person defines the person's capabilities, that is, the opportunities to achieve the well being. Functioning's are different from commodities, in the sense people use commodities while functioning'sare specific aspects of life and they constitute a person's well being. Sen argued that functioning and capabilities provide the most appropriate 'information base' for normative economics. The novelty of defining objectively the individual or social good on the basis of functioning's and capabilities is that it does not automatically assert that what is chosen is good for the individual. In Sen's framework value of a functioning is a matter of intrinsic value and not of individual preference or choice and this is precisely the reason why the notion of poverty advocated by Sen is different from the relative concept of poverty.

Human development finds its theoretical underpinnings in Sen's capabilities approach which holds "a person's capability to have various functioning vectors and to enjoy the corresponding well-being achievements" to be the best indicator of welfare (Sen, 1985). This perspective shifts

the analysis of development to the vector of not only attributes (as is the more traditional utilitarian or even the original basic needs view of human welfare, see Streeten, 1979), e.g. income, education, health, but also the vector of possible opportunities available to individuals in a particular state. Naturally, there is a link between the two--these opportunities are affected by certain attributes of the individual: a starving or uneducated person would have fewer choices than a healthy, educated person. Yet the capabilities approach goes far beyond individual attributes to analyze the role of the social environment on human choice and agency: an individual in an open, free society would enjoy a larger set of potential functioning than one in aclosed, oppressive society. However, while capabilities make an appealing goal for development, they are notoriously difficult to measure in that the full set of possible human functioning is almost by definition unobservable.

The first major attempt to translate the capabilities approach into a tractable ranking of nations came in the 1990 UNDP Human Development Report. The HDR's objective was to "capture better the complexity of human life" by providing a quantitative approach to combining various socio-economic indicators into a measure of human development (UNDP 1990). This was in contrast to the perceived prevailing wisdom in development economics, as embodied in the World Development Reports, whose "excessive preoccupation with GNP growth and national income accounts has…supplanted a focus on ends by an obsession with merely the means" (UNDP 1990).

Yet the transformation from a normative theory of capabilities into a quantitative variable was by no means an obvious task. The use of life expectancy, literacy, and GDP as components of a Human Development Index admittedly constitutes a rough proxy and simplification of the original capabilities theory. Not ably missing were measures of political freedom and income inequality. Furthermore, any quantitative ranking raises difficult empirical questions, such as accounting for the decreasing marginal utility of income, and the necessarily arbitrary weighting of each component of HD. Nevertheless, the HDRs have had a strong influence on development thinking, causing developing countries to publish their own national level human development reports and indices and modifying their policies. Income growth clearly strikes one as the main contributor to directly increasing the capabilities of individuals and consequently the human

development of a nation since it encapsulates the economy's command over resources (Sen, 2000). For example, while the citizens of the Indian state of Kerala have life expectancies and literacy rates comparable to those of many developed countries, the fact that they cannot enjoy many of the benefits of citizens of such countries (such as better housing, transportation, or entertainment) demonstrates the importance of GDP as an instrument for achieving a wide range of capabilities. However, GDP also has a strong effect on literacy and health outcomes, both through private expenditures and government programs. Thus, insofar as higher incomes facilitate the achievement of other crucial human development objectives, it also has an indirect effect on human development.

The impact of economic growth on a nation's human development level, of course, also depends on other conditions of the society. One important component here is the role of the distribution of income, both at a micro level within a household as well at a macro level across households. At the micro level there is great potential for a positive causality—individual and household consumption can be an important element in increasing human development and may respond more closely to the real needs of the population than do government programs. However, individual consumption may not always go towards goods which contribute maximally to human development. In societies where women contribute more to family income and have more influence on household decision making expenditures on human development-oriented goods are likely to be relatively higher. For example, among Gambian households, the larger the proportion of food under women's controls the larger household calorie consumption (Von Braun, 1988). Similarly, in the Philippines it has been shown that consumption of calories and proteins increases with the share of income accruing directly to women (Garcia, 1990). Hoddinot and Haddad (1991) look at the impact of intra-household income distribution on child welfare.

At a macro level, the distribution of the increased income from economic growth will also have a strong impact on human development. Since poorer households spend a higher proportion of their income on goods which directly promote better health and education, economic growth whose benefits are directed more towards the poor will have a greater impact on human development, via increased food expenditure as well as on education. For example, Birdsall,

Ross and Sabot (1995) show that if the distribution of income in Brazil were as equal as that in Malaysia, school enrollments among poor children would be 40% higher. The effects of economic growth on government human development expenditures are bound to complement private expenditure channels. In fact, Anand and Ravallion (1993) find that most of the effects of economic growth on HD are likely to flow through government budgetary expenditures, central or local. However, the strength of this effect depends entirely on the effectiveness of expenditure targeting and delivery. The government must identify priority sectors such as primary education and health that have the highest potential for HD improvement. Government expenditures for HD should be distributed predominantly to low income groups and areas since it is here that the highest marginal impact will be had. Government must also have the institutional capacity to efficiently allocate these expenditures.

Studies by Rajkumar and Swaroop (2002) have demonstrated that the effectiveness of public expenditure is conditional on the quality of governance, with government accountability likely to play an important role. While empirical evidence here is more spotty, theory suggests that a decentralized, locally accountable government system may have advantages in resource allocation and service delivery.

While India has shown considerable potential in its performance on economic indicators such as GDP, India has yet to improve its position on the HDI to realize the potential that GDP has to offer. India has still low HDI as reflected by UN India's Human Development Report, India is in the medium human development category and is ranked 134 among 187 countries.

1.5 HUMAN DEVELOPMENT AND ITS IMPACT ON GROWTH

As seen through studies on economic growth and human development, it is generally perceived that human development has important effect on economic growth. If a central element of economic growth is to improve the comparative advantage, an increase in the capabilities and functioning available to individuals through improvement in human development should allow more of them to pursue occupations in which they are most productive. Furthermore, although human development represents a broader concept, many of its elements overlap significantly

with the more traditional notion of human capital. Thus, to the extent that human development is necessarily correlated with human capital and human capital affects the economic growth of nation, human development is bound to have an impact on economic growth. More specifically, each of the various components of human development is likely to have a distinct impact on economic growth. Education, for instance, has a strong effect on enhancing labor productivity. This has been corroborated by the study of, Birdsall (1993). He uses data from Malaysia, Ghana and Peru to show that each extra year of a farmer's schooling is associated with an annual increase in output of 2-5%.

Futher study by Duflo (2000) also reflects that an increase in wages of 1.5 to 2.7% for each additional school built per 1,000 children in Indonesia. In addition to its direct effect on productivity, education also affects innovation and technological advancements. Similarly, higher education levels have been shown to increase innovation in businesses in Sri Lanka. Foster and Rosenzweig (1995) demonstrate that increased education is associated with faster technology adoption in Green Revolution in India. In this sense human development may also enter into an Uzawa-Lucas type endogenous growth model as a factor affecting growth rates through its effect on technological change.

Empirical analysis of the clothing and engineering industries in Sri Lanka (Deraniyagala, 1995), showed that the skill and education levels of workers and entrepreneurs were positively related to the rate of technical change of the firm. Education alone, of course, cannot transform an economy. The quantity and quality of investment, domestic and foreign, together with the choice of technology and overall policy environment, constitute other important determinants of economic performance. The quality of private entrepreneurs, of public policy-makers and of investment decisions generally, is bound to be influenced by the education of both officials and managers; moreover, the volume of both domestic and foreign investment and the rates of total factor productivity will undoubtedly be higher when a system's human capital level is higher.

