Growing Urbanization and Economic Development in India: The Role of Middle Class

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CERTIFICATE

I declare that the dissertation entitled “GROWING URBANIZATION AND ECONOMIC DEVELOPMENT IN INDIA: THE ROLE OF MIDDLE CLASS” has been prepared by me under the guidance of Dr. Naresh Singla, Assistant Professor, Centre for Economic Studies, School of Social Sciences, Central University of Punjab. No part of this dissertation has formed the basis for the award of any degree or fellowship previously.

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CERTIFICATE

I certify that Neha Jindal has prepared her dissertation entitled "GROWING URBANIZATION AND ECONOMIC DEVELOPMENT IN INDIA: THE ROLE OF MIDDLE CLASS", for the award of M.Phil. degree of the Central University of Punjab, under my guidance. She has carried out this work at the Centre for Economic Studies, School of Social Sciences, Central University of Punjab.

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ABSTRACT

"Growing Urbanization and Economic Development in India: The Role of Middle Class"

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In the present study entitled "Growing Urbanization and Economic Development in India: The Role of Middle Class", examined that the growing urbanization leads to economic development by creating new rising middle class. The assessment is based mainly on secondary data which is analyzed using correlation, multiple regression analysis by testing of improvement of fit, path analysis and simple averages. The determinants of the size and growth of the middle class and role of middle class in economic development are also examined in this study. Size of middle class is associated with growing urbanization, higher school enrollment, higher share of service and industrial sector in GDP than agriculture sector and lower fertility. Using the definition of middle class given by NCAER and data on various determinants of middle class spanning the period 1990-2010, the multiple regression analysis by testing the improvement of fit, has been carried out to know the significant variables. And find that a larger middle class influenced through the growing urbanization and tertiary school enrollment. It was also found out that middle plays a positive role in economic development by regressing the size of middle class on HDI, GDP per capita and gross capital formation (parameters of

economic development). The estimates show the positive and significant relation between them. Further through path analysis technique the significance of direct and indirect paths between various variables is analyzed. A casual model is proposed showing that the growing urbanization and tertiary school enrollment leads to rising new middle class and further the higher size of middle class leads to effect positively the HDI, GDP per capita, gross capital formation. The model coming out to be over identified and the estimates revealed that variables in the model are significant and the R^2 in every path is high. Showing that each variable in the model has its own significant importance important. But the overall model is coming out to be bad fit. This is the limitation of the study and may be due to less number of observation and paths taken in the model.

Neha Jindal Dr. Naresh Singla

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

S.No	Full form	Abbreviation
1.	Census of India	COI
2.	Central Statistical Office	CSO
3.	Coefficient of variation	CV
4.	Compound annual growth rate	CAGR
5.	Gross Capital Formation	CF
6.	Gross Domestic Product per capita	GDP
7.	Human Development Index	HDI
8.	India Institute for Human Settlements	IIHS
9.	McKinsey Global Institute	MGI
10.	Monthly per Capita Expenditure	MPCE
11.	National Sample Survey Organization	NSSO
12.	National Council of Applied Economic Research	NCAER
13.	Size of middle class	MC
14.	Tertiary school enrolment	TSE
15.	The Organisation for Economic Co-operation and Development	OECD
16.	Total Fertility Rate	TFR
17.	Urbanization	URBAN
18.	World Bank	WB

Chapter 1
Introduction

India is facing problems in sustaining growth rate of Gross Domestic Product (henceforth, GDP). The GDP growth rate was 9.6 percent during 2007-08 which declined to 6.7 percent during 2008-09. It again increased to 8.4 percent during 2009-10 and 2010-11. The GDP growth rate again declined to 6.9 percent in 2011-12 (Economic Survey, 2012). The problems in sustaining GDP growth rate are due to the existence of poverty, unemployment, illiteracy, deficiencies in human capital and public infrastructure, unstable political system and many more (Kharas, 2010). One of the solutions to deal with these problems is favorable demographical changes. The favorable demographical changes in the economy like growing urbanization, growing young age working population; people are getting wealthier and many more leads to economic development (Anonymous, 2010a). Presently, India is also experiencing this favorable demographic shift that is expected to drive growth.

India is the second most populous country in the world after China. The population increased from 102.8 crores in 2001 to 121.01 crores in 2011 (COI, 2011). It supports over 15 percent of the world's population on area of 2.2 percent of the world's area. Thus, it is important to study the India's demographical features that changes with time. Most important among these demographical changes is growing urbanization and rising middle class. Larger middle class always considered being vital for the sustained and higher economic growth by driving rapidly increasing demand for consumer goods and infrastructure upgrades (Anonymous, 2010a).

The middle class is not yet the biggest segment of India's overall population. The rich and poor combined far outweigh the middle class. Earlier in order to achieve the inclusive growth most of the stress was focused on the poor people and these pro poor inclusive policies were sometime tradeoff for achieving long term growth. However, in recent years most of the attention has been focused on particular social class i.e. middle class. Moreover, the policies that leads to the welfare of the middle class and nurture their growth may be a more effective long-

term strategy for alleviating poverty compared to policies focusing solely on the poor (Birdsall, 2010).

The size and characteristics of middle class deserve attention for several reasons in India as it possesses a sixth of the world's population, and hence its middle class comprised a significant portion of the global workforce as well as a significant market for final products. Also, the middle class seems to have trickle-down benefits of high growth and to respond to economic incentive in a way that would make the growth sustainable. Finally, the growth and consumption habits of the middle class serve as a useful tool of how living standards in India are changing. Thus, it seems essential to nurture the Indian middle class. However, economists are looking at the middle class as a source of consumer power and social stability in society (Solimano, 2008).

The various factors that contribute towards the size and growth of large middle class are high levels of urbanization, a more democratic government, lower fertility rate and income inequality, higher share of services and industrial sector in GDP as compared to agriculture sector, higher tertiary school enrollment etc. On the other hand strict credit policies, lower public employment, lower infrastructure quality, higher top tax rates, less secures property rights and worst regulations are factors that are hampering middle class activities. Similarly, landlocked countries have smaller middle class as these countries tend to lack the benefits sea access and suffer from geographical disadvantages (Chun et. al, 2011).

Out of all the determinants, urbanization is one of the important determinant of size and growth of middle class. Growth of middle class is more or less an urban phenomenon. Urbanization is increase in percentage of the people living in the towns brought about by the transfer of rural population into the towns and cities. India has been slowly urbanizing over the past two decades, it remains the least urbanized of the emerging Asian economies. In 2010, only 30 percent of Indians live in cities, compared with 40 percent of the Chinese and 48 percent of Indonesians, and it is projected that the level of urbanization will increase to only 37 percent by 2025. For India's urbanites, especially educated ones, the future looks promising. Many of these households will not only move out of poverty but also into the new and aspiring middle class. The growth that has pulled millions of

people out of poverty is also building a huge middle class that will be concentrated in India's urban areas (Beinhocker et. al, 2007). Most important contribution of urbanization is the creation of enormous increase in middle class household through developing new modern cities. Cities offer a higher quality of life, people access to good infrastructure, safe drinking water, good transport facilities, large markets, stable secured employment opportunities, and high salaried jobs, most effective education system, most specialized medical facilities etc. More over cities have potential to attract more investment and provide secured jobs having more average income than the average income in the rural areas. Due to these reasons, the rural people get attracted towards the urban areas that compose the urban middle class in the economy (Sankhe et. al, 2010).

When people shift from rural to urban areas, they also shift from agriculture occupation to secondary and tertiary sector occupation. And in secondary and tertiary sector occupation the income is high and stable as compared to agriculture sector. And as income per capita increases people will leave poverty and enter the pool of middle class. The fertility rate in urban areas is less as compared to rural areas. Also in urban areas due to better education facilities, people are able to provide their children with higher education, which they cannot do while living in rural areas. It is argued that urbanization could add up to 1 percent in annual GDP growth as labour is shifted from agriculture to the industrial and service sectors (Anonymous, 2010a). Thus, growing urbanization will lead to the increase in the size of middle class households.

Till now there is no country that has experienced economic growth without the significant shift of population into the large urban cities. "Every major industrialized country in the world has experienced a shift over time from a largely rural, agrarian-dwelling population to one that lives in urban, nonagricultural centers. India will be no different" (Sankhe et. al, 2010, p.37). When we compare India with other economies, India seems to have the lowest level of urbanization. The level of urbanization is only 30 percent in India compared with 74-90 percent in developed countries (WB, 2010). From this, we conclude that India has much wider scope to increase its urbanization levels in future.

The presence of the strong middle class can have a significant positive influence on the economic growth. The growing urbanization and rising new middle class in the economy will make it a better place and more profitable one. The middle class played a vital role that leads to the economic development. The middle class is the source of all the needed inputs for growth in an economy like new ideas, physical and human capital accumulation (Kharas, 2010). As middle class enjoy better health care and higher education opportunities, steady and secured jobs that's why middle class is seen as a symbol to remove poverty, creator of jobs, a new consumer market, a source of entrepreneurship and innovation, a spur for nations to public infrastructure, an advocate for social stability and in some case wholesale political change.

Private consumption has played a larger role in India's growth. The growth of middle class continues to increase domestic demand and vocal demand for better public services and thus the economy will also continue to grow. Most of the expenditure of middle class is concentrated on providing education to their children, proving better healthcare and securing their future, thus contribute towards increasing educated and skilled workforce. It contributes towards rising public as well as private investment. The middle class plays a positive role in political economy as well. As the middle class is more educated, organized and aware than poor people thus they will increase pressure for democracy, freedom and civil liberties. "The middle class gives rise to good institutions and the institutional development most likely follows economic growth" (Bhalla, 2011, p.5). The middle class also act as a self perpetuating group, as its emergence creates opportunities for millions of people to move out of poverty and enter into middle class.

The presence of the strong middle class in the country can lead to economic development through its significant positive influence on the Human Development Index (henceforth, HDI), GDP per capita and gross capital formation. Because most of the expenditure of middle class is concentrated on providing education to their children, providing better healthcare and also spend on improving their living standard. The larger size of middle class can have positive effect on all the indicators of the HDI i.e. improving health (life expectancy at birth), education (mean year of schooling) and living standard of the people (Gross

National Income per capita PPP). And the HDI and economic development are closely related, higher value of HDI means higher economic development of the economy.

Growing urbanization will lead to enhance the size of the middle class. And the enhancements in the size of middle class can lead to sustained and higher economic growth. Thus, we can say that growing urbanization can indirectly lead to economic development through its positive impact on the size of middle class. Thus the study has been undertaken to study the determinants and role of middle class in India. It will also look into the relation between growing urbanization and rising middle class. Keeping in view the importance of middle class among all the other classes, there is a need to look into the determinants of its size and growth and its role in economic development. Thus, the study has been specifically carried out:

1. To study the trends of the urbanization in India.
2. To study the determinants of size and growth of middle class in India and
3. To examine the role of the middle class in economic development in India.

Plan of the study

The study has been divided into seven chapters including the present one. Second chapter reviews empirical studies related to the theme of the study. Third chapter explains the data base and methodology adopted for analyzing the data. Fourth chapter analyzes the determinants of size and growth of middle class in India. Fifth chapter includes the trends of urbanization in India. Sixth chapter examines the role of middle class in economic development and last chapter summaries the study with policy implications.

Chapter 2

Review of Literature

The recent rise in middle class population concentrated in urban areas has generated a sufficient interest in likely impacts of growing urbanization and middle class on economic growth and development in India. There are several studies which highlight the concept of urbanization and middle class both at national and international level. But, there are very few studies that corroborate the contribution of urbanization towards the size of the middle class. Also, there exit very rare studies that relates to the role of the middle class households in promoting the economic growth and determinants of size and growth of middle class in India. Thus, an attempt has been made to review some of the studies which explore the size and growth of urbanization and middle class and their relation with economic development.

Easterly (2001) found the relation between the middle class consensus and economic development. It put forward the existence of the middle class consensus as a critical determinant of economic development. The study defined the middle class consensus as a national situation where there were neither strong class differences nor ethnic differences. This paper linked the existences of a middle class consensus to exogenous country characteristics like resource endowments and ethno linguistic diversity. The study found that the countries with a middle class consensus had a higher level of income, human capital, and infrastructure. Such countries also had better economic policies, were politically stable, high modern sectoral structure and more urbanization.

NCAER (2003) in domestic tourism survey found that amongst the four income categories i.e. least income group, low income group, middle income group and higher income group, the middle class households represented the highest percent of trips in each category of travel by purpose as well as for all trips taken together. Maximum proportion of all tourists was accounted for by those belonging to the middle income category of households. Thus, domestic tourism in India was predominantly a middle class phenomenon.

Chowdhury (2005) tried to relate inequality, occupational choice and long run wealth in an ordinary least square framework and argued that a little bit inequality in terms of wealth dispersion was needed to start with for long run prosperity. The presence of huge middle class was not always welfare maximizing. As only rich section of the society could enhance or establish industries. The transfers from the rich to the middle class or the poor actually decreased the long run growth. In his formulation, the only feasible way to increase the growth rate was to promote the poor to the middle class by permanently increasing their productivity through education.

Datta (2006) endeavored to illuminate the process of urbanization in India over a century with emphasis on level, tempo of urbanization and urban morphology using Indian Census data during 1901-2001. It traced urban problems and related policy issues. As per the data, India was among the countries of low level of urbanization. Main feature of urbanization in India was like lopsided induced growth of class I cities. It occurred without industrialization and strong economic base and it was mainly a product of demographic explosion and poverty induced rural - urban migration. Rapid urbanization lead to massive growth of slum followed by misery, poverty, unemployment, exploitation, inequalities, degradation in the quality of urban life. The urbanization occurred in India is not due to urban pull but due to rural push, so proper urban planning was needed so as to develop small and medium cities by redirecting investment which had been neglected so far. These negative externalities could be removed through proper and adequate planning that would enhance the positive opportunities and benefits of the process of urbanization and lessen its cost and negative externalities.

Singh (2006) found that service sector played an important role in India's economic development of India. As share of service sector in GDP is more than that of the agriculture and manufacturing sector. This sector had strong linkages with other two sectors as certain type of services needed for modern manufacturing sector. So the improvement of this sector is for most important for overall economic development of the economy. Main constraint in the development of service sector was lack of appropriate skill acquisition that is necessary for employment in this sector.

Bhalla (2007) in his paper argued about size of the middle class in India and China and how the size of the middle class matters. The middle class was effective in countries which attained 10 to 15 percent presence of middle class size. The interests of the middle class began to dominate political and economic discourse i.e. the implementation of policies and the development of institutions that yielded better economic, and social, and cultural, performance. The study found the strong correlation between initial size of middle class and income growth as middle class was associated with increased openness, increased foreign trade and adoption of advances in technology. Middle class had higher propensity to save and invest; and emphasize on providing quality education to their children. The middle class was always interested in merit, so it was natural for it to be for economic reforms and this was how the middle class was able to affect future growth.

Beinhocker et al. (2007) in their study noted that as average income of household increased, many people moved out of poverty and created the middle class centered in urban areas. The Indian middle class had already begun to evolve, and by 2025 it would dominate the cities. By then about three-quarters of India's urbanites would be part of the middle class, compared with just more than one-tenth today. The expansion would come in two phases, with the lower middle class peaking around 2020, just with the growth of the upper middle class. This shift from poor to middle class would change the composition of their spending i.e. shift from the necessities to discretionary expenditures. This would further create more employment opportunities in companies as to meet the new consumer demand of discretionary goods.

