

Growth Prospects of Indian Economy During 12th Five Year Plan

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***Abstract:** The economic backdrops on which 12th FYP has commenced are not conducive to economic growth as against commencement of 11th FYP. At that time the economy was growing robustly, the macro economic balance was improving and global economic development were supportive. But 12th FYP is beset with prolonged global recession from 2008 and Eurozone crisis of 2011. The domestic economy is also beset with several internal constraints. Macro economic imbalances have surfaced following the fiscal expansion undertaken after 2008 to provide fiscal stimulus to the economy. Inflationary pressures have been cumulative. Major investment projects in energy and transport have slowed down because of several constraints.*

INTRODUCTION

11th FYP achieved 8% growth rate as against targeted growth rate of 9%. The growth rate of 9.3% in 2007-08 declined to 6.7% in 2008-09. The economy recovered to 8.6% in 2009-10 and 9.3% in 2010-11. However the downturn in global economy in 2011 due to the sovereign debt crisis in Europe combined with the emergence of domestic constraints on investment in infrastructure reduced GDP growth rate to 6.2% in 2011-12. The growth rate of 2011-12 revealed continuous deceleration quarter by quarter with the last quarter registering only 5.3%. The preliminary estimates for the first half of 2012-13 works out to be 5.4%.

The downturn makes it imperative for corrective action for accelerating growth. The policy paradigm envisages two fold prescriptions. Firstly the instantaneous challenge is to reverse the observed deceleration in growth by reviving investment as quickly as possible which calls for urgent action to tackle implementation constraints in infrastructure which are holding up large projects combined with action to deal with tax related issues which have created uncertainty in the investment climate. Secondly from long term perspective the plan must formulate policies that can leverage the strength of the economy to restore to its growth potential. The strategy of 12th FYP is to achieve 9% growth by the penultimate year of the plan which has been revised to 8% in view of prolonged global recession. The strategy of 12th FYP is based on four key elements.

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Firstly the strategy must be firmly grounded in an understanding of the development challenges that India faces. This understanding of the ground reality must be used to identify the critical leverage points where govt. action could have the maximum impact. The focus is on identifying the strategic leverage points where successful action could trigger many supportive reactions.

Secondly progress will be achieved through a combination of Govt. action in both policies and public programmes. Inclusive growth depends on investment in the private sector which accounts for over 70% of total investment which includes not only the organized corporate sector but also MSME. The dynamism of this segment and its ability to seize economic opportunities is critical for inclusive growth and the plan must address the constraints faced by all these private agents in achieving better results.

Thirdly the outlay on Govt. programmes has to increase in many areas but this must be accompanied by improved implementation which involves improved governance and accountability of public sector.

Fourthly the planning process must serve as means of coordinating the stakeholders to work together to achieve broad consensus on key issues viz. different level of Govt. sector comprising centre, states and PRIs/ ULBs private sector incorporating big companies and small enterprises and voluntary organizations who will improve the quality of Govt. action.

The present paper exerts an ingenious endeavour at exploring the desideratum of faster economic growth, determinants of economic growth, sectoral pattern of growth, composition of Savings and Investment and Growth prospects for the 12th Five Year Plan.

In this decade India's investment rates have increased from 25% to 35% of GDP. The effect of change in the investment rate on growth rate depends on percentage changes but not on absolute changes. Thus using the square root value, increasing the investment rate from 25% to 35% implies 1.18 fold or 18% increase in per capita income over a full transition, with a transition half life of 14 years this change in the rate of investment implies 9% increase in income level over the next 14 years or approximately 0.6% per year from 2000-2014. The 0.6% is a significant number it will only account for a small fraction of India's growth in the near future growth rate of around 6-7% per year. The neoclassical growth model suggest that each percentage point rise in the investment rate has an increasingly smaller effect on the income level and on the growth rate over a transition. Hence the recent, investment rate increase will have a smaller impact than past increase of a similar absolute magnitude. Any further increase in investment rate must play an increasingly diminishing role in India's growth and may be costly in terms of foregone consumption opportunities.

Despite the stratospheric investment rate of recent years, the picture that emerges for India is that rising productivity has been the key ingredient of economic growth. The lack of change in the capital output ratio or its inverse is not due to a lack of

capital deeping but due an acceleration in the productivity growth rate. Productivity growth clearly dominates. With an investment of about 30%, a similar percentage increase in the investment rate is highly unlikely. The square root rule implies that it is unlikely to generate any significant growth benefit.

Despite the recent slow down, potential growth in India continues to be high. However even under optimistic scenario whereby India continues to grow at its peak growth rate close to 10% in 2007 and it would take India 23 years to become an upper middle income country. In order to boost the potential close to double digit and regain the momentum as in early 2000's, structural reforms must be hastened. In the short term, given that the economy faces a positive output gap, RBI should exercise caution in further liberalising the monetary policy given the limited scope for lowering interest rate, there is no substitute to structural reforms for stimulating growth rate in the Indian economy.