Health has also demonstrated positive effects on economic growth beyond its inherent desirability as an end in itself. Strauss and Thomas (1998) review a large literature documenting how improvements in health and nutrition improve productivity and incomes. Schultz (2000)

finds correlations between height and income in his analysis of data from Ghana, Cote d-Ivoire, Brazil, and Vietnam. A range of labour productivity gains has been observed associated with calorie intake increases in poor countries, (Cornia and Stewart, 1995), including studies of farmers in Sierra Leone (Strauss, 1986), sugar cane workers in Guatemala (Immink and Viteri, 1981), and road construction workers in Kenya (Wolgemuth, Latham, Hall, and Crompton, 1982). In these cases productivity enhancement appears to follow fairly immediately as current intakes of calories or micro-nutrients are increased. Education and health may also have strong indirect impacts on economic growth through their effect on the distribution of income, and education even more so through its impact on health (for example, Behrman and Wolfe, 1987b provide evidence of the impact of women's education on family health and nutrition). As education and health improve and become more broadly based, low income people are better able to seek out economic opportunities. For example, a study of the relation between schooling, income inequality and poverty in 18 countries of Latin America in the 1980s found that one quarter of the variation in workers' incomes was accounted for by variations in schooling attainment; it concludes that "clearly, education is the variable with the strongest impact on income equality" (Psacharopolous et al., 1992). And a more equal distribution of income is known to provide an impetus to growth.

Education also affects per capita income growth via its impact on population growth. It is often felt that with education, there may be reduction in population growth. In many developing countries the uneducated people have a belief that more the children, more the feeding hands. Educated people tend to believe in smaller family size and providing good education to them. A study of 14 African countries in the mid-1980s showed a negative correlation between female schooling and fertility in almost all countries, with primary education having a negative impact in about half the countries and no significant effects in the other half, while secondary education invariably reduced fertility (Jayaraman, 1995); (Strauss and Thomas, 1995); and (Behrman and Wolfe, 1987).

1.6 MEASURING HUMAN DEVELOPMENT

In any system for measuring and monitoring human development, the ideal would be to include many variables, to obtain as comprehensive a picture as possible. But the current lack of relevant comparable statistics precludes that. Nor is such comprehensiveness entirely desirable. Too many indicators could produce a perplexing picture - perhaps distracting policymakers from the main overall trends. The crucial issue therefore is of emphasis.

1.7 KEY INDICATORS

The three essential elements of human life are: longevity, knowledge and decent living standards.

For the first component-longevity life expectancy at birth is the indicator. The importance of life expectancy lies in the common belief that a long life is valuable in itself and in the fact that various indirect benefits (such as adequate nutrition and good health) are closely associated with higher life expectancy. This association makes life expectancy an important indicator of human development, especially in view of the present lack of comprehensive information about people's health and nutritional status.

For the second key component knowledge - literacy figures are only a crude reflection of access to education, particularly to the good quality education so necessary for productive life in modern society. But literacy is a person's first step in learning and knowledge-building, so literacy figures are essential in any measurement of human development. In a more varied set of indicators, importance would also have to be attached to the outputs of higher levels of education. But for basic human development, literacy deserves the clearest emphasis.

The third key component of human development - command over resources needed for a decent living - is perhaps the most difficult to measure simply. It requires data on access to land, credit, income and other resources. But given the scarce data on many of these variables, we must for the time being make the best use of an income indicator. The most readily available income indicator - per capita income – has wide national coverage. But the presence of non tradable goods and services and the distortions from exchange rate anomalies, tariffs and taxes make per

capita income data in nominal prices not very useful for international comparisons. Such data can, however, be improved by using purchasing power- adjusted real GDP per capita figures, which provide better approximations of the relative power to buy commodities and to gain command over resources for a decent living standard. A further consideration is that the indicator should reflect the diminishing returns to transforming income into human capabilities. In other words, people do not need excessive financial resources to ensure a decent living. This aspect was taken into account by using the logarithm of real GDP per capita for the income indicator.

All three measures of human development suffer from a common failing: they are averages that conceal wide disparities in the overall population. Different social groups have different life expectancies. There often are wide disparities in male and female literacy. And income is distributed unevenly. The inequality possible in respect of life expectancy and literacy is much more limited: a person can be literate only once, and human life is finite.

Table 1.1: Human Development Indicators of India, South Asia and World

Year	India	Medium human development	South Asia	World
2011	0.547	**0.630**	0.548	0.682
2010	0.542	**0.625**	0.545	0.679
2009	0.535	**0.618**	0.538	0.676
2008	0.527	**0.612**	0.532	0.674
2007	0.523	**0.605**	0.527	0.67
2006	0.512	**0.595**	0.518	0.664
2005	0.504	**0.587**	0.51	0.66
Growth Rates	1.49	-	1.56	1.55

Source: International Human Development Indicators – UNDP website, Countries Section

Growth rates: Self calculated

As seen in table 1.1 India's Human Development Index is even lower than South Asia index. Compared to world's HDI of 0.682, India has a long way to go. This reflects that on human development front India is not performing well. In terms of growth rates India's growth rate is just 1.49 percent compared to South Asia's growth rate of 1.56 per cent and the world's growth rate of 1.55 per cent.

Thus an overview of Human development Index of India reflects that India is not performing that well in terms of human development. India's HDI has improved only marginally from 0.504 in 2005 to 0.547 in 2011, and doesn't reflect marked improvement. The present study has been undertaken in this backdrop to understand the economic growth and human development of two growing sates of India, Haryana and Punjab.

1.8 CHAPTER SCHEME

The whole thesis has been classified in five chapters and the rates of growth have been taken of the production of all the sectors of the economy to analyse the economic growth of Punjab and Haryana. Growth rates are also calculated for Human Development Indicators. Finally effort has been made to find the relationship between Human Development Indicators and economic growth.

Chapter 1

Chapter 1 is the introduction. In this chapter an overview of the human development has been explained. This Chapter also introduces the Human Development Indicators, gives an insight into different researchers' perspectives on Human Development and its impact on growth. Finally this chapter also covers the chapter scheme.

Chapter 2

In the second chapter the existing literature pertaining to our study has been thoroughly reviewed. A detailed analysis of earlier studies is essential to provide in-depth knowledge of the research topic and helps to lay down the objectives of the study. This chapter gives the summary of literature review along with research gaps.

Chapter 3

Third chapter outlines the set of objectives of the study. This chapter also explains the data sources and methodology followed in this research.

Chapter 4

In chapter four, estimation and result analysis have been discussed in the light of the objectives of the study. This chapter reports the results of Human Development Indicators and Economic Growth Indicators. This Chapter also helps in analyzing the relation between economic growth indicators and Economic Growth.

Chapter 5

Chapter five illustrates the summary, findings and conclusion. This chapter also reports the realization of objectives. The chapter also discusses the limitations and future scope of this research.

CHAPTER 2
LITERATURE REVIEW

A detailed analysis of earlier studies has been provided in this chapter in section 2.1 to provide in-depth knowledge of the research topic and helps to lay down the objectives of the study. This chapter gives the summary of literature review along with research gaps in Section 2.2.