Solimano (2008) identified the main economic and political economy variables that were correlated with the middle class by assembling data base for a sample of 129 countries. The empirical correlation analysis found a positive and strong correlation between variables like level of per capita income, size of the state, government expenditure, democracy and relative size of middle class. The paper also showed that the correlation between the share of the middle class and the overall size of government, in general, was not very strong and varies across countries ordered by income per capita levels. The study also found the negative and strong correlation between inequality and relative size of middle class. Middle

class had a positive effect on growth and development as it was a source of entrepreneurship, consumer power and social and political stability.

Bloom and Khanna (2008) in his study asserted different factors that motivate migration to the urban areas. Like difference in income levels between urban and rural people, improved quality of life, more effective education system and greater specialization in medical activities etc motivated people to move out of rural areas and shift into the urban areas. Female literacy rates were on average 35 percent higher among urban populations than among rural populations, this showed the education enrollment was higher in cities than in rural areas. Urbanization lead to economic development through many ways. Urbanization also contributed to rural development by reducing poverty and increase in wages in rural areas. The people in urban areas also started to send remittances to their families staying in rural areas.

Banerjee and Duflo (2008) carried out household survey across 13 developing countries to describe consumption choices, health and education investments, employment patterns and other features of the “middle classes”. The study defined the middle class as those whose daily consumption per capita was between $2 and $4 or between $6 and $10. The study pointed out the differences and similarities between the middle classes and the poor and helped discriminating between various theories of the role of the middle classes in the development process. Further, the average middle class person was not an entrepreneur in waiting: while he or she might run a business, this was usually a small, not very profitable business. The study also revealed that the single most important characteristic of the middle class seemed to possess a steady job. The middle class also had fewer, healthier, and better educated children. Middle class also preferred non agricultural business and provided jobs to poor that helped the poor to move out of poverty and enter into middle class households. Middle class households were also found to have more access to bank credit and gave more emphasis on accumulation of human capital and savings. In Indian context, the study pointed out that the rural middle class were more likely to be entrepreneurs outside agriculture.

Sankhe et. al. (2010) explored the consequences of urbanization for the people and their future growth in India. It also explored the evolution of urbanization and the problems faced by fast growing cities. In 2008, an estimated 340 million people lived in urban areas, representing nearly 30 percent of the total population. The urban GDP accounted for 58 percent of overall GDP. It was projected that by 2030 the urban India would generate nearly 70 percent of GDP. The middle class was classified as those with earnings between Rs. 0.2 to 1 million per annum. The study pointed that the middle class emerged in India mainly in urban cities. It had the potential to offer international businesses vital for new growth markets. These middle class income groups were set to become significantly larger, fueling demand for increasing sophisticated products and services; and increasing expectations for better infrastructure.

ADB (2010) in the report focused upon Asia's middle class, its implications for future development, and relevant policies. It argued that strong economic growth in Asia over the past two decades had been accompanied by the emergence of a larger size of middle class. By 2008, it had risen to 56 percent of the population from 21percent in 1990, using an absolute definition of per capita consumption of $2-$20 per day. And this class hold the potential to rebalance the economies towards higher inclusive growth. Reduction in income inequality, expansion of stable well paid jobs with good benefits, higher education, higher mobility were the major determinants of size of middle class in Asia. The appearance of a large Asian middle class had raised the consumption of consumer durables, frugal innovation and also improved accountability in public services through more vocal demands for better services. The study found that the policies that were good for growth, such as fiscal discipline, sound monetary policies, improved infrastructure and reduced volatility also found to fostered middle class growth.

Birdsall (2010) argued that inclusive growth was widely embraced as the central economic goal for developing countries. In order to achieve inclusive growth emphasis should go beyond the poor class and took into account changes in the size and economic command of that social group which was neither rich nor poor i.e. middle class. As the growth driven by higher share of middle class was likely to be more sustainable because it was associated with lesser inequality,

politically stable and good economic institutions that encouraged investment and capital formation.

Lo (2010) empirically tested the cause and effect relation between the urbanization and economic development. This study took data of 28 countries over the period of 1950-2000 and applied granger causality test on this data. There was a long-run stable relationship between the two variables. Urbanization and economic development had long been regarded as inter-connected processes. The results showed the positive relation between two variables but in developing countries the urbanization granger caused economic development and in developed countries, the inverse of this applied i.e. economic variables granger caused urbanization.

Dobbs and Sankhe (2010) in their report compared China and India in terms of urbanization. According to the report, in 1950 India had high urbanization rate than China, but from 1950 to 2005 China urbanized far more rapidly than India. In 2005 the urbanization rate of China 41 percent which was higher than that of India (29 percent). The study pointed that India should invest in infrastructure and cities to increase its urbanization rates in future. And due to increase in high income urban household in India and China, the markets would likely to get all the benefits in future.

Sridharan (2010) examined the growth and sectoral composition of middle class and its impact on politics of economic liberalization in India. It stated that the emergence of a 100-250 million-sized middle class during the 1980s and 1990s that had dramatically changed India's class structure from one of a small elite and a large impoverished class to one dominated by a large intermediate class. This class tended to support a broadly socialistic ideology. The middle class played more positive and vital role in the implementation of the economic reforms like deregulation, macroeconomic stabilization and public sector reforms including privatization as compared to the poor and rich class households.

Amoranto et. al. (2010) examined the relation between class status and values that enhance economic growth like market competition, gender equality, upward mobility, trust in others, political activism and technology adoption. The analysis found out that middle class had values that were more likely to contribute

to economic growth than the lower class. But, middle class had less liberal values than upper class related to market competition, gender equality, upward mobility and trust. And at the same time the middle class played a more positive role than lower and upper class for political activism and technology adoption. So the policies that raised class status by education and better jobs would create the society with values that helped in increasing economic growth.

Anonymous (2010) argued that rapid urbanization was associated with higher living standard and higher consumption and thus led to growing middle classes across much of the emerging world and vice versa. It also explored the areas that grow with the growth of middle class households. The banking sector was one sector likely to be benefited from the rise in middle class as consumer finance; life insurance and pension got increased. And also the rapidly rising domestic consumption would provide opportunities for many emerging companies especially in retail, consumer product and health care. Macro-policy would play a vital role in shaping this future, but it would be the private sector that drove it.

Kharas (2010) defined a global middle class as all those living in households with daily per capita incomes of between US$10 and US$100 in PPP terms. By combining household survey data with growth projections for 145 countries, it showed that Asia accounted for less than one-quarter of middle class. By 2020, more than half the world's middle class could be in Asia. This paper had extended the role of middle class as a source of entrepreneurship, innovation, value education, hard work, thrift and consumption role of middle class that would encourage product differentiation. This would increase the investment in production and marketing of new goods. By 2020, Asian consumers could account for over 40 per cent of global middle class consumption. India, although poorer than China, could overtake China in terms of presence of size of middle class by 2020. India had a more even distribution of income than China and a much higher share of household income in GDP, so its middle class was larger given its income level. As India had the potential to grow rapidly for some years to come and its emerging middle class would strengthen and reinforce its growth.

Chun (2010) highlighted the size of the middle class and their annual expenditure in developing Asia based on absolute definition of middle class i.e per

day expenditure between $2 and $20. Asia had experienced rapid growth in the middle class over the past few decades and this increase in middle class would lead to growth in Asia in coming decades. As per author's estimates in 1990 the percentage of poor population in developing Asia was 79 percent which fell down to 43 percent in 2008. And the percentage of middle class increased from 21 to 56 percent from 1990 to 2008 in developing Asia. Moreover, the growth of the middle class had largely been unequal between countries and a high proportion of the middle class was very vulnerable to falling back into poverty as they resided mostly in the $2-$4 per day range. Among various social groups the focus was on the middle class because they had income to invest in productive activities but the poor only had enough to survive.

Bhalla (2011) found that the middle class was the driver of sustainable inclusive growth in India. As education expansion in India was expected to have several multiplier effects and one of them was the development of middle class that was particularly accelerated by expansion of female education. The model presented in the study argued that past and lagged values of the share of the middle class and education have an effect for subsequent growth. This model was estimated for five year periods from 1980 to 2009. As middle class first demand is economic freedom and along with this middle class interested in having improved political institutions. They had belief in law and order and an indicator of aspirations. Thus, the study concluded that growth of middle class gave rise to good institutions and the institutional development followed the economic growth.

Jodhka and Prakash (2011) found that the middle classes in India had been growing in size since independence. However, the Indian middle class witnessed a qualitative shift during the early 1990s with the introduction of economic reforms and an increasing integration of the economy into the global markets. The middle class growth was fuelled by the relative autonomy that the states enjoyed during this period and often hijacked the state apparatus and policies for its own benefits. At the same time this study also noted that in India, middle class households lacked autonomy which the western middle class had and Indian middle class was dependent upon financial support. The study pointed out that the share of service sector in the economy had increased. And the middle-income group was largely located in the service sector. The middle class increasingly turned towards 'new

politics' centred around the organisations in civil society rather than political parties or trade unions.

Chun et al. (2011) analyzed the role of middle class in economic development and explored the various determinants of the size and growth of middle class by using a panel data of 72 developing countries for the period of 1985-2006. The study found that a large size of middle class influenced consumption growth and development through higher levels of human capital investment. The study also found that higher level of urbanization, greater democracy, and ethic concentration were all associated with a large size of middle class. The study concluded that policies focusing towards promoting urbanization and spur on the private sector should be encouraged in order to increase the size of middle class households.

Martinez and Parent (2012) investigated the determinants of middle class in Latin America. The analysis revealed that education (specially secondary and tertiary) and employment were the main determinants of middle class. The lack of education, unemployment, inactivity and self employment were main four characteristics that put middle class at risk of falling into poverty. Therefore, in terms of public policies, the priorities should be to promote schooling through good access and infrastructure. The policies should also focus on promoting female labor participation.

Chapter 3

Data base and Methodology

The objective of this chapter is to discuss sources of data used in the study and methodology for analyzing the data.

3.1 Data base

Keeping in mind the nature of study, secondary data has been used to carry out the analysis. The secondary data on different variables used in the study is taken from the different sources. The various secondary data sources used are: Census of India, 2011; World Bank, 2011; Central Statistical Office (CSO), 2011; India Institute for Human Settlements, 2011; National Council of Applied Economic Research (NCAER), 2010; McKinsey Global Institute, 2007; etc. The study mainly covers the period of 20 years i.e. 1991 to 2010. Some of the data has been taken from Census of India covering a period from 1951-2011.

3.2 Definitions

3.2.1 Urban Area

According to Census of India, an urban area is defined as follows:

(a) All statutory towns i.e. all places within a municipality, corporation, municipal board, cantonment board or notified town area committee etc.

(b) All other places which satisfy the following criteria:

(i) A minimum population of 5,000

(ii) At least 75% of male working population engaged in non- agricultural pursuits; and

(iii) A density of population of at least 400 persons per square kilometer.

3.2.2 Middle Class

There is no specific official definition of middle class in India. Different criteria are used to define middle class such as income criteria, occupation criteria, consumption criteria and education criteria. Out of the various criteria, income is the best indicator for defining the middle class population. In this study, a methodology adopted by National Council of Applied Economic Research (NCAER) has been used to define the middle class. The middle class households

are those with a disposable income of Rs. 2,00,000 to 1,000,000 ($4,380 to $21,890) per year. The categorization of households into five economic classes based on real annual disposable income developed by NCAER is as follows:

Table 3.1

Categorization of Households into Different Classes

Classes		**(Rupees thousand per annum)**	**Profile of households**
Global	Rich class	>1000	Senior corporate executives, large business owners, politicians, big agricultural-land owners
Strivers	Middle class	500-1000	Senior professionals and government employees, medium scale industrialists, medium to large landlords
Seekers		200-500	White-collar, and mid-level government employees; and medium scale traders and businessmen
Aspirers	Lower class	90-200	Small farmers, low skilled workers
Deprived		< 90	Poorest unskilled living below poverty line

Source: Sankhe et. al, 2007

3.3 Methodology

Different econometric and statistical tools have been applied to the data to analyze the relationships between various variables used in the study.

3.3.1 Compound annual growth rate (CAGR):

The compound growth rate has been worked out in the analysis for the different variables used in the study by the following formula:

$$Y = AB^t$$

Where A and B are parameters, Y is dependent variable and t is time variable.

The compound growth rate is equal to $\left[\left(\hat{\beta}\right) - 1\right] * 100$.

$\hat{\beta}$ is estimated value of β.

3.3.2 Coefficient of variation (CV)

It is a statistical measure of the dispersion of data points in a data series around the mean. It is useful in statistic for comparing the degree of variation from one data series to another. The CV is calculated as follows:

$$\mathrm{CV} = \frac{\text{Standard Deviation}}{\text{Mean}}$$

3.3.3 Linear interpolation:

Interpolation is a method of constructing new data points within the range of a discrete set of known data points. In the study the method of linear interpolation is used in order to calculate missing values in the data. The formula for linear interpolation is as follows:

For example, to interpolate the y_2 value:

X_1, X_3, Y_1 and Y_3 to be entered from the table.

X_2 defines the point to perform the interpolation.

Y_2 is the interpolated value and solution.

X	Y
x_1	y_1
x_2	y_2
x_3	y_3

$$y_2 = \frac{(x_2 - x_1)(y_3 - y_1)}{(x_3 - x_1)} + y_1$$

3.3.4 Correlation matrix

Correlation matrix is a table that contains correlation coefficients among several variables. The correlation coefficient (r) is a measure of linear relationship between two variables. The correlation coefficient can take value between +1 and -1. The correlation can reflect many non-causal influences. The correlation

coefficient is calculated to identify the correlation between a set of economic and political variables that are associated with the growth of middle class. The formula used to calculate the Pearson's correlation coefficient in the analysis is as follows:

$$r = \frac{\sum(XY) - \frac{(\sum X)(\sum Y)}{n}}{\sqrt{\sum X^2 - \frac{(\sum X)^2}{N}}\sqrt{\sum Y^2 - \frac{(\sum Y)^2}{N}}}$$

3.3.5 Regression analysis

The regression analysis has been used to obtain the degree and significance of relation between size of middle class and its determinants. It explains the direction of relation between dependent and independent variable. Linear Regression is an approach for modeling the straight-line relationship between variables by using a linear equation to observed data, focuses on the conditional probability distribution of Y given X. Among two variables, scalar variable Y is considered to be dependent variable and X is considered to be independent variable A linear regression line is like,

$$Y = \alpha + \beta X$$

Where, X is the explanatory variable and Y is the dependent variable. The slope of the line is β, and α is the intercept (the value of Y when X = 0). For one variable case, the calculation of α and β are:

$$\beta = \frac{\sum xy}{\sum x^2}$$

$$\alpha = \overline{Y} - \beta\overline{X}$$

A multiple regression equation (two or more explanatory variables):

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \ldots\ldots\ldots\ldots + \beta_n X_n$$

3.3.6 Testing the improvement of fit obtained from additional explanatory variables

In order to examine the significant determinants of the size and growth of middle class, out of all the determinants, we have used the technique called "testing the improvement of fit obtained from additional explanatory variables". Here, for judging the significance of additional explanatory variables, we have used analysis of variance and the F statistic. First, we start with single explanatory

variable X_1 that has highest correlation with the dependent variable Y (percentage of size of middle class) and perform regression analysis. Than we have added second additional variable in the model X_2 that having second highest correlation with the dependent variable Y (percentage of size of middle class) and perform regression analysis to get the coefficients and R^2. Then, we have checked whether this improvement in fit is statistically significant or not. If this improvement in R^2 comes out to be significant than add the third variable to the model having third highest correlation with the dependent variable and then perform in similar way (Koutsoyiannis, 2004).