II. DESIDERATUM OF FASTER ECONOMIC GROWTH

12th FYP embarks upon the broad vision of the plan as "Faster, sustainable and more inclusive growth". 12th plan recognizes that the objective of development is broad based improvement in the economic and social conditions of the people. But rapid growth of GDP is the pre-requisite for achieving this objective. Two reasons can be attributed to higher GDP growth being the pre requisite to inclusive growth. Firstly rapid growth of GDP produces a larger expansion in total income and production will directly raise the living standard provided the growth process is inclusive. The focus is not just achieving higher GDP but achieving the growth process that is inclusive. Rapid growth based on faster growth for the manufacturing sector as a whole including MSME will generate large employment and income earning opportunities and hence more inclusive than a growth driven by extractive industries. Secondly rapid growth is important for inclusiveness as it generates higher revenues which enables financing critical programmes of inclusiveness. Programmes such as MNEREGA, SSA, MDMS, PMGSY, ICDS etc. will percolate benefits directly to the BPL and marginalized sections of the society.

Growth Prospects: The Approach paper to the 12th FYP approved by NDC had fixed a target of 9% growth of GDP over the plan period. The global economic crisis and Eurozone Crisis triggered a sharp downturn in global economic prospects for which the growth target has been reduced to 8%. Within the aggregate GDP growth target, two subtargets are especially important for inclusiveness which incorporate 4% growth of agriculture sector and 10% of manufacturing sector. The 12th plan strategy for growth depends crucially on productivity gains as one of the key catalytic agents of growth. Productivity is the additional contribution to growth after reckoning the effect of capital accumulation and growth of labour. Productivity can be augmented by improving the business regulatory environment, strengthening the governance capacity of states, investing more in infrastructure rather than subsidies and by using science and Technology to drive innovation.

Inclusive strategy involves a much greater role of the states and closer co-ordination between the centre and states than would be needed for a purely corporate led growth strategy. The policy paradigm and institutional support required for small and medium entrepreneur led growth lie in the domain of State Govt. and local bodies. The Centre's contributions would lie mainly in creating the appropriate macroeconomic framework, financial sector policies and national level infrastructure.

Inclusive strategy aims at poverty reduction. According to latest official estimates of poverty based on Tendulkar Committee poverty ratio declined to 21.9% in 2011-12 from 29.8% in 2009-10 and 37.2% in 2004-05. The Planning Commission states that for a family of five the All India Poverty line in terms of MPCE amount to Rs. 4080/- per month in rural areas and Rs. 5000/- per month in urban areas. The % of persons below poverty line in 2011-12 has been estimated at 25.7% in rural areas and 13.7% in urban areas as against 41.8% in rural areas and 25.7% in urban areas in 2004-05. In actual terms there were 26.93 cr. People below poverty line in 2011-12 as against 35.0 cr. In 2009-10 and 40.71 cr. In 2004-05. Estimation of poverty ratio reckons money spent on health and education besides calorie intake.

iii. Determinants of Growth: The growth potential of the economy over a five year period depends upon a number of factors. These include the capacity of the economy to maintain high rate of investment while ensuring productive use of capital. This depends upon investor expectations and the ability to mobilize financing for investment. Growth also depends on the availability of labour in adequate quantities and higher skill to support rapid growth. The external environment also affects the growth potential since it determines the scope for exports to grow and contribute to the expansion of domestic economic activity. Global experience reveals that different countries have drawn their growth acceleration in different proportion from factor accumulation and from Total Factor Productivity (TFP). Emerging marking countries have the potential to accelerate growth substantially by accelerating growth in TFP. There is also considerable scope for further efficiency gains especially from use of IT based Technology.

UNDERLYING GROWTH MODELS:

Is Fixed Investment the Key to Economic Growth?

The strong relationship between fixed capital formation shares of GDP and growth rates since World War II has led many writers such as De Long and Summers in 1991-92 to conclude that the rate of capital formation in the form of capital formation determines the rate of a country's economic growth. The strong association between fixed investment or equipment investment and growth, particularly over spans of fifteen to twenty years does not prove causality. The effects may very well run from growth to capital formation, so that rapid growth leads to high rate of capital formation. An earlier study by Lipsey and Kravis in 1987 found that for five year periods within the longer spans, the rate of growth was more closely related to capital formation

rates in succeeding periods than to contemporary or preceding rates. That result suggested that the observed long term relationship were due more to the effect of growth on capital formation than to the effect of capital formation on growth. They have studied the direction of causation and their timing between capital formation ratios and rates of growth. They have studied the direction of causation and their timing between capital formation ratios and rates of growth.

The below table shows simple regression of five year growth rates in per capita GDP on preceding, current and succeeding period fixed capital formation rates (ratios of fixed capital formation to GDP).