2.1 LITERATURE ON HUMAN DEVELOPMENT AND ECONOMIC GROWTH

Human Development is a development paradigm that is of more significance than the rise or fall of national incomes. It is about creating an environment in which people can develop their full potential and lead productive and creative lives in accord with their needs and interests. People are the real wealth of nations. Development is thus about expanding the choices people have to lead lives that they value. Therefore, much more than economic growth which is only means of enlarging people's choices (Mahbub ul Haq, 1998). Human development is related to economics and standards of living.

Aluko (1975) refers to poverty as a lack of command over basic consumption needs, which means that there is inadequate level of consumption giving rise to insufficient foods, clothing and/or shelter, and moreover the lack of certain capacities such as being able to participate with dignity in society. Poverty is also defined as the inability to attain a minimum standard of living (World Bank Report, 1990).

Little (2003) suggests that the motivation is the central concept of human development which influences the economic development. Debrah et al. (2000) found that Globalization led to strengthen the East Asia regional economic co-operation and promoting economic growth. Cox et al., (2005) identified the Human Development Indicators i.e. socio-cultural, political, economic, and technology in developing countries. Sydhagen et al. (2007) argued that there is need for skills development and training to increase the labor skilled for economic

development, this strategy has been appropriated for Sub-Saharan African region and the developing economies.

A number of scholars, such as Deaton (2008), and Stevenson and Wolfers (2008), have published papers demonstrating a clear, relationship between per capita incomes and average happiness levels, with no sign that the correlation weakens, either as income levels increase or over time on a log-linear model specification. Indeed, the work of both sets of authors suggests that the slope may be steeper for richer countries, most likely because wealthier people are better able to enjoy higher levels of income than are poor ones (a greed effect?). Deaton gets a positive and significant coefficient on a squared specification of the income variable. Stevenson and Wolfers split their sample into those countries above and below $15,000 per capita (in year 2000 U.S. dollars), they get a slightly steeper slope for the rich countries than for the poor ones.

The choice of functioning's in deriving a summary measure of human development was based on two criterions;

i. it should be universally valued by the people across the world;
ii. They must be basic meaning their lack would foreclose many other capabilities

(Fukuda-Parr,2007).

Cani et al. (1998) found interesting results regarding human resource strategy's contribution in economic development in case of Singapore concluded that Singapore's remarkable development was done by investment in human capital, especially in education. In 1970 it had a GDP per capita US$3,021 but in 2009 it had US$ 37,293.

Crespo (2007) applied Amartya Sen's Capability Approach to find the impact of education and human development on economic development in case of Mexico, concluded that the creation

of technical university in a poor areas of Mexico has helped young graduates to achieve jobs and contributed in economic development.

Omotola (2008) identified that poverty reflects deprivation which can slow down the human development consequently distortion in economic development in the case of Nigeria. Little (2003) suggests that the motivation is the central concept of human development which influences the economic development.

Debrah et al. (2000) found that Globalization led to strengthen the East Asia regional economic co-operation and promoting economic growth. Cox et al., (2005) identified the Human Development Indicators i.e. socio-cultural, political, economic, and technology in developing countries.

Sydhagen et al. (2007) argued that there is need for skills development and training to increase the labor skilled for economic development, this strategy has been appropriated for Sub-Saharan African region and the developing economies.

Wasantha Athukorala (2003) has concluded that the path of direction is not in the way from FDI to GDP growth but GDP growth to FDI in the case of Srilanka. Ahmed Nawaz Hakro et al. found that macro economic factors pursued by cost associated factors which come out as the leading determinants both in short run dynamic and long run association among these macro economic variables i.e. the employment, investment, output growth, and human capital with FDI.

Sagar and Najam (1999) evaluated the performance of HDI since its introduction in 1990s. They considered HDI to be a fruitful index, as it is a good step forward from unilateral income based approach. Booysen (2002) also discussed in detail why the multi-dimensional indices such as HDI are still considered a progress in explaining the development despite having issues with their constructs and statistical shortcomings. It is argued that though we can point out problems; these indices are useful in that they simplify complex measurement constructs and appeal for an attention for the variables included.

Hicks (1997) questioned the lack of distribution effects in HDI. HDI does expose country's performance in educational and health aspect, in addition to income, but it fails to incorporate how these dimensions are distributed among the people. The unique formulation in his Inequality-adjusted Human Development Index (IAHDI) is that it accommodates for education and health based inequality, in addition to income inequality; that is talk about too often. The results show that while accounting for inequality measures, some countries, such as Latin American countries, perform very badly on IAHDI scale but depict quite appreciating picture otherwise. On the other hand, though looking quite interesting on theoretical grounds the accurate collection of inequality data on educational and life expectancy dimensions remain quite challenging. Anyway, UNDP is now also reporting inequality based human development index, in addition to normal index, and we can interpret the human development from the lens of another perspective.

Noorbaksh (1998) also suggested some alterations to the structure of HDI index. He criticized the scale effect in income and educational component of the index. It is argued that an additional dollar or an additional year of schooling is HDI as a Measure of Human Development: A Better Index than the Income Approach.

Lind (2004) evaluated the reliability of the HDI index by analyzing the various feature of HDI. It is expressed that HDI is not a very suitable index for policy recommendations. It is determined that HDI sensitivity for each of its component variable is very different, and an equal increase in any one dimensions of it may bring in different changes in HDI. Further, it is argued that the HDI values for most of the developed countries are very high and close, and it is almost redundant to compare any two on the basis of HDI. Moreover, any developed country may show better results on HDI, despite being inferior on the ground, due to immense room for measurement or mathematical errors.

Nissan and Niroomand (2005) compared the convergence and divergence phenomenon between income and other basic need variables such as HDI. The study divided the sample of 100 countries among the three groups high, medium and low on the basis of their income levels and

HDI. The phenomenon of convergence was established for HDI especially in the case of poor countries whereas the income measure showed a divergent part. We observed an improvement in quality of life in low income countries over time. However, it was inferred that richer countries are still performing better despite the improvement in poor countries in the domains of quality of life. So, governments in developing countries are needed to allocate their funds more appropriately for better results in future.

Harttgen and Klasen (2012) took an initiative to analyze the micro-level distribution of HDI. HDI is a macroeconomic indicator by default and even adjusting it to inequality measures, as mention above, fails to incorporate micro level phenomenon. However, it is more knowledge and useful for policy purposes to investigate disparity in HDI among different economic and social groups including households. By calculating household level components of HDI, it was established that in some countries with low income equalities, we have witnessed high level of HDI inequality among different social groups. Similarly, the reverse result was also observed. The technique made it feasible to focus on intra-country level results and allowed a room for policy recommendations for various sections of the country.

McGillivray (1991) also considers that the HDI as a development indicator has a problem of redundancy. The point is that, if there is a significant and positive correlation between the HDI and any other of its components, we might find additional insights into an investigation of inter-country development levels. “Intuitively, a necessary, although not sufficient, property of a good composite indicator is that its components are themselves insignificantly correlated” (McGillivray 1991:1462).

Haq (1998) stresses that the HDI’s main contribution is its multidimensional characterization of human development. He recognizes the wider nature of the HD concept, but argues that, anyway, the HDI can capture many crucial aspects of human life that were not captured before by income measures. Dasgupta and Weale (1992) acquiesce the methodological improvement

brought in by the HDI, acknowledging that the HDI represents a good package of indices at a very aggregate level.