3.3.7 Path analysis technique

Path analysis technique provides a graphical way to represent your assumed theory. It also provide a way to empirically estimate the relationships in assumed theory, in particular to estimate whether the relationships are positive, negative, and importantly to test whether the relationship is zero and hence not supported by the data. It estimates the assumed causal effect that one variable has on another through its assumed causal effect on other variables. One of the major strengths of path analysis is the ability to differentiate between direct and indirect effects between variables. Direct and indirect effects can both be seen in a model's parameter estimates. The five basic steps involved in path analysis as follows:

1. One of the first steps in path analysis is the drawing of a path diagram. A path diagram is a graphical representation of the relationship between the variables being tested. They basically resemble a flow chart of the relationships between variables.
2. Figure out what the implications of these relationships are for the variances and covariances of the variables.
3. Results, which include parameter estimates and standard errors, are reported.
4. Take the results and decide if you believe the model you set up is a good fit to your data. A good fit can sometimes be shown by a non-significant chi-square. There is a rough rule of thumb, however. If the ratio between the chi-square and the degrees of freedom is less than 2

than the model is a good fit. There are a number of ways to test the model for goodness of fit (Meehal and Waller, 2002).

Chapter 4

Urbanization in India: A Comparative Analysis

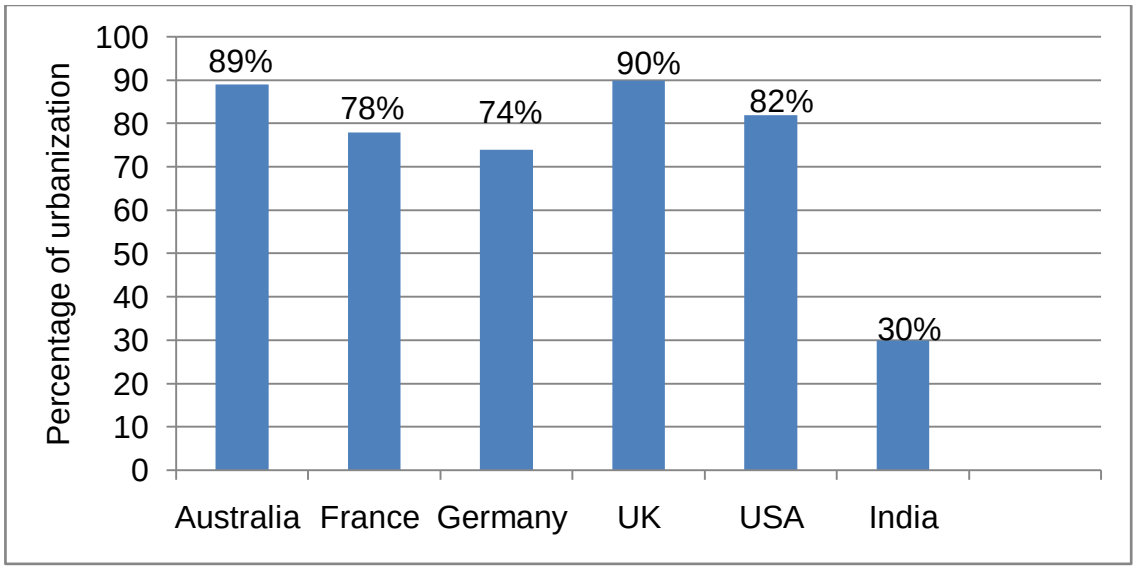
In order to understand the level of urbanization in India, a detailed comparative analysis has been carried out in this chapter. This chapter compares the level of urbanization in India with some developed and other developing countries. An attempt has also been made to understand the pattern of urbanization at national level. Inter-state differentials in urban share of total population are also compared. And lastly various components of urban growth in India are studied.

4.1) International analysis: level of urbanization

All the developed economies have very high level of urbanization. When comparison of India with other economies of the world is made, it shows India have the lowest level of urbanization. The level of urbanization in developed countries is quite high, varying from 74 percent in Germany to 90 percent in UK to in comparison to urbanization level of only 30 percent in India. This indicates vast differences in the urbanization levels of developed countries and India (Figure 4.1).

Figure 4.1

Urbanization Levels in Developed Countries – A Comparison with India in 2010

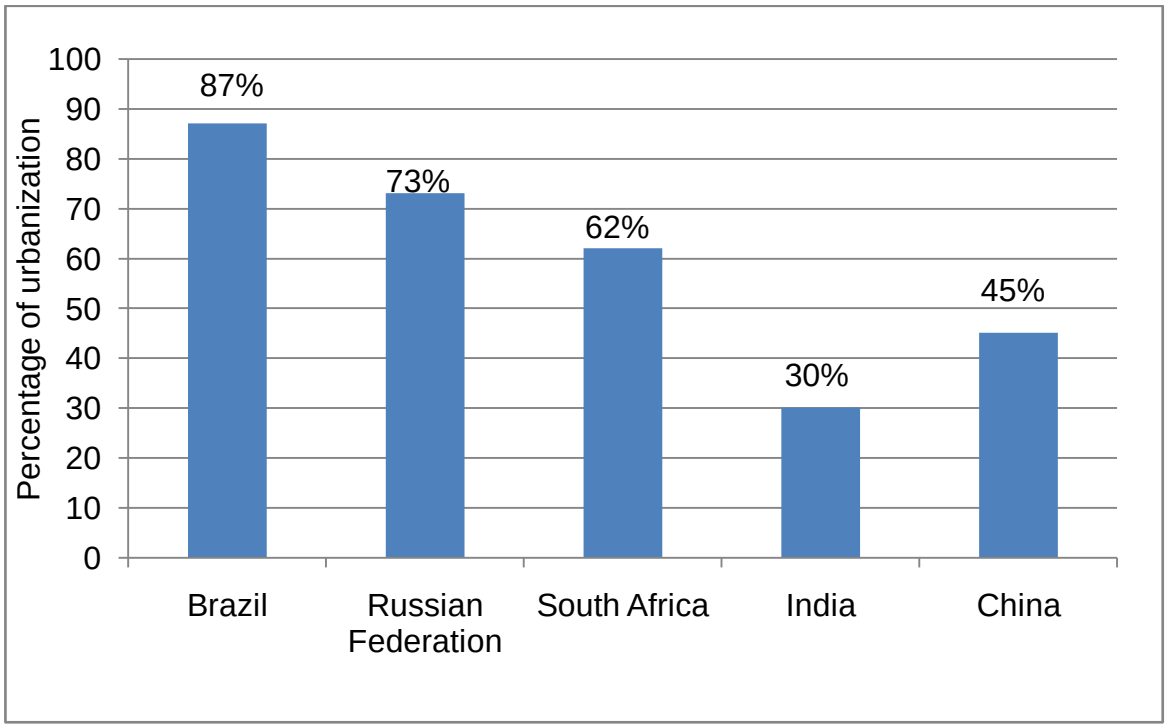


Source: WB, 2012

Similarly, when level of urbanization in India is compared with BRICS countries (i.e. Brazil, Russian Federation, India, China and South Africa), it has the lowest rate of urbanization. Except India, rest all of the BRICS countries have higher level of urbanization. It is evident from the fact that 87 percent of the population in Brazil, 73 percent in Russia Federation, 62 percent in South Africa and 45 percent in China is urbanized in sharp comparison to only 30 percent in India (Figure 4.2).

Figure 4.2

Urbanization Level among BRICS Countries during 2010

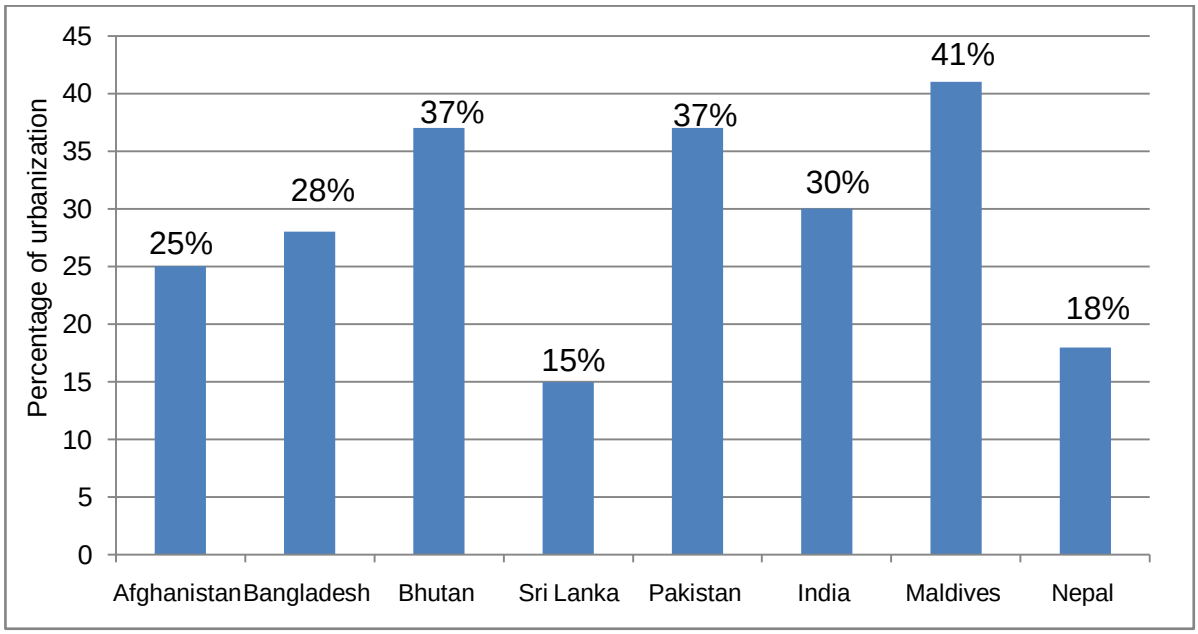


Source: WB, 2012

Also comparison of India with South Asian countries shows the same results. The level of urbanization is higher in Pakistan (37 percent), Maldives (41 percent) and Bhutan (37 percent) than that in India. Only countries like Afghanistan, Bangladesh, Sri Lanka and Nepal have lower level of urbanization than India (Figure 4.3). Thus, it can be concluded that level of urbanization in India is relatively low as compared to many other developing and developed countries. The urbanization levels in developed countries have reached at almost stabilized stage whereas developing countries like India are in the process of urbanization. Thus, India has much wider scope to increase its urbanization rates in future.

Figure 4.3

Urbanization Level of South Asian Countries in 2010



Source: WB, 2012

4.2 Nation and interstate analysis

The following Table 4.1 shows urban rural distribution of population in India from 1951 to 2011. The total population in India had increased from 36.1 crores in 1951 to 121.01 crores in 2011 i.e. in 60 years the total population has increased 4 times approximately. This table also shows gradual increasing trend of urbanization. India has experienced steady, though slow urban growth since 1951 with the level of urbanization scrolling up from 17.3 percent to 23.7 percent in 30 years. Urbanization level increased to 31.2 percent in 2011 from 23.7 percent in 1981. The number of urban towns has increased from 2843 in 1951 to 7936 in 2011. At the same time it shows that rural population has been showing declining trend i.e. it decreased from 82.7 percent in 1951 to 68.8 percent in 2011. Urban-rural ratio is a simple index measuring number of urbanites for every 100 rural people. In 2011, the urban-rural ratio for India turns out to be around 45, meaning that against every 100 rural persons there are 45 urban persons. This urban rural ratio has shown a consistently increasing trend.

Table 4.1 also depicts the average annual percentage growth rate of urban and rural population. From the table it is clear that growth rate of urban population

is not uniform over the years. It shows a fluctuating trends over the years 1951-1981 and declining trend during 1981-1991, 1991-2001. During 2001-2011, it shows marginal increase from 3.15 to 3.18. In rural areas annual growth rate of population was around 2 during 1951 to 1991. After that it declined to 1.8 in 2001 and 1.2 in 2011. As per the combined population is concerned, annual percentage growth rate decreased from 2.15 to 1.76. The growth rate of urban population is more than double from the growth rate of rural population during 2011. The compound annual growth rates in total population and urban population also revealed that urban population is growing much faster than the total population. All these figures reveal that India is at the accelerating stage of urbanization.

Table 4.1

Urban Rural Distribution of Population in India

Year	Total population (in crores)		No. of urban towns		Urban population			AGR of rural population	Urban-Rural ratio (%)
	No. (in crore	AGR	No.	AGR	No. (in crore)	%	AGR		
1951	36.1	-	2843	-	6.24	17.3	-	-	20.91
1961	43.9	2.16	2363	-1.6	7.89	18.0	2.64	2.06	21.91
1971	54.8	2.48	2590	0.96	10.91	19.9	3.82	2.19	22.31
1981	68.3	2.47	3378	3.04	15.94	23.3	4.61	1.93	30.44
1991	84.6	2.38	3768	1.15	21.76	25.3	3.64	2.0	34.63
2001	102.8	2.15	5161	3.69	28.6	27.8	3.15	1.81	38.47
2011	121.0	1.76	7936	5.37	37.71	31.2	3.18	1.22	45.34
CAGR	2.28	-	1.96	-	3.62	-	-	-	-

Source: CSO, 2011

The Table 4.2 shows the number of towns and percentage of urban population by size class of cities over census years in India. Most of the urban population is found to be concentrated in class I cities that are already overcrowded. The towns are grouped on the basis their population in census. The

towns which have at least 1, 00,000 persons as population are categorized as class I towns. It is clear that number of cities by size class has increased in all categories except class VI. The share of all other cities except class I cities, has decreased especially class IV, V, VI towns having less than 20,000 populations. The CAGR of the number of class I towns is highest i.e. 0.40 than all other classes of towns. And the CAGR of percentage of urbanization in class I towns is also highest i.e. 0.09. This table depicts that in 2001 most percentage of urban population i.e. 68.62 percent is concentrated in class I towns. And the lowest percentage i.e. just 0.23 percent concentrated in class VI towns (having population less than 5000). Projected 2011 figures also show the same trend. Highest percentage of population is concentrated in class I towns (68.75 percent) and class II, III, IV towns have 28.12 percent of population and lowest is in class V, VI towns (3.12 percent). This data pin points that the increase in urban imbalance and inequality in the distribution of population and also urbanization is occurring due to rural push, not due to urban pull.

The Figure 4.4 describes that in India more settlements shifted from rural to urban category. In 2011, 22 percent of the total population of India resided in class I towns which were just 4 percent in 1951. Over the census years, it was found that there had been a continuous concentration of population in mega cities and decline in medium and small towns and cities.