Table 1
Regression of Growth in Real GDP Per Capita on Fixed Capital Formation Ratios without and with country dummies Fixed Capital Formation / GDP

<i>Particulars</i>	<i>Preceding Period</i>	<i>Current Period</i>	<i>Succeeding Period</i>
Country dummies excluded coefficient			
t Statistic	0.30	0.60	0.80
R ²	(3.42)	(5.71)	(8.94)
No. of Observations	404	404	404
Country dummies included coefficient			
t -Statistic	-1.00	-0.01	1.65
R ²	(3.95)	(0.04)	(6.78)
No. of Observations	0.16	0.12	0.23
	404	404	404

Real GDP per capita growth 1965-1970, 1970-1975, 1975-80, 1980-85 (Ratio of end year over initial year)

Ratio of fixed capital formation to GDP, measured in current purchasing power parities, averaged over five year periods 1960-65, 1965-1970, 1970-75, 1975-80, 1980-1985 and 1983-1988.

Sources: Summers and Heston 1991

The coefficients, t statistics and R² increase as one moves from the preceding period to the current one and then to the succeeding period. From this timing relationship it can be inferred that the case for effects running from growth rates to subsequent capital formation is stronger than that for the effects running from capital formation to subsequent growth.

One risk in using pooled time series and cross section data is that the cross sectional differences among countries reflect permanent characteristics of the countries that encourage or discourage both fixed investment and economic growth. The effect is to remove cross sectional differences among the countries, leaving only times series variations to be explained. The main result persists when inter country differences are eliminated, growth seems to precede capital formation.

A formal way of examining the direction of causality is to apply test in the Granger-Sims causality framework. They estimated the following equations.

$$(i) \text{RGDPC}_t = f(\text{RGDPC}_{t-1}, \text{RGDPC}_{t-2})$$

$$(ii) \text{RGDPC}_t = f(\text{RGDPC}_{t-1}, \text{RGDPC}_{t-2}, \text{INV}_{t-1})$$

Where RGDPC denotes growth in real income per capita, INV is the ratio of fixed capital formation to GDP and t denotes time period Investment is interpreted to be Granger-Causing growth when a prediction of growth on the basis of its past history can be improved by taking into account the previous period's investment.

Estimating eqn (i) and (ii) gives that following results (t - values are in parentheses)

$$\text{RGDPC}_t = 0.661 + 0.227\text{RGDPC}_{t-1} + 0.142 \text{RGDPC}_{t-2}$$

(7.0) (3.7) (2.1)

$$\bar{R}^2 = 0.06, \quad n = 303$$

$$\text{RGDPC}_t = 0.660 + 0.228\text{RGDPC}_{t-1} + 0.142 \times \text{RGDPC}_{t-2} - 0.002\text{INV}_{t-1}$$

(6.7) (3.5) (0.02)

$$\bar{R}^2 = 0.06, \quad n = 303$$

The null hypothesis cannot be rejected that capital formation in the preceding period has no explanatory power, with respect to growth in the current period, given the past history of growth in that country. The past history of growth is a poor predictor of current growth, but lagged investment does not improve the prediction.

It is relevant to ascertain whether past growth has an effect on current capital formation rates, given the history of capital formation rates. The results can be deduced as (t - values are in parentheses)

$$\text{INV}_t = 2.48 + 0.948 \text{INV}_{t-1} - 0.075\text{INV}_{t-2}$$

(4.6) (15.3) (1.27)

$$\bar{R}^2 = 0.79, \quad n = 303$$

$$\text{INV}_t = 7.35 + 0.828 \text{INV}_{t-1} - 0.012\text{INV}_{t-2} + 9.49 \text{RGDPC}_{t-1}$$

(4.9) (13.7) (0.21) (6.9)

$$\bar{R}^2 = 0.82, \quad n = 303$$

The significant t- statistic or RGDPC_{t-1} suggests that past growth has a significant effect on current capital formation even after past capital formation is taken into account. Even though the past history of capital formation rates predicts current rates well, past growth rates improve the prediction. Informal and formal tests using only fixed investment ratios as independent variables give evidence that economic growth

precedes capital formation but no evidence that capital formation precedes growth. Thus, the causality seems to run in only one direction i.e. from economic growth to capital formation.

Investment led growth: By the application of neo-classical growth model it has been verified that despite four fold increase in investment rate, the investment boom has negligible impact on economic growth. Solow-Swan Growth Model suggests three factors: labour force growth, depreciation rate and productivity growth. Specifically let $(1+n)$ denote the annual increase in labour inputs, $(1+g)$ denote the annual increase in productivity measured in effective labour units and s denotes the depreciation rate on capital. The steady state condition for Solow-Swan Growth model is $sy/K = (1+n)(1+g) - (1-s)$ where ' s ' is the investment rate. Using this the steady state equilibrium output – capital ratio is

$$y/k = \frac{(1+n)(1+g) - (1-s)}{s} \quad (1)$$

A constant value of y/k will indicate a balanced or steady state only if all of these variables s, n, g, s are constant. In this case a doubling of investment rate would have the equilibrium value of y/k considering a growing economy like India where n and g are approximately constant but both the investment rate, s productivity growth ' g ' are rising. What happens to capital productivity is a balancing act between increase in ' g ' and increase in ' s '.