Aluko (1975) refers to poverty as a lack of command over basic consumption needs, which means that there is inadequate level of consumption giving rise to insufficient foods, clothing and/or shelter, and moreover the lack of certain capacities such as being able to participate with dignity in society. Poverty is also defined as the inability to attain a minimum standard of living (World Bank Report, 1990).

It is viewed in terms of insufficient income for securing the basic necessities of life such as food, potable water, clothing and shelter. Poverty is more easily recognized than defined. Hence, a universally acceptable definition of the term has remained elusive but from a social perspective, poverty means the denial of choice and opportunities for a tolerable life (UNDP, 1997). Poverty is a global phenomenon which affects continents, nation and people differently. It affects people in various depths and levels at different times and stages of existence; the main difference is the intensity and prevalence of this malaise. Poverty relates to a state whereby individual lacks the ability to cater adequately for his or her basic needs of food, clothing and shelter, unable to meet social and economic obligations, lack gainful employment, skills assets and self esteem and also has limited access to social and economic infrastructures such as health, education, potable water and environment protection (CBN- Economic and Financial Review, 1991).

2.2 GAPS IN EARLIER STUDIES

Although rich literature is available on Human development and economic growth, but still there are many gray areas, especially in developing countries which demand attention. The present research is a step in that direction to explore these areas and compare the economic growth rates of Punjab and Haryana rates and also to study the rates of Human Development Indicators

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

This Chapter has four sections. Section 3.1 describes the objectives of the study. Section 3.2 deals with research Design. Section 3.3 enlists the Data Sources. Section 3.4 describes the Time Period of the Study, section 3.5 deals with Research Methods and finally section 3.6 highlights the Scope of the Study. Thus this chapter underlines the research process to proceed with data analysis.

3.1 OBJECTIVES OF THE STUDY

The present study has been taken with the following broad objectives:

- To study trends in human development indicators from period 2001-2010 of study in Punjab and Haryana.
- To compare economic growth of Punjab and Haryana.
- To compare Human Development indicators of Punjab and Haryana.
- To analyses the relation between Human Development Growth and Economic Growth factors in Punjab and Haryana.

3.2 RESEARCH DESIGN

Research design is the conceptual structure within which research is conducted. “A research design is the arrangement of condition for collecting and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure”. With this as a base Description Research Design ,which includes survey and fact finding , the major purpose of descriptive research is for the description of the state of affairs , as if exists at present. The study has been based on descriptive method.

3.3 DATA SOURCES

In order to fulfill the objectives, secondary data is gathered from qualified sources of information. The study is based on data collected from statistical data published by various relevant and concerned departments and authorities etc. The major sources of data of all the

above macro economic variables are the Economic Surveys, Human development reports, Punjab and Haryana census, reserve bank of India and Indiastat database.

3.4 TIME PERIOD OF THE STUDY

The present study tries to compare economic growth and human development in the states of Haryana and Punjab in the post 2001 period. India adopted New Economic policy in 1991 resting on the three planks of liberalization, privatization and globalization. With the adoption of this policy the states also planned their developments in keeping with global competitiveness. There are a number of studies covering the changes in many states of India in the period 1991-2000. This study tries to cover the recent decade, hence the time period of the study is 2001-2010.

3.5 RESEARCH METHODS

With a view to accomplish the stipulated set of objectives of the study, Least square linear regression method has been used for calculating Compound Growth Rate of important variables covered by the study. As the study relates to time series, it is quite possible to notice different trends. The growth of various heads of production will be analyzed with the help of Compound annual rate of growth.

$$Y = ab^t$$

The Compound annual rate of growth will be calculated by using the Semi log Model and applying the method of ordinary least square (OLS) as explained below:

$$\text{Let } Y = ab^t = (1+r)^t \quad \text{……..(i)}$$

Therefore $\log Y = \log (ab^t) = \log a + t (\log b)$

where $Y_t = t^{th}$ observation on the variable Y for which rate of growth is to be calculated.

t= Time variable taking n values 1,2,3,……..,n and in this study n takes 9 and 10 values from 2000-01 to 2008-09 and 2000-01 to 2009-10 respectively, according to the availability of the latest data to fulfill the need of the analyze of this contemporary research.

U_t = A random distribution (or error) term at t satisfy the user assumption of Ordinary least square

r= rate of growth or Compound annual rate of growth.

a and b are parameters of original model (i) and A and B are the parameters of transformed model (ii).

From (ii), a and b are calculated as follows:

Log a= A, a= Antilog A

Log b= B, b= Antilog B

Since (1+r)= b,

Since rate of growth is calculated in percent terms

r= (b-1)*100= (Antilog B-1)*100.

OLS and stepwise regression models have been used for analyzing the factors causing recession, by taking NSDP at constant market prices as the dependent variable and Enrolment rate, Infant Mortality rate and literacy rate have been taken as independent variables.

The relationship of NSDP at constant market prices with the variables like E, I, and L can be represented by an equation of the following form:

$$Y= f (E, I, L)$$

Where, Y= NSDP at constant market prices

E= Enrolment

I= Infant Mortality

L= Literacy

The best fit in the least-squares sense is that instance of the model for which the sum of squared residuals has its least value, a residual being the difference between an observed value and the value given by the model. Stepwise regression model is a method of computing OLS regression in stages. In stage one, the independent best correlated with the dependent is included in the equation. In the second stage, the remaining independent with the highest partial correlation with the dependent, controlling for the first independent , is entered. The process is repeated, at each stage partially for previously-entered independents, until the addition of a remaining independent does not increase R- squared by a significant amount (or until all variables are entered).

SPSS Package was applied to compile and analyze the data collected from the field survey. Frequency distribution was studied to gather the first hand information on various variables. The following statistical tools will be applied for regression.

3.6 SCOPE OF THE STUDY

Principal aim is to gather and collate information from the literature and from leading researchers, consultants and practitioners with objective of identifying and delineating the major aspects of human development index. To fill in the evaluation of secondary data, primary data was collected. Secondary data is collected. Scope of the study is limited to HDI in Punjab and Haryana.

The next chapter covers the empirical assessment to estimate the Changes in NSDP of Punjab and Haryana along with analysis of human development for the these states.

CHAPTER- 4

DATA ANALYSISAND INTERPRETATION

Section 4.1 depicts the Human Development Indices of various states of India. Section 4.2 depicts Growth rates of NSDP and Human Development Indicators of Haryana. Section 4.3 depicts Growth rates of NSDP and Human Development Indicators of Punjab. Section 4.4 highlights the relation between economic growth and human development indicators of Haryana and Punjab.

Section 4.1: HUMAN DEVELOPMENT INDICES OF VARIOUS STATES OF INDIA

Table 4.1: States with high and Medium High human development

Rank	State/Union Territory	HDI (2011)
High human development		
1	Kerala	0.790
2	Delhi	0.750
Medium human development		
3	Himachal Pradesh	0.652
4	Goa	0.617
5	Punjab	0.605
6	North eastern India (excluding Assam)	0.573
7	Maharashtra	0.572
8	Tamil Nadu	0.570
9	Haryana	0.552
10	Jammu and Kashmir	0.529
11	Gujarat	0.527
12	Karnataka	0.519

Source: Indian Human Development Report 2011

As shown through table 4.1 Kerala tops with a HDI: 0.790 and Delhi is next on list with HDI of 0.750. These two states have high HDI. There are 10 states with medium Human development. Both Punjab and Haryana fall in this category. HDI of Punjab is 0.605 and is comparatively better than HDI of Haryana with an HDI: 0.552. Although study relates with Punjab and Haryana, an overview of states falling in category of low HDI is important. Table 4.2 depicts the states with low HDI.