Table 4.2

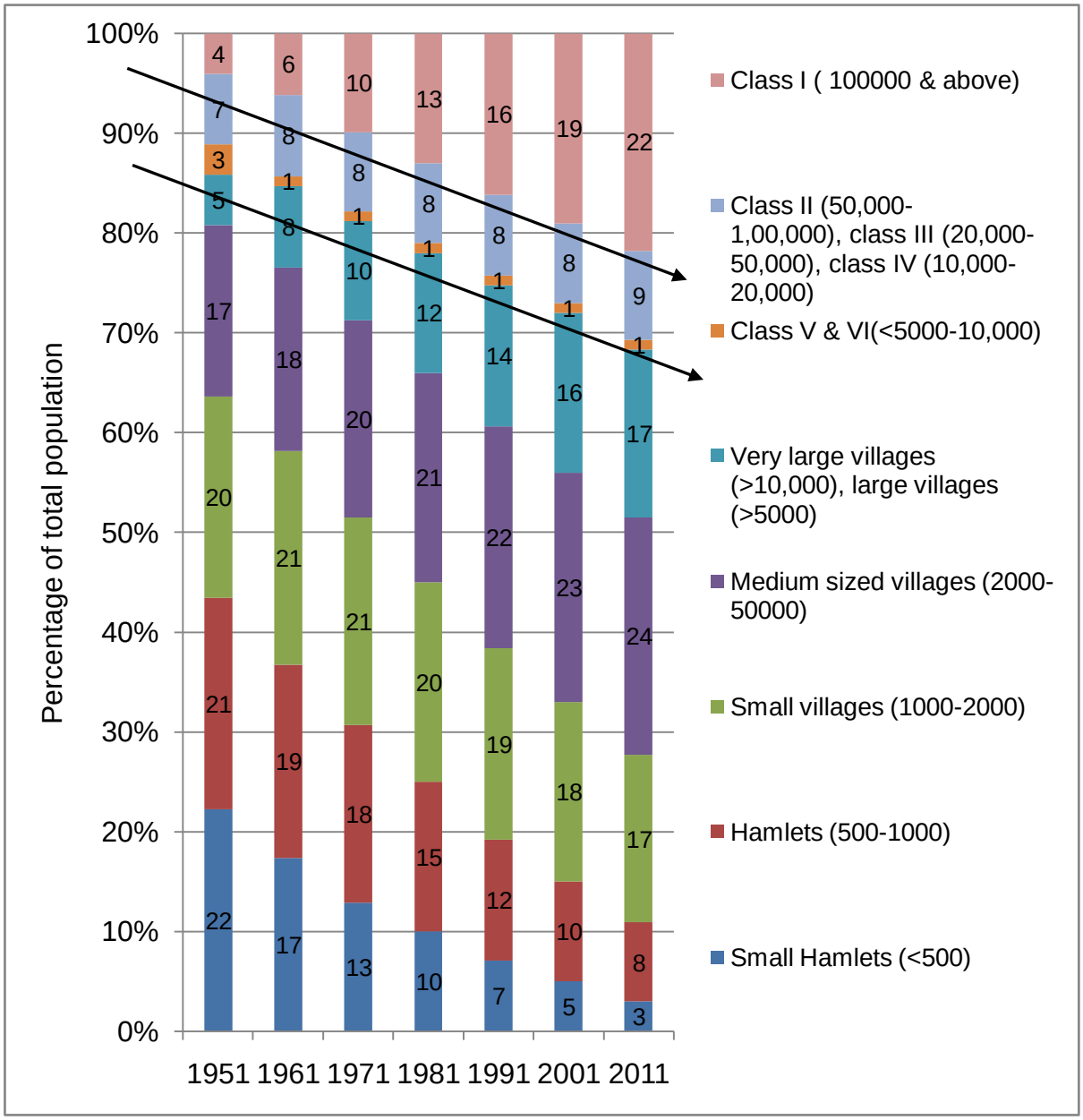
Urbanization by Classes of Towns over Census Years in India (Percentage)

Town classes		1951	1961	1971	1981	1991	2001	2011*	CAGR
Class I (≥1,00,000)	Urbanization (%)	44.9	51.7	57.1	61.3	64.9	68.6	68.7	0.09
	No. of Towns	76	102	148	218	300	393		0.40
Class II (50,000-99,999)	Urbanization (%)	9.8	11.0	11.2	11.6	10.9	9.7	28.1	0.00
	No. of Towns	91	129	173	270	345	401		0.36
Class III (20,000-49,999)	Urbanization (%)	15.7	16.8	15.8	13.8	13.3	12.3		-0.06
	No. of Towns	327	437	558	743	947	1151		0.29
Class IV (10,000-19,999)	Urbanization (%)	13.6	12.7	10.9	9.3	7.9	6.8		-0.13
	No. of Towns	608	719	827	1059	1167	1344		0.18
Class V (5,000-9,999)	Urbanization (%)	12.9	6.9	4.4	3.4	2.6	2.3	3.1	-0.29
	No. of Towns	1124	711	623	758	740	888		-0.02
Class VI (>5,000)	Urbanization (%)	3.1	0.8	0.4	0.5	0.3	0.2		-0.37
	No. of Towns	569	172	147	253	197	191		-0.12

Note: *projected figures for urbanization (%)
Source: CSO, 2011; IIHS, 2011

Figure 4.4

Distribution of Population by Settlement Size in India: 1951-2011



Source: IIHS, 2011

The variations in the urban population share of total population across Indian states are high. The Table 4.3 shows wide variations in population statistics across all states of India. In India, the urban growth is lopsided because the regional distribution of urban population is very uneven. The top 5 populous states in India are Uttar Pradesh with 16.49 percent of total population of India, Maharashtra with 9.2 percent, Bihar with 8.97 percent, West Bengal with 7.54 percent and Andhra Pradesh with 6.99 percent. These five states have approximately 50 percent of India's total population. And rest 23 states constitute remaining 50 percent of total population of India. These figures illustrate the wide regional disparities in population in India. There also exist vast differences in the urbanization levels across Indian states. Bihar is third largest populous state in India but the level of urbanization is just 11.3 percent.

The percentage of urban population to the total population across Indian states during 1971 to 2011 is shown in Table 4.3. Since 1971, the urbanization levels had shown increasing trend in every state of India. As per 2011 census, Mizoram with an urban population of 51.51 per cent, Tamil Nadu with 48.45 per cent, Kerala with 47.72 per cent, Maharashtra with 45.23 per cent, Gujarat with 42.58 percent, Karnataka with 38.57 percent and Punjab with 37.49 percent are top seven urbanized states in India. On the other hand, Bihar with urban population 11.3 per cent, Assam with 14.08 per cent and Orissa with 16.8 per cent are the least urbanized states. The CAGR of urban population across all the states revealed that the CAGR in urban population is the highest in Arunachal Pradesh (0.62) followed by Mizoram (0.45) and the least in Bihar (0.01), Jharkhand (0.06) and West Bengal (0.06). The inter-regional variations among the states as per their urbanization levels have decreased over the period of time i.e. in 1971, value of CV is 0.46 which reduced to 0.40 in 2011.

Table 4.3

State Wise Distribution of Urban Population to Total Population in 2011

State/Union Territory	Population (%)	Urban population (%)					CAGR
		1971	1981	1991	2001	2011	
Andhra Pradesh	7	19.3	23.3	26.8	27.1	33.67	0.13
Arunachal Pradesh	0.11	3.7	6.3	12.2	20.4	22.67	0.62
Assam	2.58	8.8	9.9	11.1	12.7	14.08	0.13
Bihar	8.58	10.0	12.5	13.2	10.5	11.3	0.01
Chhattisgarh	2.11	-	-	17.4	20.1	23.24	0.16
Goa	0.12	26.4	32.5	41.0	49.8	62.17	0.24
Gujarat	4.99	28.1	31.1	34.4	37.4	42.58	0.11
Haryana	2.09	17.7	22.0	24.8	29.0	34.79	0.18
Himachal Pradesh	0.57	7.0	7.7	8.7	9.8	10.04	0.10
Jammu & Kashmir	1.04	18.6	21.1	22.8	24.9	27.21	0.10
Jharkhand	2.72	-	-	21.25	22.3	24.05	0.06
Karnataka	5.05	24.3	28.9	30.9	34.0	38.57	0.11
Kerala	2.76	16.2	18.8	26.4	26.0	47.72	0.28
Madhya Pradesh	6.00	16.3	20.3	23.2	26.7	27.21	0.14
Maharashtra	9.29	31.2	35.0	38.7	42.4	45.23	0.10
Manipur	0.22	13.2	26.4	27.7	23.9	30.21	0.17
Meghalaya	0.24	14.6	18.0	18.7	19.6	20.08	0.07
Mizoram	0.09	11.4	25.2	46.2	49.5	51.51	0.45
Nagaland	0.16	10.0	15.5	17.3	17.7	28.97	0.25
Orissa	3.47	8.4	11.8	13.4	15.0	16.68	0.17
Punjab	2.29	23.7	27.7	29.7	34.0	37.49	0.12
Rajasthan	5.67	17.6	20.9	22.9	23.4	24.89	0.08
Sikkim	0,05	9.4	16.2	9.1	11.1	24.97	0.17
Tamil Nadu	5.96	30.3	33.0	34.2	43.9	48.45	0.13
Tripura	0.30	10.4	11.0	15.3	17.0	26.18	0.26
Uttar Pradesh	16.49	14.0	18.0	19.9	20.8	22.28	0.11
Uttrakhand	0.84	-	-	22.97	25.6	30.55	0.15
West Bengal	7.55	24.8	26.5	27.4	28.0	31.89	0.06
CV	1.05	0.46	0.39	0.41	0.42	0.40	-

Source: COI, 2011

4.3 Components of urban growth in India

Urbanization can be increased through three ways: (1) By rural urban migration (2) natural increase in urban population and (3) By reclassification of rural localities into urban center as a result of population increase or other. The UN estimated that in developing countries the natural increase in population account for 60 percent of urban growth (Bloom and Khanna, 2007). Table 4.4 shows that the rate of change of the components of urban population growth in India. The net migration share in urban growth is up from 21 percent in 1991-2001 to about 24 percent over 2001-2011. Demographical dynamics, with dropping birth rate has led to a decline in natural population growth share in cities from 59 percent in 1991-2001 to 44 percent during 2001-2011. The remaining 32 percent is due to reclassification of census towns and expansion of urban agglomerations. Thus, the major component of urban population growth is still natural growth of population.

Table 4.4

Change in Components of Urban Growth in India (Percentage)

Components	1961-1971	1971-1981	1981-1991	1991-2001	2001-2011
Net rural to urban migration	18.7	19.6	21.7	21.0	24
Expansion in urban area/ agglomeration	2.9	14.8	9.4	6.2	16
New towns less declassified towns	13.8	14.8	9.4	6.2	16
Natural growth	64.6	51.3	61.3	59.4	44

Source: IIHS, 2011

Chapter 5

Determinants of Size and Growth of Middle Class in India

The middle class is not yet the biggest segment of India's overall population. The rich and poor combined far outweigh the Indian middle class (Saxena, 2010). Earlier in order to achieve the inclusive growth most of the stress was focused on the poor people and these pro poor inclusive policies were sometimes tradeoff with achieving long term growth. So, in recent years most of the attention has been focused on middle class (Birdsall, 2010). It has been argued that emergence of the middle class can lead to sustainable long run growth. Thus, it is important to keep a proper perspective on its size and growth (Saxena, 2010). This chapter focuses on size of middle class in India and also identifies the factors that lead to the growth of middle class.

5.1 Size of the middle class:

The size of the middle class households in India is shown in Table 5.1. According to NCAER definition, in 1985 only 1 percent of the households belonged to middle class and the figures were merge 2 percent during 1995 and 4 percent during 2000. During the period 2001-2005, only 5 percent of total population fell in middle class category. However, the share of middle class in total population increased near to 11 percent during 2008. In 2010, 12 percent of the total population constituted middle class households. Over the course of 25 years, the size of middle class grew from 1 percent to 12 percent. The percentage of size of middle class (seekers and strivers) and rich class in India is showing an increasing trend, whereas the percentage of size of lower class (deprived and aspirers) is showing a declining trend since 1985-2010 (Figure 5.1). Presently, the percentage of total middle class in India is very less, but it has been expected that in 2030 the middle class households will constitute more than half of the total population of India (Table 5.1). The rise of the middle class gives rise to institutions; hence institutional development most likely follows economic growth (Bhalla, 2011).

Table 5.1

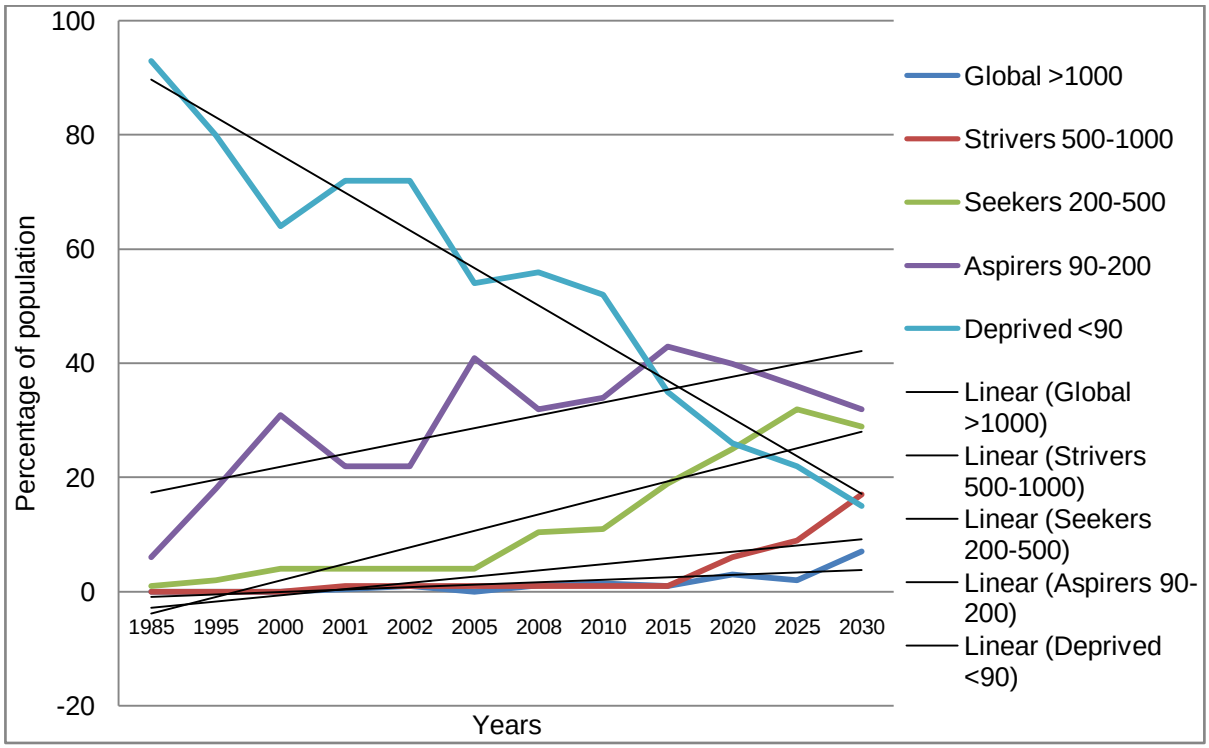
Size of Various Classes in India (Percentage)

Income segments (Rupees thousand per annum)	Global (>1000)	Strivers (500-1000)	Seekers (200-500)	Aspirers (90-200)	Deprived (<90)
	Rich	Middle class		Lower	
1985	0	0	1	6	93
1995	0	0	2	18	80
2000	0	0	4	31	64
2001	0.5	1	4	22	72
2002	1	1	4	22	72
2005	0	1	4	41	54
2008	1.1	1	10.4	32	56
2010	1.4	1	11	34	52
Projected					
2015	1	1	19	43	35
2020	3	6	25	40	26
2025	2	9	32	36	22
2030	7	17	29	32	15

Source: Morgan Stanley Research, 2011; NCAER, 2010; Sankhe et. al, 2007

Figure 5.1

Growth in Size of Various Classes in India



Source: Morgan Stanley Research, 2011; NCAER, 2010; Sankhe et. al, 2007

5.2 Determinants of size and growth of middle class

What forces shape the middle class and allow it to grow? By identifying these determinants, it is possible to assess what policies help the middle class to grow and contribute more to the development process. Following are major factors that affect the large size of middle class and its growth in India.