The main reason why the fourfold increase in investment rate has not led to a rapidly falling value of y/k is that there was also a rapid acceleration in the rate of productivity growth, ' g '. based on data from Bosworth and Collins (2008), the average value of productivity growth from 1951-79, was $g=1.4\%$ but from 1980-2008 the average is $g = 4.4\%$, 3% increase in ' g ' is sufficient to raise the average product of capital by approximately 50%.

Thus India has not been on a steady state but on a slow transition with rising s and g an approximately constant average product of capital, y/k . Bosworth and Collins (2008) results reveal that capital growth rates have been similar to GDP growth rate. Since productivity growth was moving upward, the capital productivity ratio y/k has tend to be fairly constant and the growth rate of capital and GDP have been approximately the same. This implies that capital has contributed less, relatively to India's growth than it did to East Asian Economics. But this is due to acceleration in productivity growth.

In Solow-Swan Growth model the impact of an increase in investment from s to s' on the growth rate of per capita income is given by $y'/y = (s'/s)^{\alpha-1}$

Where α is the income share of capital and y' refers to the new steady state level of per capita income. With a capital income share of $\alpha = 1/3$, $\alpha/1-\alpha = 0.5$ which gives a useful square root rule, e.g. to double GDP per capita, the investment rate has to be

quadrupled. When investment rate increased from 9% to 35% of GDP, per capita income over this period increased only five fold, thus over 58 years, the doubling of GDP due to quadrupling of investment rate translates into an average annual growth rate of 1.2% per year relative to the average growth rate of GDP per worker of 2.7%. Thus by this measures the quadrupling of the investment rate accounts for approximately 44% of India's average growth.

Export led growth model: It is possible to combine the ideas of Myrdal with the insights of Prebisch and Singer in a single model which focuses on the role of export growth in the development process in an open economy and in which Prebisch model result emerges as a special case if relative prices are fixed and trade is balanced. The model is applicable to regions and open developing economics. It is based on the assumption that output of an open economy is demand determined but not supply constrained and it is the long run growth of autonomous demand that governs the long run rate of growth of output. The main component of autonomous demand in an open economy, in turn is demand emanating from outside, the region, that is the demand for the regions exports. The model is a variant of export base models of development which stress the importance of exports as a leading sector. The hypothesis is that once a region obtains a growth advantages it will tend to sustain it at the expense of other regions because faster growth leads to faster productivity growth known as Verdoorn effect keeps the regions competitive in the export of goods that gave the region its growth advantage in the first place. Success breeds success and failure breeds failure. This model examines the international evidence of the relation between the growth of exports and the growth of output in developing countries.

$$\text{Let, } g_t = \gamma(x_t) \quad (1)$$

Where, g_t denotes growth of output in time period t , x_t denotes growth rate of exports in time period t , γ denotes elasticity of output with respect to export growth if exports are a constant proportion of output and t is the discrete time. Apart from the theoretical consideration underlying the specifications of the above equation, that the growth rate of economy as a whole will be governed by the rate of growth of autonomous demand. There are a number of practical considerations that make export demand for highly specialized regions or countries extremely important for both demand and supply. For most industries in a region, local demand is likely to be trivial compared with the optimum production capacity of the industries. The viability of regional enterprise must largely depend on the strength of demand of demand from outside the region.

The reasons why exports demand is considered to be a potential growth inducing force than other elements of demand can be attributed to firstly exports allow regional specialization which may bring dynamic as well as static gains. Secondly exports permit imports and imports may be important in developing areas that lack the capacity to produce development goods themselves. Thirdly, if the exchange of information and technical knowledge is linked to trade, exporting facilitates the flow of technical knowledge which can improve the supply capacity of that area.

Considering the determinants of export demand and the form of exports demand and the form of export demand function, it is conventional to specify exports as a multiplicative or constant elasticity function of relative prices measured in a common currency and foreign income.

$$\text{Thus, } x_t = \left(\frac{P_{dt}}{P_{ft}} \right) \eta \times Z t^\epsilon$$

Where x is the quantity of exports in time period t , P_d denotes domestic price in time period t , P_f denotes foreign price, Z denotes foreign income, η denotes price elasticity of demand for exports being < 0 and ϵ denotes income elasticity of demand for exports being > 0 . Taking discrete rate of change of the variables gives the approximation.

$$X_t = \eta (P_{dt} - P_{ft}) + e (z_t) \quad (3)$$

Where the subscripts refer to rate of growth of variables.

The rate of growth of income outside the region (z) and the rate of change of competitors prices (P_f) may both be taken as exogenous to the region. The rate of growth of domestic (export) prices will be endogenous. Assuming that prices are formed on the basis of a constant mark up on unit labour cost so that.

$$P_{dt} = \left(\frac{W}{R} \right)_t^{(\tau_t)} \quad (4)$$

Where W denotes level of money wages, R denotes average product of labour and T denotes $1 + \%$ 'mark up' on unit labour cost. From eq. (3) it can be stated

$$P_{dt} = W_t - r_t + t_t \quad (5)$$

Where the subscripts stand for the discrete rate of change of the variables.