Table 4.2: States with Low Human Development

Low Human Development		
1.	West Bengal	0.492
2.	Uttarakhand	0.490
3.	Andhra Pradesh	0.473
4.	Assam	0.444
5.	Rajasthan	0.434
6.	Uttar Pradesh	0.380
7.	Jharkhand	0.376
8.	Madhya Pradesh	0.375
9.	Bihar	0.367
10.	Odisha	0.362
11.	Chhattisgarh	0.358
12.	**India** *(national average)*	0**.467**

Source: Indian Human Development Report 2011

As shown in table 4.2 there are still 11 states having low HDI. Bihar, Odisha and Chhattisgarh are having very low HDI. Average HDI of India is also low and is 0.467. Thus in terms of HDI Although there is an improvement over the years, but still there is a long way to go.

Table 4.3: Human Development Indices of Haryana and Punjab vis-a vis Kerala

State	**1991**	**Rank**	**1991**	**Rank**	**2001**	**Rank**	**2011**	**Rank**
Kerala	.500	1	.591	1	.638	1	.790	1
Haryana	.360	5	.443	5	.509	5	.552	9
Punjab	.411	2	.475	2	.537	2	.605	5

Human development is the process of enlarging people's choices by expanding human functioning and capabilities. At all levels of development the three essential capabilities are for people to lead a healthy and long life, to be knowledgeable and to have access to the resources needed for a decent standard of living. A composite index, the HDI index contains three variables- Life expectancy at birth, educational attainment (adult literacy and the combined gross primary, secondary and tertiary enrolment ratio) and GDP per capita. Income enters HDI as a proxy for a decent standard of living. Table 4.3 highlights the status of HDI of Haryana and Punjab over the last four decades. It is surprising that both the states ranks have gone down in terms of performance over the years. Punjab earlier was at second rank and now is at fifth rank. Haryana earlier at fifth rank is now at ninth rank. Kerala state has maintained its dominance since 1981. Thus in terms of Human development both Haryana and Punjab have to learn from the state of Kerala.

Before proceeding further, let us analyse the literacy rates of different states of India as per 2011 census. The data is depicted in table 4.3.

Table 4.4: Literacy Rates of States

S. No	State	Literacy Rate	Male Literacy Rate	Female Literacy Rate	Gender Gap
1	Andaman & Nicobar Islands	86.3%	90.1%	81.8%	8.30
2	Andhra Pradesh	67.70%	75.60%	59.70%	15.90
3	Arunachal Pradesh	67.00%	73.70%	59.60%	14.10
4	Assam	73.20%	78.80%	67.30%	11.50
5	Bihar	63.80%	73.50%	53.30%	20.20
6	Chandigarh	86.40%	90.50%	81.40%	9.10
7	Chattisgarh	71.00%	81.50%	60.60%	20.90
10	Delhi	86.30%	91.00%	80.90%	10.10
11	Goa	87.40%	92.80%	81.80%	11.00
12	Gujarat	79.30%	87.20%	70.70%	16.50
13	Haryana	76.60%	85.40%	66.80%	18.60
14	Himachal Pradesh	83.80%	90.80%	76.60%	14.20
15	Jammu and Kashmir	68.70%	78.30%	58.00%	20.30
16	Jharkhand	67.60%	78.50%	56.20%	22.30
17	Karnataka	75.60%	82.80%	68.10%	14.70
18	Kerala	93.90%	96.00%	92.00%	4.00
19	Lakshadweep	92.30%	96.10%	88.20%	7.90
20	Madhya Pradesh	70.60%	80.50%	60.00%	20.50
21	Maharashtra	82.90%	89.80%	75.50%	14.30
22	Manipur	79.80%	86.50%	73.20%	13.30
23	Meghalaya	75.50%	77.20%	73.80%	3.40
24	Mizoram	91.60%	93.70%	89.40%	4.30
25	Nagaland	80.10%	83.30%	76.70%	6.60
26	Orissa	73.50%	82.40%	64.40%	18.00
27	Puducherry	86.50%	92.10%	81.20%	10.90
28	Punjab	76.70%	81.50%	71.30%	10.20
29	Rajasthan	67.10%	80.50%	52.70%	27.80
30	Sikkim	82.20%	87.30%	76.40%	10.90
31	Tamil Nadu	80.30%	86.80%	73.90%	12.90
32	Tripura	87.80%	92.20%	83.10%	9.10
33	Uttar Pradesh	69.70%	79.20%	59.30%	19.90
34	Uttarakhand	79.60%	88.30%	70.70%	17.60
35	West Bengal	77.10%	82.70%	71.20%	11.50
-	**INDIA**	74.04%	82.14%	65.46%	16.68

To know development in a society, Literacy is another proper indicator of economic development. For purpose of census, a person in age limit of seven and above, who can both write and read with understanding in any of the language is considered as a literate in India.
As per Population Census of India 2011, the Literacy rate of India has shown as improvement of almost 9 percent. It has gone up to 74.04% in 2011 from 65.38% in 2001, thus showing an increase of 9 percent in the last 10 years. It consists of male literacy rate 82.14% and female literacy rate is 65.46%. Although t here has been a good improvement in literacy rate of India in last 10 years but there is still a long way to go.

In case of overall literacy, the top three states are Kerala with literacy rate of 93.90. Following it is Lakshadweep and Mizoram with literacy rates of 92.30% and 91.60%. Bihar with 63.08% literacy rate is the last in terms of literacy rate in India.

Gender-wise Literacy Trends

In male literacy Lakshadweep is at rank 1 with 96.10%, followed by Kerala with 96% and Mizoram with 93.70 %. Haryana has higher literacy of males with 85.40% and at rank 19 than Punjab with 81.50 % ad ranked 24. In female literacy rate Kerala tops with 92.00%, followed by Mizoram with 89.40% % and Lakshadweep with 88.20%. In Female literacy Haryana ranks at 23rd rank with 66.80%, while in Punjab is at 17th rank with 71.30%. In terms of gender gap (calculated as difference between male and female literacy rates) Meghalaya has the lowest gap with 3.40, followed by Kerala with 4.00 and third is Mizoram with 4.30. Punjab and Haryana are ranked at no 21 and 22. This shows they have to improve in terms of literacy.

4.2 HARYANA: NSDP AND HUMAN DEVELOPMENT INDICATORS

4.21: Haryana: NSDP

Table 4.5: NSDP Growth Rates of Haryana

S No	Year	NSDP	YoY
1.	2001-02	65,505.00	
2.	2002-03	72,528.00	9.68
3.	2003-04	82,862.00	12.47
4.	2004-05	95,795.00	13.50
5.	2005-06	1,08,887.00	12.02
6.	2006-07	1,28,740.00	15.42
7.	2007-08	1,51,607.00	15.08
8.	2008-09	1,82,502.00	16.92
9.	2009-10	2,22,031.00	17.80
Growth Rates		**2.12**	

Self calculated

As seen by NSDP growth rates of Haryana depicted through Table 4.5, the rates have been increasing over the 2001 onwards era. The decadal growth rate is 2.12 per cent per annum. Year on Year (YoY) growth rates reflect an increase from 9.68 per cent in 2001- 02 to 17.80 per cent per annum in 2009-10. The impact of recessionary trends is visible in Haryana economy with the (YoY) growth rate falling from 15.42 to 15.08 per cent.