5.2.1 Reducing Income Inequality

Income inequality means larger share concentrated towards rich section and fewer share to middle and poor. The economic growth that raises income per capita enables people to move out of poverty and shift into the middle class and at same time reduces income inequality. Often countries with highly unequal patterns of income distribution have a weak middle class. So, reducing income inequality plays an important role in the rise of a middle class. The coefficient for correlation between the share of middle class and GINI coefficient for income was negative (a coefficient of minus 0.94) after cross country analysis of 129 countries (Solimano, 2008). As per India is concerned, India's lower level of income inequality and

larger share of household income in GDP gave it a big advantage (ADB, 2010). The following Table 5.2 reveals that the GINI coefficient values that represent income inequality in rural and urban India remains more or less same in last 15 years. In 1991, the rural inequality is 0.263 and the urban inequality is 0.349 which are exactly the same values as in 2004. However, middle class in India is showing an increasing trend followed by decline in poverty but the income inequality remains more or less same.

Table 5.2

Rural Urban Inequality in India

Period	GINI Coefficient	
	Rural	Urban
1990-91	0.263	0.349
1991-92	0.240	0.348
1992-93	0.239	0.345
1993-94	0.272	0.389
1994-95	0.263	0.409
1995-96	0.246	0.390
1997-98	0.243	0.387
1998-99	0.239	0.377
1999-00	0.270	0.354
2000-01	0.269	0.361
2001-02	0.281	0.358
2003-04	0.263	0.349

Source: Agarwal et. al, 2008

5.2.2 Fertility rate

Fertility is also another important factor related to the middle class development. The middle class tends to have fewer children because they are more educated and aware. Families with less number of children can provide their children with better education and health facilities. But families with more children cannot afford good education for their children as they left with fewer resources per person. Thus, higher rate of fertility serve as a major constraint to middle class

development (Chun et. al, 2011). In India, both crude birth rate and death rate has decreased both in rural and urban areas. The crude birth rate in 2009 for rural areas was 24.1 as compared to 18.3 in urban areas. The crude death rate in 2009 was 7.8 in rural and 5.8 in urban areas. Total fertility rate (TFR) for rural areas had shown a decreasing trend during 1990 to 2008. A similar trend was observed for urban areas. TFR in 2008 for rural areas was 2.9 and for urban areas, it was 2.0. TFR for India had declined from 3.8 in 1990 to 2.6 in 2008 (Table 5.3).

Table 5.3

Total Fertility, Birth and Death Rate in India

	Total fertility rate			Crude birth rate			Crude death rate		
Year	Urban	Rural	To	Urban	Rural	Total	Urban	Rural	Total
1990	2.8	4.1	3.8	24.7	31.7	30.2	6.8	10.5	9.7
1991	2.7	3.9	3.6	24.3	30.9	29.5	7.1	10.6	9.8
1992	2.6	3.9	3.6	23.1	30.9	29.2	7.0	10.9	10.1
1993	2.8	3.8	3.5	23.7	30.4	28.7	5.8	10.6	9.3
1994	2.7	3.8	3.5	23.1	30.5	28.7	6.7	10.1	9.3
1995	2.6	3.9	3.5	22.7	30.0	28.3	6.6	9.8	9.0
1996	2.4	3.7	3.4	21.6	29.3	27.5	6.5	9.7	9.0
1997	2.4	3.6	3.3	21.5	28.9	27.2	6.5	9.6	8.9
1998	2.4	3.5	3.2	21.1	28.0	26.5	6.6	9.7	9.0
1999	2.3	3.5	3.2	20.8	27.5	26.0	6.3	9.4	8.6
2000	2.3	3.5	3.2	20.7	27.6	25.8	6.3	9.3	8.5
2001	2.3	3.4	3.1	20.3	27.1	25.4	6.3	9.1	8.4
2002	2.3	3.4	3.0	20.0	26.6	25.0	6.1	8.7	8.1
2003	2.2	3.2	3.0	19.8	26.4	24.8	6.0	8.7	8.0
2004	2.1	3.3	2.9	19.0	25.9	24.1	5.8	8.2	7.5
2005	2.1	3.2	2.9	19.1	25.6	23.8	6.0	8.1	7.6
2006	2.0	3.1	2.8	18.8	25.2	23.5	6.0	8.1	7.5
2007	2.0	2.7	2.7	18.6	24.7	23.1	6.0	8.0	7.4
2008	2.0	2.9	2.6	18.5	24.4	22.8	5.9	8.0	7.4
2009	-	-	-	18.3	24.1	22.5	5.8	7.8	7.3

Source: CSO, 2011; GOI, 2011

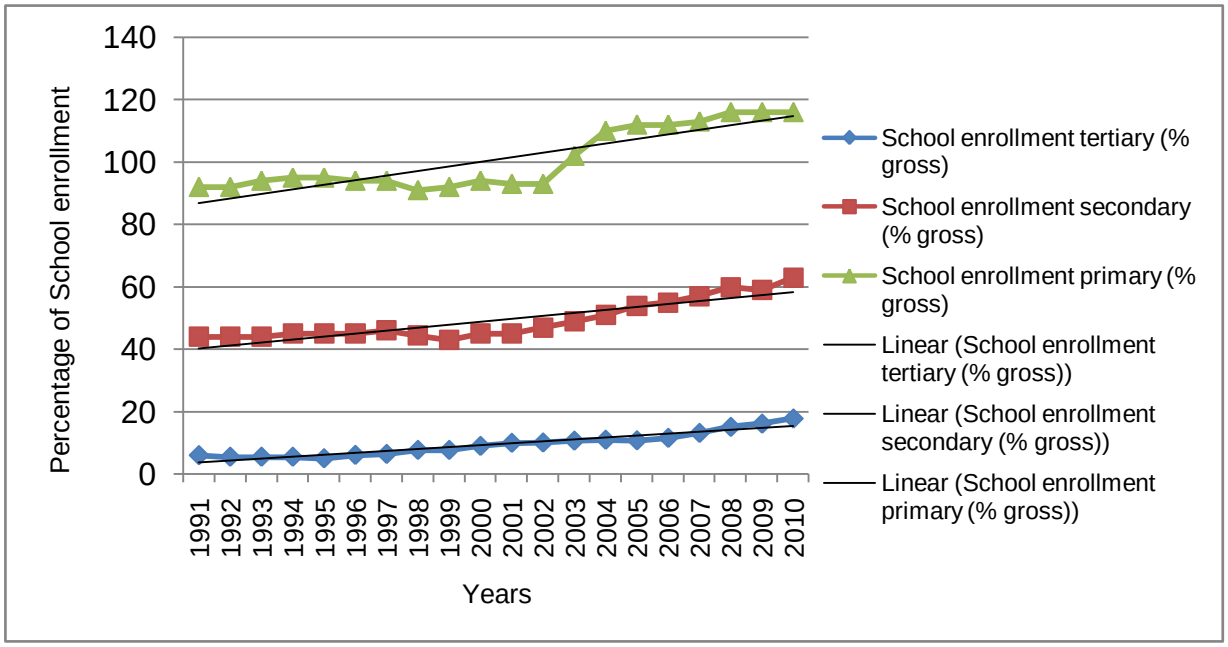
5.2.3 Education

Middle class households are mostly involved in industrial and service sector occupation and these occupations provide stable income as compared to self employed jobs. These occupations also require high level of education. Especially secondary and post-secondary education is the most important element in creating a large middle class (ADB, 2010). Expanding education levels have several multiplier effects that will enhance economic growth. As individuals with higher level of education have more opportunities of getting stable and well paid jobs thus leads to development of middle class households. In India, the school enrollment tertiary, secondary and primary has shown an increasing trend (Figure 5.2). Number of different type of educational institutions like schools, colleges and universities are also growing in India (Table 5.4).

Expansion of female education accelerates the process of women entering into labour force and of further decline in fertility thus leads to the development of middle class (Bhalla, 2011). Impact of education on fertility is a well established hypothesis and plays a great role for population phenomena. Total fertility rate for illiterate women were 4.03 and 3.55 in 1992-93 and 2005-06 respectively whereas in the same period Total Fertility Rate for the women educated high school and above were 2.15 and 2.08 respectively (Table 5.5). The same pattern of decline in fertility is found among the women who have completed middle level schooling (CSO, 2011). One of the ways for poor household to move into middle class is combined with access to education due to the high returns associated with higher level of education. So the share of government expenditure towards education is also one of the determinants of middle class household.

Figure 5.2

School Enrollment Primary, Secondary and Tertiary (1991-2010)



Source: WB, 2010

Table 5.4

Number of Educational Institutions in India

Type of institute	Pre-primary	Primary/ Junior basic	Middle/ senior basic	High/ Higher secondary schools	Universities and institutes	Degree standard and above
1991	14808	566744	155926	82576	207	5334
1995-96	35822	593410	174145	99274	226	6569
1999-00	36495	641695	198004	116820	244	7782
2000-01	37288	638738	206269	126047	254	7926
2001-02	60840	664041	219626	133492	272	8137
2003-04	63167	712239	262286	145962	304	9427
2004-05	63596	767520	274731	152049	343	10377
2005-06	67157	772568	288493	106024	350	11698
2006-07	60886	784852	305584	169568	368	11458
2007-08	66165	787827	325174	172990	NA	NA

Source: CSO, 2011

Table 5.5

Differentials in Fertility as per Education Level in India

Year	1992-93	1998-99	2005-06
Education	Total fertility rate		
Illiterate	4.03	3.47	3.55
Literate < middle school complete	3.01	2.64	2.51
Middle class complete	2.49	2.26	2.23
High school complete and above	2.15	1.99	2.08

Source: CSO, 2011

5.2.4 Democracy

The higher degree of democracy in an economy has positive relation with the size of middle class. “Democratic institutions has positive effect on economic growth as it provide a check on government power and thereby limit the potential of public officials to amass personal wealth and carry out unpopular policies” (Barro, 1999, p.158). Political scientists have always emphasized that stable and well consolidated democracies have larger middle classes. Democratic regimes are associated with increased civil liberties, rule of law, as well as greater political stability and this type of environment seems to provide the basic conditions for a larger middle class size (Chun et al., 2011).

The rank and score of India as per democracy index is shown in Table 5.6. The index values are used to place countries within one of four types of regimes i.e. full democracies —scores of 8-10, flawed democracies—score of 6 to 7.9, hybrid regimes—scores of 4 to 5.9, authoritarian regimes—scores below 4. Presently, India ranks 35th out of 167 countries at democracy index with overall score of 7.3 out of 10, this indicates that India is in the category of “flawed democracy” nations and close to the category of “full democracy” nation which scores between 8 and 10.

Table 5.6

Democracy Index in India

Year	Rank	Overall score	Electoral process	Functioning of government	Political participation	Political culture	Civil liberties
2007	35	7.68	9.58	8.21	5.56	5.63	9.41
2008	35	7.80	9.58	8.21	5.56	6.25	9.41
2010	39	7.28	-	-	-	-	-
2011	39	7.30	9.58	7.50	5.00	5.00	9.41

Source: Democracy Index, 2011; Kekic, 2007

5.2.5 Share of public sector

In most of the countries a main employer of the middle class is government. Middle class employed mostly in state agencies, public enterprises, public banks etc. Thus, larger size of middle class is associated with the larger size of government (Solimano, 2008). The size of the middle class growth depends mostly on the level of government expenditure towards expanding education institutions, health facilities, developing infrastructure and social safety nets for the fast growing middle classes. Higher government expenditure accelerated the development of middle class. But, at the same time government can erode the economic freedom of the middle class through higher taxes and hamper its development (Chun et.al, 2011). Expenditure on education, health and social safety by government in India has shown an increasing trend since 1991. The per capita expenditure on education, health and social safety nets is growing with CAGR of 10.4 percent, 10.9 percent and 11.1 percent respectively.

Table 5.7

Public Expenditure on Education, Health and Social Safety in India

Year	Education		Health		Social safety and welfare	
	Total (Rs. crore)	Per capita (Rupees)	Total (Rs. crore)	Per capita (Rupees)	Total (Rs. crore)	Per capita (Rupees)
1991-92	21914	256	4888	57	5459	64
1992-93	24722	283	5621	64	5994	69
1993-94	27530	309	6248	70	7005	79
1994-95	32107	353	6920	76	8570	94
1995-96	37097	400	7880	85	10569	114
1996-97	43035	455	9231	98	11443	121
1997-98	49032	508	10774	112	12715	132
1998-99	62297	634	13496	137	14262	145
1999-00	70320	702	15604	156	15882	159
2000-01	80985	795	17374	171	18653	183
2001-02	81271	783	17004	164	18656	180
2002-03	84988	806	17833	169	18202	173
2003-04	82384	768	19153	178	20781	194
2004-05	92649	851	21168	194	23190	213
2005-06	112960	1021	26263	237	37560	340
2006-07	131848	1175	31832	284	39264	350
2007-08	158136	1390	38257	336	45779	402
CAGR(%)	12.43	10.43	12.90	10.90	13.14	11.11

Source: CSO, 2011

5.2.6 Higher share of service and industrial sectors compared to agriculture sector

As most of the share of the middle class involved in service and industrial sector jobs. The increase in the share of the service and industrial sector in total GDP leads to increase in the size of middle class households. In India, the growth rate of the service sector and industrial sector is higher than the growth rate of

agriculture sector. The CAGR of the value added by the service sectors and the industrial sectors is 0.46 percent and 1.2 percent respectively which is higher than CAGR of value added by agriculture sector (-3 percent) (Table 5.8).

Table 5.8

Contribution by Various Sectors in GDP in India

Year	Services value added (% of GDP)	Industrial value added (% of GDP)	Agriculture value added (% of GDP)
1991	45	25	29
1992	45	26	29
1993	46	25	29
1994	45	26	28
1995	46	27	26
1996	46	27	27
1997	48	26	26
1998	48	26	26
1999	50	25	25
2000	51	26	23
2001	52	25	23
2002	53	26	21
2003	53	26	21
2004	53	28	19
2005	53	28	19
2006	53	29	18
2007	53	29	18
2008	54	28	18
2009	55	28	18
2010	55	27	18
2011	56	26	17
CAGR (%)	1.19	0.46	-2.99

Source: WB, 2012

5.2.7 Urbanization

Growth of middle class is more or less an urban phenomenon. Urbanization is increase in percentage of the people living in the towns brought about by the transfer of rural population into the towns and cities. Urbanization is generally a force for growth, development, and modernization. When people shift from rural to urban areas, they also shift from agriculture occupation to secondary and tertiary occupations due to stable income in the later than in the former. So this leads to the increase in size of middle class households. In India, literacy rate in urban areas is more than in rural areas. May be this is due to one of the reason that most of the educational institutes are located in urban areas. Also the income of the people in urban areas is high and stable and so they have more disposable income to spend on providing higher education to their children as compared to the rural areas. The fertility rate in urban areas is less as compared to rural areas. This is shown in following Table 5.9. This is due to the reason that in urban areas the most percentage of people are educated and the fertility rate among educated women is less as compared to the uneducated ones as shown in Table 5.9. The higher urbanization will leads to lower fertility rate and lower fertility is one of the determinants of middle class. Thus, growing urbanization will lead to the development of the size of middle class households.

The Table 5.10 reveals that the rural households among the deprived had increased from about 82 percent in 2001-02 to 84 percent in 2009-10. Similarly, the share of the aspirers in rural areas increases from 48 percent in 2001-02 to 61 percent in 2009-10. This implies that the pattern of growth developed after the reforms process is biased towards urban areas.