The model becomes circular and cumulative by specifying the growth of labour productivity as partly a function of growth of output itself known as Verdoorn's Law. Assuming linear function it can be stated

$$r_t = r_{at} + \lambda \times g_t$$

Where r_{at} denotes rate of autonomous productivity growth at time t and λ denotes Verdoorn Coefficient (> 0). Eq. (5) provides the link between exports and growth via productivity growth and prices. Faster output growth and faster export growth by making goods more competitive. Combining eq. (1), (3), (5) and (6) to obtain an expression for the equilibrium growth rate gives

$$g_t = \frac{\gamma \{ \eta (w_t - r_{at} + \tau_t - P_{ft}) + \epsilon (Z_t) \}}{1 + \gamma \eta \lambda} \quad (7)$$

Assuming that $h < 0$, the growth rate is shown to vary positively with r_a , Z , ε , P_f and λ and negatively with w and τ . The effect of h is ambiguous since it appears in both numerator and denominator of the equation. It is the dependence of productivity, growth on the growth rate that gives rise to the possibility that once a region obtains a growth advantage it will keep it. Suppose a region obtains an advantage in the production of goods with a high income elasticity of demand e which causes its growth rate to rise above that of another region. Through the so called Verdoorn effect, productivity growth will be higher. The region with initial advantage will obtain a competitive advantage in the production of goods with a high income elasticity of demand will imply that it will be difficult for other regions to establish the same activities. This is the essence of the theory of cumulative causation of divergence between centre and periphery and between industrial (developed) and agricultural (developing) regions.

Measuring the growth of total factor productivity: Labour productivity is expressed as output per worker $y = Y/L$. But this particular measure of productivity confounds the effect of capital accumulation and technological progress, both of which can rise output per worker. Considering Cobb-Douglas production function.

$$Y = BK^\alpha L^{1-\alpha} \quad (1)$$

Where B denotes state of technology dividing both sides by LK

$$Y/L = y = BK^{\alpha} \quad (2)$$

As per eq. (2) labour productivity (y) depends positively on the technology parameter B but also on the capital stock per worker κ . A better measure of productivity is the parameter B which signifies not just how productive labour is but also how productively the economy uses all the factors of production. For this reason B is called the total factor productivity or TFP. Measure of economic growth is the growth rate G of output per person. Assuming population and labour force to grow at the same rate, G is also the growth rate of output per worker. From eq. (2) it can be stated

$$G = \frac{B}{B} + \frac{\alpha\kappa}{\kappa} \quad (3)$$

As per eq. (3) the growth rate is the sum of two components: the rate of TFP growth ($B\dot{a}/B$) and the capital deepening component α/κ . The first one measures the direct effect of technological progress and the second measures the effect of capital accumulation. The purpose of growth accounting is to determine the relative size of two components.

We have time series data for almost all countries relating to output, capital and labour which allow to observe G and κ/κ but here are no direct measures of B and α . Growth accounting deals with this problem in two steps. The first step is to estimate a using data on factor prices and the second step is to estimate TFP growth B/B using a residual method. These two steps work out as

Assuming competitive capital market, the rental price of capital R_k should equal the marginal product of capital. Differentiating the right hand side of eqn. (1) to compute the marginal product of capital we get

$$R_k = \alpha Y/K \text{ which can be restated as}$$

$$\kappa = R_k K/Y$$

α equals the share of capital income (the price R_k times the quantity K) in national income Y . This share can be computed from directly observed data once we observe the factor price R_k

To compute the second step of growth accounting rewriting the growth eqn. as $B/B = G - \alpha\kappa/\kappa$ which states that the rate of TFP growth \hat{B} is the residual left over after subtracting the capital deepening term from the observed growth rate G . once we estimate α using factor prices. We can measure everything on the right hand side. This measure of TFP growth is known as the Solow residual.

iv. Sectoral Pattern of Growth: The sectoral pattern of growth has been reflected in the below table.

The Primary Sector is projected to grow at 4% as against 3.7% achieved during 11th plan. Mining and quarrying sector is projected to grow at 5.7% as against 3.2% during 11th plan. The manufacturing sector is projected to grow at 7% as against 7.7% during 11th plan. However, growth rate of this sector was dismal at 2.7% in 2011-12 and 2.2% in 2012-13. Electricity, Gas and Water supply have been projected to grow at 7.3% during 12th Plan as against 6.1% achieved during 11th Plan. Construction is projected to grow at 9.1% as against 7.7% during 11th Plan. The other service sectors are projected to grow fairly robustly with Trade, Hotels and Restaurants at 7.4%, Transport, Storage and Communication at 11.8%, Insurance and Business Service at 9.9% and Community and Personal Services at 7.2%.

v. Composition of Investment & Savings

Investment: The ability to raise the rate of investment i.e. ratio of Gross Fixed Capital Formation to GDP is widely regarded as critical for the achievement of high growth. The economy grew rapidly for the period 2003-04 to 2007-08, when the investment rate increased significantly. The fixed invest rate at current prices increased steadily after 2003-04 and approximately 34% in 2007-08. Fixed investment is vital for achieving higher growth. The fixed investment rate declined after 2007-08, initially on account of global factors and later due to difficulties in the domestic arena which affected the pace of implementation of projects. The estimate for GFCF rate in 2011-12 at constant price was 33.7%. The rate of GDCF was 37.9%. For achieving 8% growth for 12th FYP it is estimated that the fixed investment rate will have to increase by 1.5% of GDP over the level in 2011-12. The fixed investment rate should increase to 35% of GDP at constant prices by the end of 12th Plan, yielding an average fixed investment rate of 34% of GDP for the 12th Plan period as a whole. Investment as proportion of GDP at constant 2004-05 prices has been mentioned in the below table.