4.22: Human Development Indicators

Table 4.6 : Growth Rates of Human Development Indicators

S No	Year	Infant Mortality	Literacy	Enrolment
1.	2001-02	68	55.85	72.02
2.	2002-03	67	68.59	71.03
3.	2003-04	67	68.59	71.13
4.	2004-05	62	67.91	74.15
5.	2005-06	59	67.91	70.38
6.	2006-07	60	67.91	79.31
7.	2007-08	57	67.91	79.31
8.	2008-09	55	67.91	84.25
9.	2009-10	55	67.91	84.11
Growth Rates		**1.70**	**1.09**	**2.78**

Self calculated

A look at human development indicators reflects that there has been an improvement in Infant Mortality; Literacy and Enrolment in the time period of the study. Literacy rate of Haryana has increased from 55.85 in 20001-02 to 67.91 in 2009-10. The decadal growth rate is 1.09 per cent per annum. The improvement is visible in enrolment rate as well from 72.02 in 20001-02 to 84.11 in 2009-10. YoY growth rates reflect variation over the years. In case of Infant mortality there is a decline from 68 to 55. The decadal growth rate is 1.70 per cent per annum. A comparison of these three indicators reflects higher decadal growth rate of enrolment, followed by infant mortality and literacy rate. Thus, overall results reflect an improvement in human development indicators.

4.3 PUNJAB: NSDP AND HUMAN DEVELOPMENT INDICATORS

4.31 Punjab: NSDP

Table 4.7: NSDP Growth Rates of Punjab

S No	Year	NSDP	YoY
1.	2001-02	79,611.00	-
2.	2002-03	82,249.00	3.31
3.	2003-04	90,089.00	9.53
4.	2004-05	96,839.00	7.49
5.	2005-06	108,637.00	12.18
6.	2006-07	127,123.00	17.02
7.	2007-08	152,245.00	19.76
8.	2008-09	174,039.00	14.32
9.	2009-10	200,382.00	15.14
Growth Rates		2.24	

As seen by NSDP growth rates of Punjab have been increasing over the 2001 onwards era. The decadal growth rate is 2.24 per cent per annum. Year on Year (YoY) growth rates reflect an increase from 3.31 per cent in 2001- 02 to 15.14 per cent per annum in 2009-10. The impact of recessionary trends is visible in Punjab economy with the (YoY) growth rate falling from 19.76 14.32 per cent.

4.32 Human Development Indicators of Punjab

Table 4.8: Growth Rates of Human Development Indicators

S No	Year	Infant Mortality	Literacy	Enrolment
1.	2001-02	53	58.51	72.74
2.	2002-03	52	69.95	71.79
3.	2003-04	52	69.95	70.895
4.	2004-05	51	69.95	65.105
5.	2005-06	49	69.95	66.755
6.	2006-07	44	69.95	71.31
7.	2007-08	44	69.95	71.31
8.	2008-09	43	69.95	75.18
9.	2009-10	43	69.95	75.15
Growth Rates		**1.95**	**1.04**	**4.34**

A look at human development indicators reflects that there has been an improvement in Infant Mortality; Literacy and Enrolment in the time period of the study. Literacy rate of Punjab has increased from 58.51 in 20001-02 to 69.95 in 2009-10. The decadal growth rate is 1.04 per cent per annum. The improvement is visible in enrolment rate as well from 72.24 in 2001-02 to 75.15 in 2009-10. YoY growth rates reflect variation over the years. In case of Infant mortality there is a decline from 53 to 43. The decadal growth rate is 1.95 per cent per annum. A comparison of these three indicators reflects higher decadal growth rate of enrolment, followed by infant mortality and literacy rate. Thus, overall results reflect an improvement in human development indicators.

4.4 RELATION BETWEEN GROWTH AND HUMAN DEVELOPMENT

Haryana

Table 4.9 Model summary Haryana

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.756[a]	.572	.510	3.23000	
2	.903[b]	.815	.753	2.29411	2.918

a. Predictors: (Constant), VAR00009

b. Predictors: (Constant), VAR00009, VAR00007

c. Dependent Variable: VAR00011

Variable 7= Infant Mortality Rate

Variable 8= Literacy Rate

Variable 9= Enrolment Rate

Table 4.10: ANOVA[a] Results for Regression model (Haryana)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	97.431	1	97.431	9.339	.018[b]
	Residual	73.030	7	10.433		
	Total	170.461	8			
2	Regression	138.884	2	69.442	13.195	.006[c]
	Residual	31.578	6	5.263		
	Total	170.461	8			

a. Dependent Variable: VAR00011

b. Predictors: (Constant), VAR00009

c. Predictors: (Constant), VAR00009, VAR00007

Table 4.11 : Coefficients[a] of Regression Model (Haryana)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	154.543	20.871		7.405	.000
	VAR00009	.930	.304	.756	3.056	.018
2	(Constant)	97.752	25.084		3.897	.008
	VAR00009	.814	.220	.662	3.699	.010
	VAR00007	-.687	.245	-.502	2.806	.031

a. Dependent Variable: VAR00011

The model selected variable Enrolment rate and Infant Mortality Rate. When variable Infant Mortality Rate was added to model, R increased from 0.756 to 0. 903 and the value of adjusted R^2 increased from 0 .510 to 0 .713. Infant Mortality Rate (Variable 7) is negatively related , while Enrolment Rate (Variable 9) is positively associated with NSDP of Haryana. In terms of Beta value the value of Enrolment rate is higher than that of Infant Mortality Rate. The results highlight that with growth of NSDP, the infant mortality rate declines, and enrolment rate is increasing for Haryana economy.

Table 4.12: Model summary Punjab

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.973[a]	.947	.915	1.72693	2.883

a. Predictors: (Constant), VAR00004, VAR00003, VAR00002

b. Dependent Variable: VAR00013

Variable 2= Infant Mortality Rate

Variable 3= Literacy Rate

Variable 4= Enrolment Rate

Table 4.13: ANOVA[a] Results for Regression model (Punjab)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	266.589	3	88.863	29.797	.001[b]
	Residual	14.911	5	2.982		
	Total	281.501	8			

a. Dependent Variable: VAR00013

b. Predictors: (Constant), VAR00004, VAR00003, VAR00002

Table 4.14: Coefficients of Regression Model (Punjab)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	150.077	33.811		4.439	.007
	VAR00002	-2.017	.232	-1.763	8.692	.000
	VAR00003	.105	.172	.072	.610	.568
	VAR00004	1.486	.197	1.414	7.559	.001

a. Dependent Variable: VAR00013

The value of R is .97 and the value of R^2 is 0.947 and Adjusted R^2 is 0.915. The model explains 91.5% of variation. ANOVA results highlights that the F value is 29.797 which is significant this conveys that the model is acceptable. Infant Mortality rate (Variable 2) has Beta value of 2.017 and is significant. Enrolment rate has beta value of 1.486 and is significant. The model has not chosen literacy rate as a predicator for model. Thus the two predicators are infant mortality rate and enrolment rate. The Durbin –Watson (DW) is 2.883 which are also acceptable. The results of regression analysis highlights that Infant mortality is negatively related with GDP growth while literacy rate and enrolment rate have a positive relation.