Table 5.9

Differentials in Fertility Rate as per Different Areas

Residence	Total fertility rate		
	1992-93	1998-99	2005-06
Rural	3.67	3.07	2.98
Urban	2.70	2.27	2.06

Source: CSO, 2011

Table 5.10

Share of Urban and Rural Middle Class Households in India

Class	Income range (Rs. Per annum)	Share of urban household		Share of rural household	
		2001-02	2009-10	2001-02	2009-10
Deprived	<90,000	18.2	15.8	81.8	84.2
Aspirers	90,000-2,00,000	41.5	38.8	48.5	61.2
Middle class	2,00,000-1,00,000	64.8	66.6	35.2	33.4
Rich	<10,00,000	77.1	77.8	22.9	22.2
Total		28.4	31.2	71.6	68.8

Source: NCAER, 2010

Apart from these factors that lead to the growth of middle class mentioned above, there are some other factors also like political stability, government effectiveness, good economic policies like fiscal discipline, sound monetary policies and reduced trade volatility which may foster middle class growth. On the other hand strict credit policies, lower public employment, lower infrastructure quality, higher top tax rates, less secures property rights and worst regulations are factors that appears to slow down the middle class growth. Similarly, landlocked countries have smaller middle class as these countries tend to deprived of the benefits of sea access and suffer from geographical disadvantages (Chun et al., 2011).

5.3 Inter-correlation analysis among growth of the middle class and economic and political variables

In this section, some empirical correlations between a set of economic and political variables that are associated with the growth of middle class are investigated. Table 5.11 shows the correlation matrix that reveals the degree of relation between various variables and increases the size of middle class in India. Percentage of size of middle class has positive correlation with urbanization; percent share of service and industrial sector, school enrollment primary,

secondary and tertiary whereas percentage of size of middle class has negative correlation with percent share of agriculture sector and fertility rate. Highest coefficient of correlation of size of middle class is with school enrollment tertiary (0.97) and then with urbanization (0.92).

Table 5.11

Correlation Matrix: Inter Correlations among Proportion of Population in Various Classes and Economic and Political Variables

	Y	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8
Y	1								
X_1	0.977**	1							
X_2	0.923**	0.959**	1						
X_3	-0.850**	-0.911**	-0.941*	1					
X_4	0.558*	0.586**	0.734**	-0.638**	1				
X_5	-0.839**	-0.908**	-0.962**	0.966**	-0.742**	1			
X_6	0.846**	0.918**	0.927**	-0.970**	0.542*	-0.961**	1		
X_7	0.848**	0.866**	0.907**	-0.803**	0.835**	-0.870**	0.765**	1	
X_8	0.826**	0.922**	0.920**	-0.809**	0.756**	-0.852**	0.774**	0.963**	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Where,

Y = Proportion of population in middle class

X_1 = School enrollment tertiary (% gross)

X_2 = Urbanization (%)

X_3 = Total fertility rate (birth per women)

X_4= % share of Industrial sector in GDP

X_5 = % share of agricultural sector in GDP

X_6 = % share of service sector in GDP

X_7 = School enrollment primary (% gross)

X_8 =School enrollment secondary (% gross)

5.4 Regression Analysis

The correlation can reflect many non-causal influences, but it cannot tell anything about the direction of causality. Thus, we have also applied regression analysis to identify the relationships between different variables. In order to examine the significant determinants of the size and growth of middle class out of all the determinants discussed above, we have used the technique called “testing the improvement of fit obtained from additional explanatory variables”.

Here for judging the significance of additional explanatory variables, we have used analysis of variance and the F statistic. First, we start with single explanatory variable X_1 i.e. tertiary school enrollment because this variable has highest correlation with the dependent variable Y (percentage of size of middle class) and perform regression analysis. Then we add second additional variable in the model X_2 i.e. urbanization because this variable having second highest correlation with the dependent variable Y (percentage of size of middle class) and perform regression analysis to get the coefficients and R^2.

Thus, by fitting the simple regression

$Y = \beta_1 + \beta_2 X_1 + u$

We obtain the following results

$\hat{Y} = -3.28 + 0.89 X_1 + u$

(0.46) (0.04)

Where,

$R^2_{Y.X1} = 0.95$ $\Sigma e^2 = 10.15$ $\Sigma y^2 = 236.25$ $\Sigma \hat{y}^2 = 226.01$

Here $t_{cv} > t_{tv}$ at 5% level of significance so, values are statically significant. The simple regression of Y on X_1 explains 95 percent of total variations in Y, while 5 percent remains unexplained. If we introduce X_2 (urbanization) in the function we obtain an improvement in the fit as shown by the following results:

$Y = \beta_1 + \beta_2 X_1 + \beta_3 X_2 + u$

$\hat{Y} = -16.43 + 0.66 X_1 + 0.54 X_2 + u$

(8.33) (0.15) (0.34)

Where,

$R^2_{Y.X1X2} = 0.9592$ $\Sigma e^2 = 8.85$ $\Sigma y^2 = 236.225$ $\Sigma \hat{y}^2 = 227.90$

Here, the regression coefficient of tertiary school enrollment is statistically significant but the regression coefficient of urbanization is statistically insignificant.

As when we see the individually effect of urbanization it comes out be highly significant but in presence of the variable i.e. tertiary school enrollment the effect of urbanization comes out to be insignificant. But by adding this variable R^2 has represent significant improvement as shown below. So overall it is important variable and we must keep this variable in our equation. It suggests that both variables are significant in explaining the variations in Y. Both coefficients have correct sign and the regression explains 96 percent of the total variation in Y. By introducing X_2 we have managed to explain higher proportion of the total variations in Y. Now we want to know whether this improvement in fit is statistically significant or not.

If we look at the overall significance of the two regressions we see that they both pass the F test. Thus the analysis of variance tables for these regressions are shown in following Table 5.12 and Table 5.13.

Table 5.12

Analysis of Variance for the Simple Model $Y=F(X_1)$

Sources	Sum of square	Degree of freedom	MSE	F*
X_1	$\Sigma\hat{y}^2 = 226.01$	K-1 =1	226.25	404.01
Residuals	$\Sigma e^2 = 10.15$	N-K = 18	0.56	
Total	$\Sigma y^2 = 236.25$	N-1 = 19		$V_1 = 1$; $V_2 = 18$ $F_{0.05} = 4.41$

Table: 5.13

Analysis of Variance for the Simple Model $Y=F(X_1, X_2)$

Sources	Sum of square	Degree of freedom	MSE	F*
X_1 , X_2	$\Sigma\hat{y}^2 = 227.90$	K-1 =2	113.68	218.615
Residuals	$\Sigma e^2 = 8.85$	N-K = 17	0.52	
Total	$\Sigma y^2 = 236.25$	N-1 = 19		$V_1 = 1$; $V_2 = 17$ $F_{0.05} = 4.59$

Since in both cases $F^* > F_{0.05}$, we conclude that both regression are significant. We want to know is whether the new regressor X_2 has significantly improved the explanation in the variation of Y, in other words whether it has significant increased the proportion of the variation explained by the first regression. For this purpose we compile another analysis of variance table as follow.

(a) From the simple regression $Y=f(X_1)$ we obtained $\Sigma\hat{y}^2 = 226.01$; $\Sigma e^2 = 10.15$

(b) From the second regression $Y=f(X_1, X_2)$ we obtained $\Sigma\hat{y}^2 = 227.90$ $\Sigma e^2 = 8.85$

(c) Clearly, the additional variation accounted for by the second variable X_2 is the difference

Equal to 1.9 i.e. (227.90 – 226.01)

With this information, we proceed to form the analysis of variance (Table 5.14).

Table: 5.14

Analysis of Variance

Sources of variation	Sum of squares	Degree of freedom	MSE	F*
X_1	$\Sigma\hat{y}^2 = 226.01$	M-1=1	-	
X_1 and X_2	$\Sigma\hat{y}^2 = 227.91$	K-1=2	-	
Additional variation from X_2	1.30	K-M=1	(227.91-226.01) / 1 = 1.9	1.9 / 0.52 = 3.72
Residual variations from $Y=f(X_1, X_2)$	$\Sigma e^2 = 8.85$	N-K= 17	Σe^2/ N-K = 0.52	$V_1 = 1$; $V_2 = 17$ $F_{0.05} = 3.59$
Total variation	$\Sigma y^2 =$ 236.225			

K= number of all β's in the second regression (including β_0)

Here F* is greater than $F_{0.05}$ we may conclude that β_2 is not equal to zero and this is significant variable in the model (Table 5.14).

The procedure of assessing the effect of a third explanatory variable may be handled in the same way. Now we assess the value or effect of third explanatory variable i.e. X_3 (fertility rate).

$Y = f(X_1, X_2, X_3)$

$Y=\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + u$

$\hat{Y}=-11.89 + 0.66\ X_1 + 0.44\ X_2 - 0.56\ X_3 + u$

(14.42) (0.15) (0.43) (1.44)

Where,

$R^2_{Y.X1X2X3} = 0.962$ $\Sigma e^2 = 8.77$ $\Sigma y^2 = 236.225$ $\Sigma \hat{y}^2 = 227.45$

The effect of adding X_3 is found by

$\Sigma \hat{y}^2$ when $Y = f(X_1, X_2, X_3)$ - $\Sigma \hat{y}^2$ when $Y = f(X_1, X_2)$

= 227.45 - 227.01

= 0.44

Table 5.15

Analysis of Variance

Sources of variation	Sum of squares	Degree of freedom	MSE	F*
X_1, X_2	$\Sigma \hat{y}^2 = 227.01$	M-1=2	-	
X_1, X_2, X_3	$\Sigma \hat{y}^2 = 227.45$	K-1=3	-	
Additional variation from X_2	0.44	K-M=1	0.44	0.44/ 0.55 = 0.8
Residual variations from $Y=f(X_1, X_2)$	$\Sigma e^2 = 8.85$	N-K= 16	Σe^2/ N-K = 0.55	$V_1 = 1$; $V_2 = 16$ $F_{0.05} = 4.49$
Total variation	$\Sigma y^2 = 236.225$			

The null hypothesis is $\beta_3 = 0$

Here $F^* < F_{0.05}$ (v_1=1, v_2=16)

So, we accept the null hypothesis and we accept that the third variable is not an important variable in the model (Table 5.15). As according to the theory the model is significant when it includes two variables i.e. tertiary school enrollment and urbanization. Further, any variable when added to model, R^2 remains same or shown insignificant improvement. So we have not added any further variable to the model because all other variables are redundant variables. The final regression equation is as follows.

$Y= \beta_0 + \beta_1 X_1 + \beta_2 X_2 + u$

Where;

Y= Proportion of size of middle class

X_1= Tertiary school enrollment

X_2= Urbanization

u= Error term

$\hat{Y}=-11.89 + 0.66\ X_1 + 0.44\ X_2 + u$

Where, $\hat{Y}$= expected Y

Here R^2 is 0.96, represent that 96 percent of variations in the size of middle class is explained by the two variables i.e. urbanization, tertiary school enrollment. Interpretation of estimated coefficient:

- β_1 estimates that the size of middle class expected to increase by estimated 0.66 units for each 1 unit increase in tertiary school enrollment net of the effect of changes due to urbanization.
- β_2 estimates that the size of middle class expected to increase by estimated 0.44 units for each 1 unit increase in urbanization net of the effect of changes due to tertiary school enrollment.

Thus, it has been observed that the urbanization and tertiary school enrollment leads to maximum variation in the size of the middle class i.e. explained 96 percent effect on the dependent variable.

Chapter 6

Growing Urbanization and Economic Development in India: Role of Middle Class

The growing urbanization is leading to the emergence of new middle class in the Indian economy. It is expected that share of the middle class in the total population will be 41 percent in 2025 from a present level of 12 percent (Mukherjee and Satija, 2012; NCAER, 2010). The middle class can play a vital role that can lead to the economic development. The middle class is the source of all the needed inputs for growth in an economy like new ideas, physical and human capital accumulation (Kharas, 2010). This chapter explains the role played by the middle class in economic development. The chapter also investigates whether the middle class emergence leads to economic development or not by carrying out the path analysis.

6.1 Role of middle class

There are strong implications about the evolution of the size of the middle class and economic growth.

6.1.1 Middle class as the source of growing consumer market

The Indian middle class as a growing consumer market has been widely covered. Private consumption has already played a much larger role in India's growth than it has in that of other developing countries. India's consumption-to-GDP level in India at 57 percent in 2008 was closer to that of developed nations; that compared with Japan and the US at 55 percent and 71 percent respectively (Kerschner et. al, 2011). India is currently 12th largest consumer market in the world and it is projected that by 2025 the ranking of India's consumer market in the world will be 5th just behind the United States, Japan, China and United Kingdom (Sankhe et. al, 2010). The consumption pattern of growing middle class has drawn worldwide attention not only because India is a large market, but it is also different from other emerging markets. A large proportion of GDP is consumed. The share of consumption in total GDP is higher than that of investment. According to the Central Statistical Organisation (CSO) estimates, 60 percent of the GDP was consumed in 2010, which is much higher than that in China. The majority of the consumption expenditure is on food items compared to other countries. However,

this pattern is likely to change in the future as expenditure on discretionary items is increasing and that on food is reducing with the rise in income. With the rise in income, there will be a shift in population from low-income to middle-income and middle class will spend less on food than the low-income group (Mukherjee and Satija, 2012).

As when people move out of poverty and shift into the middle class group, their disposable income rises that lead to increase in domestic demand and consumption, which in turn leads to higher economic growth. As wealth increases, spending tends to shift away from necessities such as food and clothes and more towards discretionary and luxury items such as leisure, travel, education, health care etc in relative terms but in absolute terms they continue to grow as economy grows (Saxena, 2010). The fall in the share of food expenditure in India is closely linked with the growth of the middle class. Middle class approaches for better quality of life like more expensive education for their children, better health care for the family, better housing, expensive eatables and more entertainment (Benerjee and Duflo, 2007). In India the share of total consumption expenditure on food items in rural and urban areas have reduced to 54 percent and 41 percent respectively. On the other hand, the share of total consumption expenditure on non food items has increased in both rural and urban areas (Table 6.1). It is also expected that by 2025, expenditure on food item will reduced to only 25 percent (Mukherjee and Satija, 2012). Thus, increase in middle class consumer will lead to robust growth in health care, education, recreation, communications, personal care products and services. This rapidly rising domestic consumption will also provide opportunities for many emerging companies especially in retail, consumer product and health care.

Table 6.1

Trends in Percentage Composition of MPCE

Item Groups	Rural					Urban				
	Share in total consumer expenditure									
	1987-88	1993-94	1999-00	2004-05	2009-10	1987-88	1993-94	1999-00	2004 - 05	2009-10
Food expenditure	64.0	63.2	59.4	55.0	53.6	56.4	54.7	48.1	42.5	40.7
Non food expenditure	36.0	36.8	40.6	45.0	46.4	43.6	45.3	51.9	57.5	59.3

Source: NSSO, 2010.

6.1.2. Middle class as a source of rising public as well as private investment

The middle class helps to improve accountability in public services through more vocal demands for better services as they have better education, awareness of rights and more organized than poor class and the poor benefits as much as the middle class from better public services (ADB, 2010). As growing urbanization and rising middle class leads to increase in demand for personal items such as mobile phones, televisions, personal computers and autos, while also contributing to increased demand for basic infrastructure services such as electricity, transportation, banking and substantial demand for the urban housing too (Anonymous, 2010a.). This leads to increase in private and public investment on building roads, hospitals, schools, colleges, generating power, construction of high rise apartments and huge shopping malls in urban areas. The rising middle class is also the reason for faster manufacturing and service sector growth in India. The banking sector is also benefited from the rise in middle class as consumer finance; life insurance and pension get increased. As a result, public and private banks get flourished. An increasing disposable income of the people robust their demand for manufacturing goods and services as well. This leads to the rise in the profits which also provide incentives for the industrialist to invest more. The middle classes provide for a viable market base and cultural universe for the global capital to operate and flourish in India (Jodhka and Prakash, 2011).