Table 2
Annual Growth Rate of GDP by Industry of origin at Constant (2004-05) Prices

Sl. No. Section	Eleventh Five Year Plan											
	2007-08	2008-09	2009-10	2010-11	2011-12	2011-12 Average	2012-13	2013-14	2014-15	2015-16	2016-17	2016-17 Average
1. Agriculture, Forestry & Fishing	5.8	0.1	0.8	7.9	3.6	3.7	2.0	4.5	4.5	4.5	4.5	4.0
2. Mining & Quarrying	3.7	2.1	5.9	4.9	-0.6	3.2	1.0	5.0	7.0	7.0	8.5	5.7
3. Manufacturing	10.3	4.3	11.3	9.7	2.7	7.7	2.2	6.0	8.5	9.5	9.5	7.1
4. Electricity, Gas & Water Supply	8.3	4.6	6.2	5.2	6.5	6.1	5.2	7.5	8.0	8.0	8.0	7.3
5. Construction	10.8	5.3	6.7	10.2	5.6	7.7	8.0	8.0	8.5	10.0	11.0	9.1
6. Trade, Hotel & Restaurant	10.1	5.7	7.9	11.5	6.2	8.3	5.5	6.0	8.0	8.7	8.7	7.4
7. Transportation & Communication	12.5	10.8	14.8	13.8	8.4	12.0	7.3	11.1	13.0	13.6	14.1	11.8
8. Finance, Insurance & Real Estate	12.0	12.0	9.7	10.1	11.7	11.1	9.8	9.5	10.0	10.0	10.0	9.9
9. Community Services, Social Personal Services	6.9	12.5	11.7	4.3	6.0	8.3	7.3	7.2	7.2	7.2	7.2	7.2
Total	9.3	6.7	8.6	9.3	6.2	8.0	5.8	7.3	8.5	9.0	9.2	8.0
G.D.P. Industry	9.7	4.4	9.2	9.2	3.5	7.2	4.0	6.6	8.4	9.4	9.8	7.6
Services	10.3	10.0	10.5	9.8	8.2	9.7	7.6	8.3	9.4	9.7	9.9	9.0

Source: 12th FYP downloaded from Internet.

Table 3
Investment as proportion of GDP at Constant 2004-05 prices

Particulars	Eleventh Plan Period					Twelfth Plan Period					AV.	
	2007-08	08-09	09-10	10-11	11-12	AV	2012-13	13-14	14-15	15-16		16-17
Fixed Investment Rate	33.7	33.5	33.3	34.3	33.7	33.7	33.0	33.9	34.4	34.5	35.0	34.2
Public	8.2	8.8	8.6	8.1	7.8	8.3	8.0	8.4	8.4	8.5	8.5	8.4
Private Corporate	15.0	11.3	11.3	12.8	11.6	12.4	11.3	12.5	14.0	14.5	15.0	13.5
House holds	10.5	13.5	13.4	13.4	14.3	13.0	13.5	13.0	12.0	11.5	11.5	12.3
Stocks	4.1	1.9	3.0	3.5	2.3	3.0	2.3	2.9	3.1	3.1	3.1	2.9
Valuables	1.1	1.4	2.0	2.4	2.4	1.8	2.2	1.9	1.6	1.6	1.6	1.8
GDCF	38.9	36.8	38.3	40.2	38.4	38.5	37.5	38.7	39.1	39.2	39.7	38.8
Errors and Commissions	0.1	-1.3	0.2	-0.2	-0.5	-0.3	-	-	-	-	-	-
Investment Rate	39.0	35.6	38.4	40.0	37.9	38.2	37.5	38.7	39.1	39.2	39.7	38.8

Source: 12th FYP downloaded from Internet.

Composition of Investment: Composition of fixed investment by source has been reflected in the above table. Investment by public enterprises averaged 8.3% in the Eleventh Plan with a range of 8.2 to 8.8%. The projected investment rate by P.E is 8.4% Household fixed investment averaged 12.4% in the 11th Plan with a range of 10.5 to 13.4%. For the 12th Plan Household fixed investment is projected to average 12.3% for the plan period as a whole. Private corporate investment has been the major driver of investment in recent years. In 2003-04 private corporate fixed investment at constant 1999-2000 prices was only 6.2% of GDP while the overall fixed investment rate was 27.1%. It increased to 9.1% at constant 2004-05 and to 30.5% in 2005-06. Private corporate investment averaged 12.4% in the Eleventh Plan but it was at the peak of 15% in 2007-08 but declined to 11.6% in 2011-12. If the overall fixed investment rate has to pick up in the 12th Plan. The above table reveals that private corporate investment increased from 11.3% in 2012-13 to 15% in 2016-17 i.e. last year of 12th Plan and average of 13.5% for the 12th Plan as a whole as against average of 12.4% in the 11th Plan.