CHAPTER -5

SUMMARY, FINDINGS AND CONCLUSION

5.1 SUMMARY AND MAJOR FINDINGS

In India the past decades record of economic growth is un-paralled. The level of human development is also increasing almost in all countries. From a human development perspective, economic growth is not an end in itself. It is a means to an end-enlarging people's choices. So it should be evaluated for its impact on people. Is the income disparity among people narrowing? What does growth mean for the poor? Do the benefits of economic growth actually trickle down into people's lives? The present research tries to answer some of these questions. The economic indicators depict a higher rate of growth in the nineties. Gross domestic product grew at a rate of six per cent in this period-the period associated with liberalization, privatization and globalization. The rate of growth of manufacturing in this period was quite high which resulted in a 6.6 per cent growth of industry during the period. The Human development Index for India has improved from 0.510 in 1990 to 0.547 in 2011. The decade of nineties depict on improvement in literacy rate and health indicators. the Indian literacy rate grew to 74.04% in 2011 from 12% at the end of British rule in 1947. Effective literacy rates (age 7 and above) in 2011 were 82.14% for men and 65.46% for women.

State-wise literacy indicates that Kerala is the most literate state in India, with 93.91% literacy, followed by Lakshadweep at 92.28%. Bihar is the least literate state in India, with a literacy of 63.82%.

5.2 REVISING THE OBJECTIVES

The first objective of the study has been:

O1: To study trends in Human Development Indicators from period 2001-2010 of study in Punjab and Haryana

Human Development Indicators reflect that there has been an improvement in Infant Mortality; Literacy and Enrolment during the period 2001-2010 of study in both Punjab and Haryana. Literacy rate of Haryana has increased from 55.85 in 2001-02 to 67.91 in 2009-10 and of Punjab have been increased from 58.51 in 20001-02 to 69.95 in 2009-10. On this front Punjab has performed better than Haryana. The decadal growth rate of Haryana is 1.09 per cent per annum and that of Punjab is 1.04 per cent per annum. The progress is visible in enrolment rate as well from 72.02 in 2001-02 to 84.11 in 2009-10 of Haryana. In Punjab also similar trends are visible with increase from 72.24 in 2001-02 to 75.15 in 2009-10. On this front Haryana has performed better. YoY growth rates reflect variation over the years. In case of Infant mortality there is a decline from 68 to 55of Haryana and in case of Punjab, there is a decline from 53 to 43. Thus, in terms of human development indicators, both Punjab and Haryana are stepping forward.

O2: To compare economic growth of Punjab and Haryana

As seen by NSDP growth rates of Haryana and Punjab have been increasing over the 2001 onwards era .The decadal growth rate of Haryana is 2.12 per cent per annum and of Punjab is 2.24 per cent per annum .Year on Year (YoY) growth rates of Haryana reflect an increase from 9.68 per cent in 2001- 02 to 17.80 per cent per annum in 2009-10 and for Punjab increase from 3.31 per cent in 2001- 02 to 15.14 per cent per annum in 2009-10. The impact of recessionary trends is further visible in Haryana economy with the (YoY) growth rate falling from 15.42 to 15.08 per cent, while the trend is also there for Punjab Economy which witnessed a decline from 19.76 to 14.32 per cent. In case of economic growth Punjab has performed better than Haryana.

O3: To compare Human Development Indicators of Punjab and Haryana

A look at human development indicators reflects that there has been an improvement in Infant Mortality; Literacy and Enrolment in the time period of the study for Haryana as well as for Punjab. Literacy rate of Haryana has increased from 55.85 in 2001-02 to 67.91 in 2009-10 and that of Punjab has increased from 58.51 in 2001-02 to 69.95 in 2009-10. The decadal growth rate of Haryana is 1.09 per cent per annum and that of Punjab is slightly lower than that of Haryana and is 1.04 per cent per annum. The improvement is perceptible in enrolment rate of Haryana is as well from 72.02 in 2001-02 to 84.11 in 2009-10 and Punjab is 72.24 in 2001-02 to 75.15 in 2009-10. In case of Infant mortality there is a decline from 68 to 55 of Haryana and in Punjab there is a decline from 53 to 43. Thus in terms of human development indicators Punjab economy depicts better performance. Overall human development indicators are reflecting improvement in both the states. But a comparison with other states is indicative of fact that they are still ranked much lower and have to improve in all aspects of human development.

O4: To analyse the relation between Human Development Growth and Economic Growth factors in Punjab and Haryana

NSDP growth rates of Haryana and Punjab have been increasing over the 2001 onwards era. The decadal growth rate of Haryana is slightly lower than that of Punjab. Human development indicators reflect that there has been an improvement in Infant Mortality; Literacy and Enrolment in the time period of the study for both the states. Regression analysis was done to find relationship between human development indicators and economic growth. NSDP of states was taken as a proxy for economic growth.

In case of Haryana the regression model selected Enrolment rate and Infant Mortality Rate as predictors of growth. When Infant Mortality Rate was added to model, R increased from 0.756 to 0. 903 and the explanatory power of model in terms of adjusted R^2 increased from 0 .510 to 0 .713. Infant Mortality Rate (Variable 7) is negatively related, while Enrolment Rate (Variable 9) is positively associated with NSDP of Haryana. In terms of Beta value the value of Enrolment

rate is higher than that of Infant Mortality Rate. The results highlight that with growth of NSDP, the infant mortality rate declines, and enrolment rate is increasing for Haryana economy.

In case of Punjab the value of R is .97 and the value of R^2 is 0.947 and Adjusted R^2 is 0.915. The model explains 91.5% of variation. ANOVA results highlights that the F value is 29.797 which is significant this conveys that the model is acceptable. Infant Mortality rate (Variable 2) has Beta value of 2.017 and is significant. Enrolment rate has Beta value of 1.486 and is significant. The model has not chosen literacy rate as a predicator for model. Thus the two predicators are infant mortality rate and enrolment rate. The Durbin -Watson (DW) is 2.883 which are also acceptable. The results of regression analysis highlights that Infant mortality is negatively related with GDP growth while literacy rate and enrolment rate have a positive relation.

Thus overall results of Punjab and Haryana economy do suggest that human development indicators are good predictors of economic growth of the economy. In terms of overall performance, there is similarity in performance indicators of human development as well as economic growth, although it can be inferred that Punjab economy has performed a little better than the Haryana economy.

Thus it can be inferred that economic growth and human development generally go together and tend to be mutually reinforcing. Human development can contribute to economic growth in many ways. Healthy well-educated people make an economy more productive but human development alone cannot transform an economy. Even skilled and vigorous people need machinery, buildings and infrastructure. Enhanced human development expenditures cannot be sustained over a long period unless supported by accelerated economic growth. Policies are needed to ensure that the pattern of growth benefits the poor and that the resources generated are invested in building human capabilities. Growth alone is not enough. It can be ruthless, leaving losers in abject poverty; jobless, creating a little employment, voiceless, failing to ensure participation of people; futureless, destroying the environment for future generations and truth less, destroying cultural traditions and history. Developing countries face resource crunch and tough choices have to be made in research allocation. Human rights and human

development should command the highest priority whatever the resource constraints. Haq rightly says, **'Unless societies recognize that their real wealth is their people an excessive obsession with creating material wealth can obscure the goal of enriching human life.'**

5.3 LIMITATIONS OF THE STUDY

The findings of the study depend purely on the responses given by Human Development data and are sometimes questionable. The study is restricted to Punjab and Haryana region and may not apply findings and suggestions to other areas. Although, effort has been taken just to compare Punjab and Haryana with others states where HDI is more, but in-depth analysis of inter-state differences in HDI is not in the scope of this study.