6.1.3 Middle class as a source of skilled workforce

Middle class can affect economic growth indirectly through its impact on the levels of factor inputs by examining the relationship between middle class measures and human capital and labor force growth (Chun et. al, 2011). Most of the expenditure of middle class is concentrated on providing education to their children, proving better healthcare and securing their future, thus contributes towards increasing educated and skilled workforce. In terms of sectors of employment, middle income groups are largely located in the service sector. Within the service sector, the middle income groups are likely to find employment in trade, tourism, shipping, telecommunications, real estate, information technology, research and development, infrastructure and financial services. These sectors are relatively well paying, have flexible employment contracts and work through the market logic of efficiency and productivity. Moreover, the predominant source of economic growth in the last two decades has been primarily spearheaded by the service sector, followed by industry and agriculture (Economic survey, 2012; Jodhka and Prakash, 2011). The middle class is important to human capital accumulation by having policies implemented that support greater investment in schooling and higher per capita consumption thus, enhancing their productivity. Greater urbanization and a higher share of value added of services relative to agriculture are also strongly and positively associated with the human capital. As middle class hold more basic skills which help them to operate with the existing factor inputs without any extra training (Chun et.al. 2011). Thus, it leads to increase in the number of skilled professionals in the workplace to change the structure of the economy to a higher- skilled economy.

6.1.4 Role of middle class in political economy

Middle class are more educated and thus they exert pressure for democracy, freedom and civil liberties. In a 2009, survey comparing members of the middle class to lower income groups in 13 emerging economies, the Pew Research Center found that the middle class tends to support democracy and individual liberties. Among basic rights, they start to take for granted freedom from hunger and poverty and begin to feel more strongly about living in a country with a fair judicial system and freedom of speech. They also are more liberal in terms of social values and express greater concern about the environment. Middle class

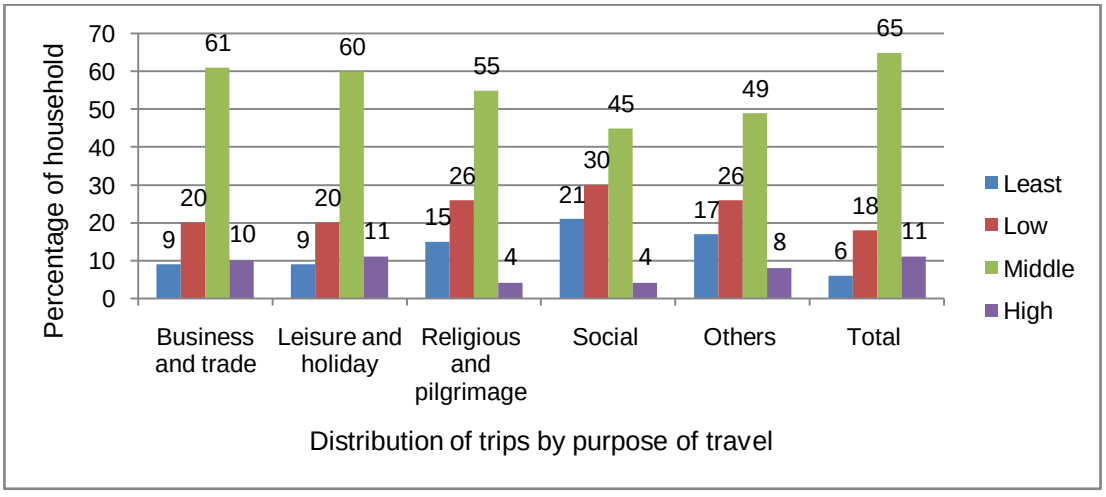
are willing to work hard, but expects certain protection of property and civil rights to feel secure. Middle-income people are more likely than the poor to say they want competitive elections with at least two parties; more likely to demand fair treatment under the law; and more disposed to back freedom of speech and the press (The Economist, 2009). The middle class leads to growth of the economy not only by its productivity and wealth, but by its vote also which determine the course of democracy. The first demand of middle class is economic freedom and along with this middle class is interested in having improved political institutions. Thus, middle class gives rise to good institutions and the institutional development most likely follows economic growth (Bhalla, 2011).

6.1.5 Middle class as a source for the progress of tourism industry

According to NCAER, in domestic tourism survey 2002-03, it was found that amongst the four income categories i.e. least income group, low income group, middle income group and higher income group, the middle class households represented the highest percent of trips in each category of travel by purpose as well as for all trips taken together. Maximum proportion of all tourists was accounted for by those belonging to the middle income category of households. Thus, rise in domestic tourism in India can be attributed to the rise in middle class.

Figure 6.1

Distribution of Trips by Purpose of Travel and Household Income Category



Source: NCAER, 2003

6.2 Size of middle class and economic development

The rise in middle class leads to economic development. In order to investigate this relationship, the three parameters to measure the economic development viz. human development index, GDP per capita and gross capital formation are taken in the study.

6.2.1 Human Development Index (HDI)

As earlier the economic development concentrates only on the increase in nation's income and wealth but now this concept become old. Now the main focus of development is on the enhancement of the human well-being. There is connection between the economic development and human development. (Ramirez et.al, 1998). Improvement in human development i.e. access to education, good health and decent living standard leads to raise the productivity of the workers thus improves economic performance and finally raises national income. Human development also leads to economic growth also by enhancing investment rates and equal distribution of Income (Ranis, 2004). Most of the expenditure of middle class concentrated on providing education to their children, proving better healthcare and also spend on improving their living standard. The larger size of middle class has positive effect on all the indicators of the HDI. And these contribute to economic development by improving skills, increasing competency, productivity, entrepreneurship, technological capabilities and labour participation rate (Ramirez et. al, 1998).

6.2.2 Gross Domestic Product (GDP) per capita

Rising income levels and increasing middle class will lead to significant growth in private final consumption expenditure and consumption will continue to be the major contributor to GDP. The rise in the middle class is accompanied by the rise in the share of the service and the industrial sector in the GDP. Thus, the GDP of the India is driven rapidly by the expansion of these two sectors. So, the rise in middle class can lead to the increase in the GDP per capita.

6.2.3. Gross capital formation

Sustainable investment in physical, social and infrastructure will be the key growth drivers which will enable the economy to achieve inclusive growth. The

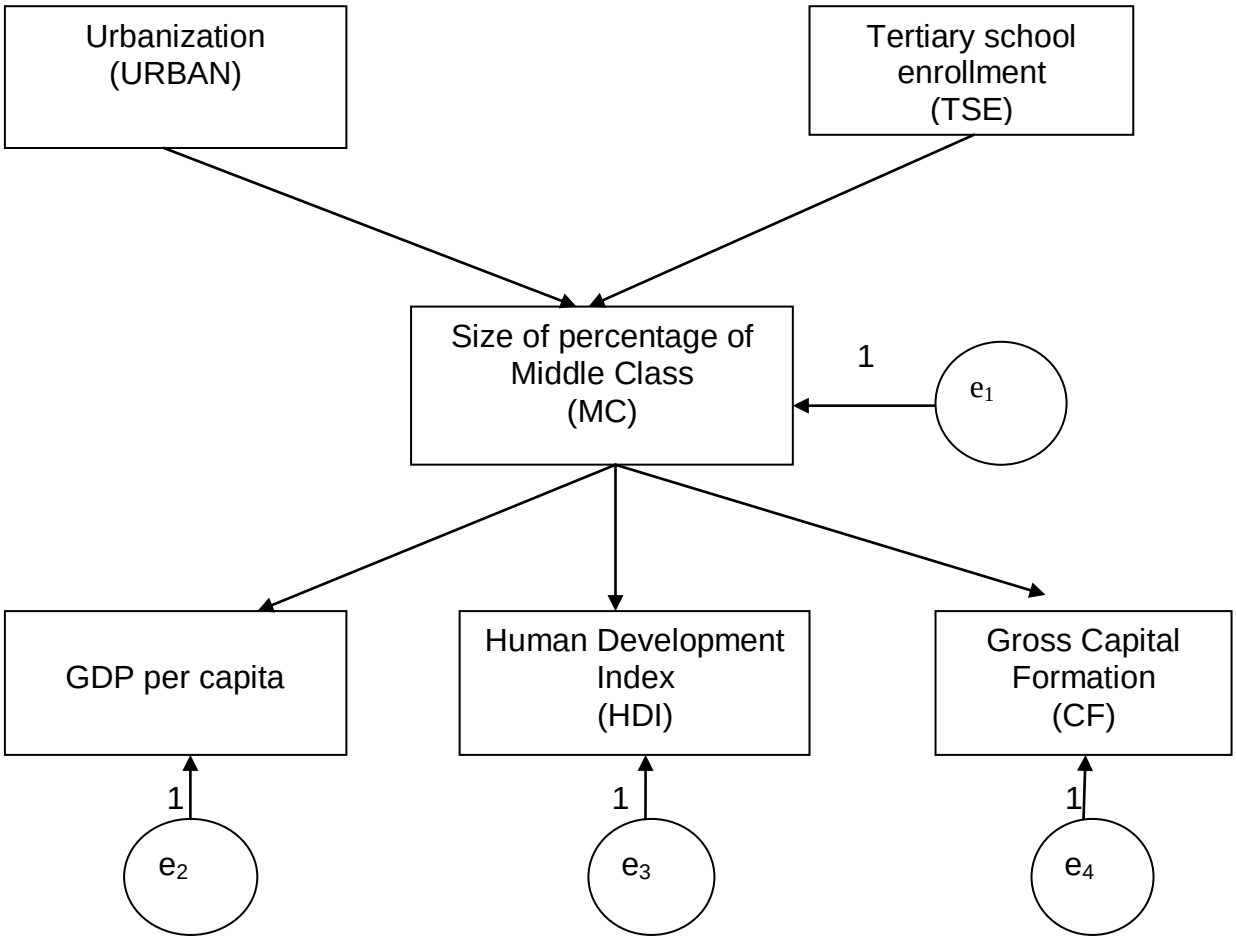
bulging of the middle class contributes towards the rising demand for infrastructure which will further increase the infrastructure expenditure.

6.3 Path analysis using regression

In order to find the relation that whether urbanization leads to economic development through the increase in middle class households, we carried out "path analysis" using the regression analysis. An input path diagram representing a proposed causal model involving the four variables is shown in Figure 6.2

Figure 6.2

Input Path Diagram Representing a Proposed Casual Model



The casual model in Figure 6.2 proposes that growing urbanization and increasing tertiary school enrollment in an economy leads to increase in the size of the middle class. It is also proposed that higher percentage of size of middle class results in economic development i.e. increase in GDP per capita, HDI and gross

capital formation. Firstly, we need to conduct a series of regression analyses. The variables used are specified as follows:

1) Size of middle class is dependent variable, regressed on urbanization and tertiary school enrollment as independent variables.
2) Human development is the dependent variable, regressed on size of middle class as a sole independent variable.
3) GDP per capita is the dependent variable, regressed on size of middle class as a sole independent variable.
4) Gross capital formation is the dependent variable, regressed on size of middle class as a sole independent variable.

With the diagram specified, we need to articulate the formulae necessary to find the path coefficients.

The equations in the above diagram are:

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + e_1$

$Z_1 = \beta_3 + \beta_4 Y + e_2$

$Z_2 = \beta_5 + \beta_6 Y + e_3$

$Z_3 = \beta_7 + \beta_8 Y + e_4$

Where,

Y= Size of middle class

X_1= Tertiary school enrollment

X_2= Urbanization

Z_1= Human Development Index

Z_2= GDP per capita

Z_3= Gross capital formation

Model contains following variables:

a) Observed, endogenous variables: size of middle class, HDI, GDP per capita, gross capital formation
b) Observed, exogenous variables: urbanization, school enrollment tertiary
c) Unobserved, exogenous variables: e_1,e_2 ,e_3 and e_4

Variable counts:

Number of variables in model: 10

Number of observed variables: 6

Numbers of unobserved variables: 4

Number of exogenous variables: 6

Number of endogenous variables: 4

The number of observed variables is more than the number of unobserved variables, so the model is over identified.

Determining correlation and coefficients of variables in a path model:

1) $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + e_1$

Table: 6.2

Regressions coefficients: $Y= f(X_1, X_2)$

	Unstandardized coefficients		Standardized coefficient		
Model	β ' s	Standard error	β 's	t values	Significance
Constant	-16.434	8.336		-1.972	0.065
Tertiary school enrollment (X_1)	0.546	0.346	0.261	1.579	0.133
Urbanization (X_2)	0.670	0.152	0.729	4.417	0.000

*Dependent variable: size of middle class (Y)

$\hat{Y}= -16.434 + 0.670\ X_1 + 0.546\ X_2 + e_1$

Here, the regression coefficient of tertiary school enrollment is statistically significant but the regression coefficient of urbanization is statistically insignificant. As when we see the individually effect of urbanization it comes out be highly significant but in presence of the variable i.e. tertiary school enrollment, the effect of urbanization turns out to be insignificant. But, by adding this variable R^2 has represent significant improvement as shown below. So, overall it is important variable and we must keep this variable in our equation. It suggests that both variables are significant in explaining the variations in Y. Both coefficients have correct sign and the regression explains 96 percent of the total variation in Y. By introducing X_2, we have managed to explain higher proportion of the total variations in Y (Table 6.2).

2) $Z_1 = \beta_3 + \beta_4 Y + e_2$

Table: 6.3

Regression Coefficients: Z_1=f(Y)

	Unstandardized coefficients		Standardized coefficient		
Model	β ' s	Standard error	β 's	t values	Significance
Constant	0.440	0.015		29.336	0.000
Size of middle class (Y)	0.009	0.002	0.684	3.978	0.001

*Dependent variable: HDI (Z_1)

$Z_1 = 0.440 + 0.009\ Y + u$

In Table 6.3, $t_{cv} > t_{tv}$ at 5 percent level of significance so, values are statistically significant.

3) $Z_2 = \beta_5 + \beta_6 Y + e_3$

Table: 6.4

Regression Coefficients: Z_2=f(Y)

	Unstandardized coefficients		Standardized coefficient		
Model	β's	Standard error	β's	t values	Significance
Constant	276.584	10.286		26.890	0.000
Size of middle class (Y)	40.720	1.628	0.986	25.007	0.000

*Dependent variable: GDP (Z_2)

$Z_2 = 276.58 + 40.72\ Y + e_3$

In Table 6.4, $t_{cv} > t_{tv}$ at 5 percent level of significance so, values are statistically significant.