The aggregate GDCF in the 11th Plan at constant 2004-05 prices estimated at 37.5% of GDP. The projections for 12th Plan is 38.8% of GDP and average rate expected to be 40% by the end of 12th Plan. At current prices the increase in GDCF would increase from 36.1% of GDP in the Eleventh Plan to 36.9% in the Twelfth Plan.

Role of Infrastructure investment in accelerating growth: A Key component of the overall strategy for raising the rate of fixed investment relates to increase in public and private investment in infrastructure. Enhanced investment in infrastructure will mitigate supply constraints on growth. Power projects, National Highways, Railways and Water Ways development will ensure infrastructural development.

Savings: High level of investment projected for the 12th Plan have to be financed through a combination of domestic savings and net foreign inflow. A strong domestic savings performance has been the resilience of Indian economy for several years. Savings rate increased from less than 20% of GDP in 1980 to around 25% in 1990s and over 30% in the second half of the last decade. It reached the peak level of 36.8% in 2007-08 declined to 33.7% in 2009-10, increased to 34% in 2010-11 but declined to 30.8% in 2011-12. Thus the aggregate savings rate declined by 6% between 2007-08 and 2011-12. Improvement in Govt. finance and improvement in the level of retained earnings contributed to higher domestic savings rate upto 2007-08. The diminution in domestic savings rate after the crisis of 2008 reflects deterioration in two elements. Between 2007-08 and 2011-12 the deterioration in the savings of Govt. flowing from the fiscal stimulus given in the wake of crisis amounted to 2.5% points. Combined with lower retained earnings by departmental and non-departmental enterprises this reduced the savings of public sector by 3.7% points of GDP accounting for nearly 2/3rd of the fall of 6% points in the domestic savings rate. Savings by the private corporate sector declined by 2.2% points while households savings remained largely unchanged.

Savings strategy for 12th Plan: Savings strategy in the 12th Plan must be to reverse the decline in savings that occurred after 2007-08 in order to finance the increase in

Table 4
Component wise Domestic Savings as % of GDP at Current Price

Particulars	Eleventh Plan Period					Twelfth Plan Period					AV.	
	2007-08	08-09	09-10	10-11	11-12	AV	2012-13	13-14	14-15	15-16		16-17
Gross Savings in Financial Assets	15.4	13.0	15.1	13.9	11.1	13.7	12.4	13.8	15.0	16.1	16.4	14.7
Increase in Financial Liabilities	3.8	2.9	3.1	3.6	3.1	3.3	3.4	3.8	4.2	4.5	4.5	4.1
Net Household Financial Savings	11.6	10.1	12.0	10.4	8.0	10.4	9.0	10.0	10.8	11.6	11.9	10.7
Household Saving in Physical Assets	10.5	13.5	13.4	13.4	14.3	13.0	13.2	12.7	12.2	11.7	11.7	12.3
Total Household Savings	22.4	23.6	25.2	23.5	22.3	23.4	22.8	22.7	23.0	23.3	23.6	23.0
Savings by Private Corporate Sector	9.4	7.4	8.4	7.9	7.2	8.1	7.3	7.7	8.0	8.5	8.5	8.2
Saving by Public Sector	5.0	1.0	0.2	2.6	1.3	2.0	1.5	2.0	2.5	3.1	3.9	2.7
Gross Domestic Savings	36.8	32.0	33.7	34.0	30.8	33.5	31.0	32.4	33.5	34.9	36.0	33.6

12th Five Year Plan downloaded from Internet

the rate of investment projected for the 12th Plan period. The working group on savings for the 12th Plan projected the Gross Domestic Savings rate to range between 36-37% of GDP for the 12th Plan period depending on whether GDP growth is 8% or 9%. The growth rate would be sustained if savings rate attains 36% by the end of the 12th Plan. The projected average level of domestic savings rate for the 12th Plan is 33.6% as against 33.5% of 11th Plan.

Domestic savings component wise as % of GDP at current prices has been reflected in the below table.

The gross financial savings of the household sector is expected to average 14.7% in the 12th Plan rising from 13.7% in 2010-11, 11.1% on 2011-12 to 16.4% at the penultimate year of 12th Plan. Total household savings including both net financial and physical assets are projected to average 23% for the 12th Plan period.

Savings of the private corporate sector reached a peak of 9.4% of GDP in 2007-08 from which it declined under pressure from the crisis. The average for the 11th Plan period was 8.1%. It is expected that a gradual recovery in the savings of the private corporate sector from 7.9% in 2010-11 to 8.0 to 8.5% in the final three years of the plan would yield an average of 8.2% for the entire plan period.