5.4 DIRECTIONS FOR FURTHER RESEARCH

In the present study effort are directed to study the Human Development Index in Punjab and Haryana. This is an exploratory study which would be a useful contribution for future researchers. For arriving at any generalization it is highly desirable to undertake in-depth analysis of inter-state differences in HDI. Further research must direct itself for conducting such investigations. This will make the applications more meaningful to make HDI more effective.

REFERENCES

Aluko S. (1975). Poverty: Its remedies in Poverty in Nigeria, Nigerian Economic Society Annual Conference, Ibadan.

Anand and Ravallion (1993) Effects of Economic Growth on Human Development. Journal of Economic Literature

Aturupane, Harsha, Glewwe, Paul, and Paul Isenman (1994). Poverty Human Development, and Growth: An Emerging Consensus? The American Economic Review, Vol 84, No. 2, pp 244-249.

Birdsall (1993) Strong effect on Enhancing Labor Productivity.

Cani (1998) Human Resource Strategy's contribution in Economic Development in case of Singapore.

Chambers, Narayan-Parker (2000) Voices of Poor

Clark, David A. (2006) The capability approach: its development, Critiques and Recent

Advances, Global Poverty Research Group, GPRG-WPS-032.

Crespo(2007) Impact of Education and Human Development on Economic Development in case of Mexico, Journal of International Development

Deaton (2008) and Stevenson and Wolfers (2008) Relationship between Percapita Incomes and Average Happiness levels.

Debrah (2000) Globalization led to strengthen the East Asia Regional Economic Cooperation and Promoting Economic Growth.

Deraniyagala (1995) Skill and Education levels of Workers and Entrepreneurs. Journal of Economic Literature

Diener, E. and Suh, E. (1997). Measuring Quality of Life: Economic, Social, and Subjective Indicators. Social Indicators Research, Vol. 40, No. 1/2, pp. 189-216.

Doyal and Gough (1991) Principle of Avoidance of Serious Harm and Plan of Life. Social Indicators Research

Doessel,D.P. and Gounder, R. (1994) "Theory and Measurement of Living Levels: Some Empircal Results for the Human Development Index." Journal of International Development 6(4): 415-435.

Duflo (2000) Reflects in Increase in Wages.

Foster and Rosenzweig (1995) Increased Education is Associated with Faster Technology. Journal of International Development

Fukuda-Parr, S. (2003), The Human Development Paradigm: Operationalizing Sen's Ideas on Capabilities, Feminist Economics, Vol. 9 No., 2-3, pp. 301-317.

Guido Lüchters, Lukas Menkhoff (1995), "The fourth première of the Human Development Index," Intereconomics, January/February 1995, Volume 30, Issue 1, pp 9-15.

Harttgen and Klasen(2012) Analyze the Micro Level Distribution of Human Development Index.

Hicks (1997) Lack of Distribution Effects in Human Development Index. Journal of International Development

Kelley, A. (1991). The Human Development Index: "Handle with Care". Population and Development Review, Vol. 17,No. 2, pp. 315-324.

Lind, N.C. (1992). Some thoughts on the Human Development Index. Social lndicators Research 27: 89--101, 1992.

Lind, N.C. (2004). Values Reflected in the Human Development Index. Social Indicators Research, Vol. 66, No. 3, pp. 283-293.

Little(2003) Central Concept of Human Development which influences the Economic Development.

McGillivray, M. (1991). The Human Development Index: Yet Another Redundant Composite Development Indicator? World Development, Vol. 19, No. 10, pp. 1461-1468.

Murray,J. L. (1993).Development data constraints and the Human Development Index. In D.G. Westerndorff and D.Ghai (eds) Monitoring Social Progress in the 1990s, pp. 40–64.

Nissan and Niroomand (2005) Compared the Convergence and Divergence phenomenon between Income and other basic needs.

Noorbakhsh, F. (1998a). A Modified Human Development Index. World Development, Vol. 26,No. 3, pp.517-528.

Nusssbaum (2000) Critical Reflection about the Planning of ones life, p 79.

Nussbaum (2000) Internal Reflection of each person upon her own thoughts, reading, imagination and experiences, p.39.

Ogwang, T. (1994) The choice of principle variables for computing the Human Development Index.World Development, 22(12), pp. 2011–2014

Omotola(2008) Poverty Reflects Deprivation in case of Nigeria , Journal of International Development

Psacharopolous (1992) Strongest Impact on Income Equality.

Rajkumar and Swaroop (2002) Effectiveness of Public Expenditure.

Sagar, A. and Najam, A. (1998). The Human Development Index: a critical review. Ecological Economics 25, 249–264

Sagar, A. and Najam, A. (1998). The Human Development Index: a critical review. Ecological Economics 25, 249–264.

Saisana, M., Tarantoorbakhshola, S., and Saltelli, A. (2005). Uncertainty and Sensitivity Techniques as Tools for the Analysis and Validation of Composite Indicators. Journal of the Royal Statistical Society A, 168(2), 1-17,

Saisana, M., Tarantoorbakhshola, S., and Saltelli, A. (2005).Uncertainty and Sensitivity Techniques as Tools for the Analysis and Validation of Composite Indicators. Journal of the Royal Statistical Society A, 168(2), 1-17,

Sen, A. K. (1992), Inequality Reexamined. Oxford: Clarendon, Journal of Development Economics.

Sen, A. K. (1999) Development as Freedom. Oxford: OUP.

Sen, A.K. (1998). Mortality as an Indicator of Economic Success and Failure. Economic Journal, Vol. 108,No. 446, pp. 1-25.

Srinivasan, T.N. (1994a). Human Development: A New Paradigm or Reinvention of the Wheel?

Srinivasan, T.N. (1994b).Data Base for Development Analysis: An overview. Journal of Development Economics 44 (1994) 3-27.

Strauss and Thomas(1998) How Improvement in Health and Nutrition Improve Productivity and Income. Journal of Development Economics.

Streeten, Paul (1994) Human Development: Means and Ends. American Economic Review, 84(2): 232-237 Journal of Development Economics.

Sugden, Robert (1993) 'Welfare, Resources and Capabilities: A Review of Inequality Reexamined by Amartya Sen', Journal of Economic Literature, Vol. 31, No. 4, pp. 1947-62.

Sweeney, P.(1999). The Celtic Tiger. Ireland's continuing Economic miracle. Oak Tree Press,Dublin

Sydhagen (2007) Skills Development and Training for Labor for sub Saharan African region and Developing Economics.

Ul Haq, M. (1995). Reflections on Human development. Chapter 4.OxfordUniversity Press.

Wasantha Athukorala, P.P.A. (2003). The Impact of Foreign Direct Investment for Economic Growth: A Case Study in Sri Lanka. 9th International Conference on Sri Lanka Studies. Matara, Sri Lanka.

http://hdr.undp.org/en/media/hdr_1990_en_chap1.pdf