4) $Z_3 = \beta_7 + \beta_8 Y + e_4$

Table: 6.5

Regression Coefficients: Z_3=f(Y)

	Unstandardized coefficients		Standardized coefficient		
Model	β's	Standard error	β's	t values	Significance
Constant	21.022	1.189		17.677	0.000
Size of middle class	1.373	0.188	0.864	7.294	0.000

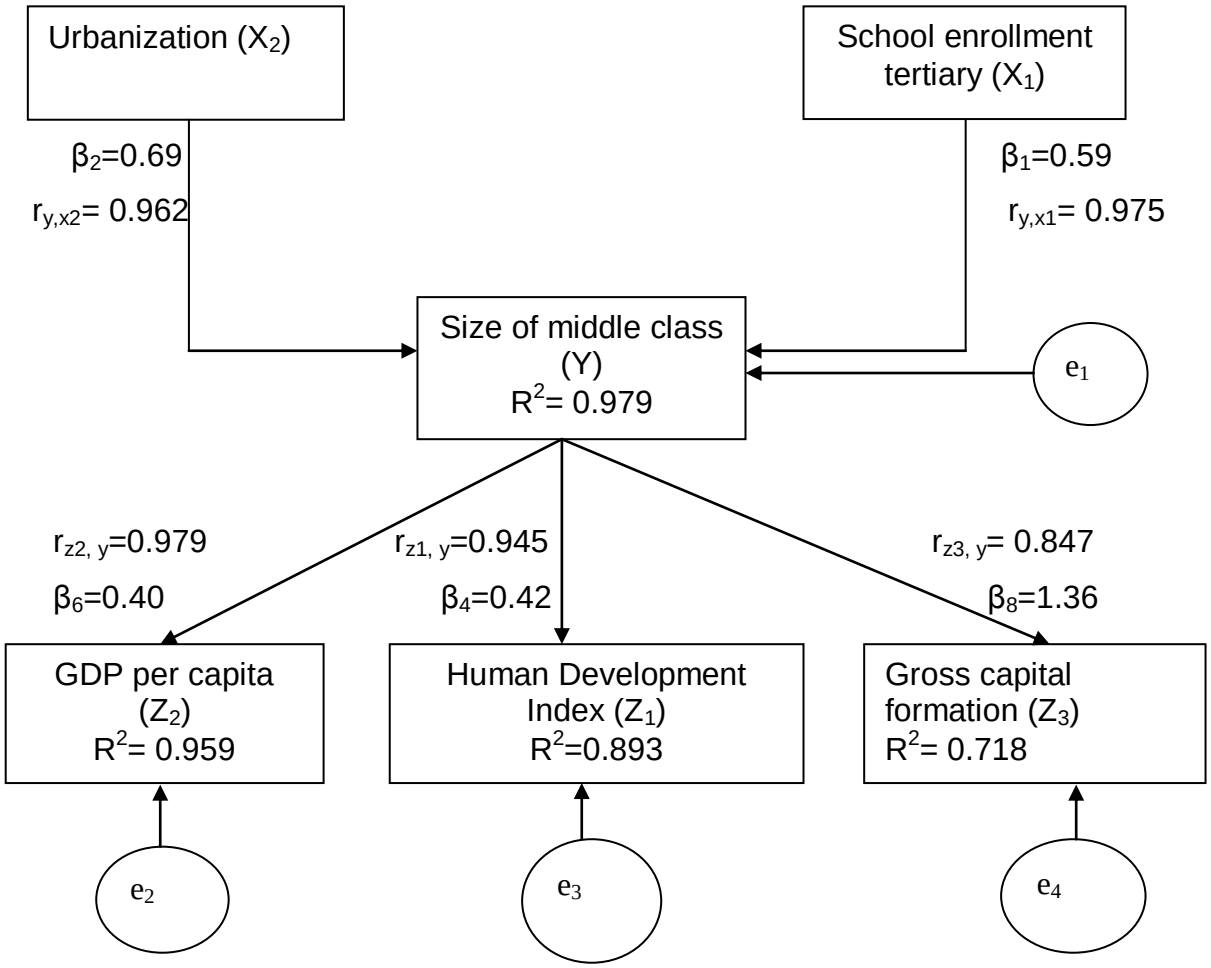
*Dependent variable: CF (Z_3)

Z_3= 21.02 + 1.373Y + e_4

In Table 6.5, $t_{cv} > t_{tv}$ at 5 percent level of significance so, values are statistically significant.

Figure: 6.3

Output Path Diagram Representing a Casual Model



The correlation and partial regression coefficients are displayed in our Output path diagram in Figure 6.3, where the R^2 is also displayed.

Goodness of fit:

We need some further information to know how well the data fit our proposed models. A problem with using SPSS regression to do the analysis is that it does not provide the estimate of fit. Hence, in order to find goodness of fit, we have used AMOS.

Computation of degrees of freedom (Default model)

Number of distinct sample moments:	21
Number of distinct parameters to be estimated:	11
Degrees of freedom (21 - 11):	10

The path coefficients obtained below match those we obtained earlier by multiple regression (Table 6.6 and 6.7).

Table: 6.6

Regression Weights (Default model)

Paths	Unstandardized Estimates	Standard error	Critical ratio	P value (level of significance)
MC ← URBAN	0.546	0.093	5.865	***
MC ← TSE	0.670	0.041	16.401	***
MC ← e_1	0.665	0.108	6.164	***
GDP ← MC	40.720	1.987	20.492	***
HDI ← MC	0.009	0.003	3.260	0.001
CF ← MC	1.373	0.230	5.977	***
GDP ← e_2	23.743	3.852	6.164	***
HDI ← e_3	0.035	0.006	6.164	***
CF ← e_4	2.745	0.445	6.164	***

Table: 6.7

Standardized Regression Weights (Default model)

Paths	Standardized estimates
MC ← URBAN	0.327
MC ← TSE	0.913
MC ← e_1	0.243
GDP ← MC	0.978
HDI ← MC	0.599
CF ← MC	0.808
GDP ← e_2	0.203
HDI ← e_3	0.801
CF ← e_4	0.589

Table: 6.8

Variances (Default model)

Variables	Estimate	Standard error	Critical ratio	P value
e_2	1.000			
e_3	1.000			
e_4	1.000			
e_1	1.000			
URBAN	2.690	0.873	3.082	0.002
TSE	13.982	4.536	3.082	0.002

The variance of e_1, e_2, e_3 and e_4 are fixed at a constant 1.000. The variance of variables i.e. URBAN and TSE estimated to be 2.69 and 13.98. And the variance estimates for both are significant different from zero at the 1 percent level of significance (Table 6.8). Squared multiple correlation estimated that the predictors of MC explains 94.1 percent of its variance. In other words, the error variance of MC is approximately 5.90 percent of the variance of MC itself (Table 6.9).

Table: 6.9

Squared Multiple Correlations (Default model)

Variables	Estimate
MC	0941
CF	0.653
HDI	0.359
GDP	0.957

Effect decomposition of a bivariate relationship:

In path analysis, the 3 types of causal effects distinguished are:

1. Direct effect- It is the influence of one variable on another that is unmediated by any other variable, i.e. each single headed arrow represents a direct effect
2. Indirect effect-It is mediated by at least one intervening variable.
3. Total causal effect- It is sum of the direct and indirect effect.

Total effect= Total causal effect + spurious effect

Table: 6.10

Standardized Direct Effects (Default model)

Variables	TSE	URBAN	MC
MC	0.913	0.327	0.000
CF	0.000	0.000	0.808
HDI	0.000	0.000	0.599
GDP	0.000	0.000	0.978

The standardized direct effect of tertiary school enrollment on size of Middle class is 0.913 which is more than the direct effect of urbanization on the size of middle class i.e. 0.327. The standardized direct effect of size of middle class on GDP is highest i.e. 0.978 and on HDI is 0.599 and on CF is 0.808 (Table 6.10). The standardized indirect effect of tertiary school enrollment on GDP is 0.893 which is highest than the indirect effect of urbanization on GDP i.e. 0.319 (Table 6.11). The standardized indirect effect of tertiary school enrollment on GDP is 0.893 which is highest than the indirect effect of urbanization on GDP i.e. 0.319 (Table 6.12).

Table: 6.11

Standardized Indirect Effects (Default model)

Variables	TSE	URBAN	MC
MC	0.000	0.000	0.000
CF	0.738	0.264	0.000
HDI	0.547	0.196	0.000
GDP	0.893	0.319	0.000

Table: 6.12

Standardized Total Effects (Default model)

Variables	TSE	URBAN	MC
MC	0.913	0.327	0.000
CF	0.738	0.264	0.808
HDI	0.547	0.196	0.599
GDP	0.893	0.319	0.978

Model fit:

CMIN is a chi-square statistic comparing the tested model and independence model to the saturated model. The value of chi square (obtained from AMOS), which should be non-significant if the model is a good fit, is highly significant; $\chi 2 = 8.466$ with 10 *df*s (Table 6.13).

Table: 6.13

Chi square Test

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	11	84.665	10	0.000	8.466
Saturated model	21	0.000	0		
Independence model	6	253.118	15	0.000	16.875

RMR, the root mean square residual, is an index of the amount by which the estimated (by your model) variances and covariance differ from the

observed variances and covariance and Smaller is better. But in above model the value turned out to be very large. GFI, the goodness of fit index, tells what proportion of the variance in the sample variance-covariance matrix is accounted for by the model. This should exceed 0.9 for a good model. For the saturated model it will be a perfect 1. In the above model the value of GFI is just 0.618. AGFI (adjusted GFI) is an alternate GFI index in which the value of the index is adjusted for the number of parameters in the model. The fewer the number of parameters in the model relative to the number of data points (variances and covariance in the sample variance-covariance matrix), the closer the AGFI will be to the GFI. The PGFI (P is for parsimony), the index is adjusted to reward simple models and penalize models in which few paths have been deleted. Note that for our data the PGFI is larger for the independence model than for our tested model. This is also found not true for the model (Table 6.14).

Table: 6.14

Root Mean Square Residual and Goodness of Fit

Model	RMR	GFI	AGFI	PGFI
Default model	1557.540	0.618	0.198	0.294
Saturated model	0.000	1.000		
Independence model	223.934	0.217	-0.097	0.155

The Root Mean Square Error of Approximation (RMSEA) estimates lack of fit compared to the saturated model. RMSEA of 0.05 or less indicates good fit, and 0.08 or less adequate fit. LO 90 and HI 90 are the lower and upper ends of a 90% confidence interval on this estimate. PCLOSE is the *p* value testing the null that RMSEA is not greater than 0.05. In the above tested model, the value of RMSEA is 0.62 (Table 6.15). Thus, it is noted that from the above estimates that as our model are not a good fit, and this is the limitation of the study and this can be improved by modifying it by adding additional variables, by adding more paths between the existing variables or rethinking the directions of influences within our model.

Table: 6.15

Root Mean Square Error of Approximation

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	0.627	0.508	0.753	0.000
Independence model	0.914	0.817	1.015	0.000

Chapter 7

Summary and Conclusions

7.1 Summary

India is facing problems in sustaining growth rate of GDP. One of the solutions to deal with these problems is favorable demographical changes. Most important among these demographical changes is growing urbanization and rising middle class. Growth of middle class is more or less an urban phenomenon as growing urbanization is one of the major determinants of rising middle class. The presence of strong middle class in the country can lead to economic development through its significant positive influence on HDI, GDP and gross capital formation. Thus, we can say that growing urbanization can indirectly lead to economic development through its positive impact on the size of middle class. Keeping in view the importance of middle class among all the other classes, there is a need to look into the determinants of its size and growth and its role in economic development. Thus, the study has been specifically carried out firstly, to study the trends of the urbanization in India, secondly, to study the determinants of size and growth of middle class in India; and thirdly, to examine the role of the middle class in economic development in India.

India has been slowly urbanizing over the past two decades. In 2010, the level of urbanization in India was only 30 percent compared to 74-90 percent across developed and 45-87 percent across BRICS (emerging economies) countries. Similar, trend has been witnessed when level of urbanization is compared with South Asian countries as Pakistan (37 percent), Maldives (41 percent) and Bhutan (37 percent) have higher level of urbanization than India. The urbanization levels in developed countries have reached at almost stabilized stage whereas developing countries like India are in the process of urbanization. The level of urbanization in India has increased to 31.2 percent in 2011 from a level of 17 percent in 1951 at a CAGR of 3.6 percent. There also exist vast inter regional variations in population as well as urbanization levels. About 22 percent of total population in India resides in Class I cities and 68.6 percent of total urban population concentrated here in Class I cities. So, most of the urban population is

found to be concentrated in class I cities that are already overcrowded. Thus, India has much wider scope to increase its urbanization levels in coming future.

As per NCAER definition, India will witness the rapid growth of its middle class households with disposable incomes from Rs. 200,000 to 1,000,000 per annum. Over the course of 25 years i.e. from 1885 to 2010, the size of middle class grew from 1 percent to 12 percent. And it has expected that the share of the middle class in total population will be 20 percent by 2015 and 46 percent by 2030. The various factors that contribute towards the size and growth of large middle class are: high levels of urbanization, reducing income inequality, higher government share in GDP, declining fertility rate, higher share of services and industrial sectors in GDP as compared to agriculture sector, higher education etc. Many of these India's urbanites, especially educated ones will make the shift not only out of poverty but also into the new and aspiring middle class. When people shift from rural to urban areas, they also shift from agriculture occupation to secondary and tertiary sector occupation. And in secondary and tertiary sector occupation the income is high and stable as compared to agriculture sector. And as income per capita increases people will leave poverty and enter the pool of middle class. Also in urban areas due to better education facilities, people are able to provide their children with higher better quality education, which they cannot do while living in rural areas. Thus, growing urbanization will lead to the increase in the size of middle class households. After applying regression analysis and testing of improvement of fit, it is also analyzed that out of all the determinants, urbanization and tertiary school enrollment are important and significant determinants of size and growth of middle class. The size of middle class is expected to increase by estimated 0.66 units for each 1 unit increase in tertiary school enrollment and 0.44 units for each 1 unit increase in urbanization with R^2 0.96.

The presence of the strong middle class can have a significant positive influence on the economic growth. As middle class enjoy better health care and higher education opportunities, and secured jobs that's why middle class is seen as a source of remove poverty by acting as a self penetrating group and creator of jobs, a new consumer market, skilled workforce. It contributes towards rising public as well as private investment. The middle class plays a positive role in

political economy as well. As the middle class are more educated, organized and aware than poor people thus they will increase pressure for democracy, freedom and civil liberties. The presence of the strong middle class leads to economic development through its significant positive influence on the Human Development Index (HDI), GDP per capita and gross capital formation. The path analysis technique is been carried out to show the relation between various variables. The casual model in path analysis proposes that growing urbanization and increasing tertiary school enrollment in an economy leads to increase in the size of the middle class. It is also proposed that higher percentage of size of middle class results in economic development i.e. increase in GDP per capita, HDI and gross capital formation. After analyzing the results, the model comes out to be over identified and the value of R^2 in every case is high showing all the variables in the model are significant and independent variables showing maximum variations in the dependant variables. But after applying test for goodness of fit on input model, the results reveal that overall model is not a good fit, and this is the limitation of the study and this can be improved by modifying it by adding additional variables, by adding more paths between the existing variables or rethinking the directions of influences within our model.

7.2 Conclusions

To conclude all this mentioned above, we can say that growing urbanization and higher tertiary school enrollment indirectly leads to economic development by enormous increase in the size and growth of middle class households. India has much wider scope to increase its urbanization rates in future. Most important contribution of urbanization is the creation of enormous increase in middle class household through developing new modern cities. The presence of the strong middle class has a significant positive influence on the economic growth. Middle class may matter for growth on account of their investments in human capital, which is facilitated by steady employment that seems to be an important characteristic of middle class (Chun et. al, 2011). A strong middle class is likely to lead to long-run development by positively affecting the proximate causes of growth. Thus, specifically targeting the middle class may help in the fight against poverty, compared to policies that solely aim to help the impoverished (Ravallion, 2009; Birdsall, 2010). The policies that promote urbanization will also boost the

size of the middle class. The policies to spur on the private sector are likely to lead to faster growth of the middle class. (Chun et. al, 2011). Moreover, the policies that factor in the welfare of the middle class and nurture their growth may be a more effective long-term strategy for alleviating poverty compared to policies focusing solely on the poor (Birdsall, 2010).

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