The working group on savings had projected that savings of the public sector would be around 2% in 2012-13 and average 3.5% over 12th Plan period. Savings in the public sector would be significantly lower at 1.1% in 2012-13 which would improve gradually to over 4% in 2016-17.

The overall domestic savings rate is projected to increase from an estimated 30.8% in 2011-12 to 36% in 2016-17 and average 33.6% for the 12th Plan period. This would be marginally higher than 33.5% recorded in the 11th Plan period. Since the projected average investment rate GDCF in the 12th Plan at current price is 36.9% and the projected gross domestic savings is 33.6%. The net external financing required for macro economic balance should average at 3.4%. This would be a significant reduction over the course of the plan period from 4.2% reported in 2011-12, the penultimate year of 11th Plan and the anticipated higher level in 2012-13.

vi. Growth Prospects for the 12th Five Year Plan: Making one Macro economic assessment of the economy it is relevant to dispense with the complacent view that since growth has been accelerating it will continue to remain high as long as the policies which has generated this growth in the past continue. This approach is over simplistic because there are examples of countries that grew rapidly for a while and then slackened. This can happen for two reasons. Firstly, the economy may come against new internal constraints, often emerging from structural changes produced by rapid growth. Secondly the external environment may have changed necessitating different approach.

GROWTH PROSPECTS: AN ASSESSMENT

In the absence of the revival of manufacturing sector, a higher GDP growth rate can't be achieved. Given that the nature of the Indian manufacturing sector has been

idiosyncratic (Kochhar et al, 2006), it is necessary to create an enabling environment for private investors to cope with business and financial risks in an unprotected environment and meet challenges of global competitiveness. Panagariya (2008) makes a persuasive case that large private firms will not enter into labour intensive manufacturing without labour market reforms leading to a flexible exit policy. 12th FYP approach paper recognizes the need for a new policy paradigm for the manufacturing sector so that manufacturing contributes to a quarter of GDP by 2025.

A number of structural factors have contributed to a higher growth rate in the last decade. The risk in the gross capital formation rate from 25% of GDP to 38% during 2002-08 played an important role in raising GDP growth during this period. Raising Govt. savings will be a critical element in restoring savings and investment level in the economy. This depends on (i) rationalization and restructuring of Govt. Current Expenditure and (ii) raising the volume of tax revenue. Non-merit goods subsidies such as those on oil or power once introduced are difficult to reduce in a democratic set up. However the need for a broad agreement among the major political parties on prioritizing the subsidies and limiting them to essentials such as food, drinking water, health and education can't be over emphasized for maintaining macroeconomic stability. Proper monitoring of the several welfare programmes, particularly the centrally sponsored schemes is another area that can raise efficiency of the programmes and reduce expenditure.

India's Tax GDP ratio has remained below 18%. In conformity with international standard, there is certainly scope to raise this to provide fiscal support to infrastructure and social sector programmes. Other steps include implementation of GST, reducing tax evasion and expanding the tax base. The rights and entitlement approach by citizens for several public services must be accompanied by the willingness of the society to pay for the services. An entitlement mindset without adequate and stable sources of funding is not viable in the long run. It cripples the govt. fiscal position in the future leading to a macro economic crisis and the burden of adjustment often falls on lower income groups in terms of downsizing welfare programmes. An emerging economy must develop growth oriented social, political and business norms.

Another factor which contributes to pushing the long term growth rate upward is the demographic dividend. The current age structure of the population is such that the proportion of work force to total population is expected to increase in the next decade. If the available labour force can be engaged in productive activities without a decline in productivity it could be a source of additional growth. Creating appropriate employment opportunities for the fast growing labour force with skill development that caters to emerging demand pattern of a growing economy is a major challenge for deriving demographic dividends. A faster and more stable expansion of labour intensive industrial sectors such as agro processing could be vital in absorbing the growing labour force since the labour absorption capacity of the services sector has been modest. Besides the working age population also happens to be the major savings

class in an economy and the demographic dividend could potentially have a positive feed back on household savings rate.

Factor market reforms would be essential to fully realize the gains from economic reforms. Labour laws applicable to organic industry in India are too restrictive for the exit of non-viable industries and stand in the way of reallocating factors to take advantage of new technology and changing market conditions. It is necessary to develop a regulatory framework that permits closure of non-viable units within a reasonable time frame so that unemployed resources can be efficiency utilized. As Krishna (2012) points out, restrictive labour laws have not only reduced employment prospects in organised manufacturing but also constrained its growth by adversely affecting investment and productivity.

Similarly the land market is another area which needs immediate attention. Problems with century old Land Acquisition Act have recently attracted attention due to constraints faced by industry and a new Land Acquisition Act is under consideration by the parliament. A thin land market within agriculture has also been a constraint for the sectors growth. Developing a proper lease market will require a regulatory framework that protects a land owner's property rights but incentivises the introduction of technology and investment by ensuring tenancy certainty in the medium run. A proper tenancy registration will also help tenants to claim benefits in the event of crop failures. Encouraging a contract farming system could help opening up of the retail market to FDI would help in developing supply chain and market linkages. The regulatory mechanism must ensure that both small and big players have access to the market on fair terms.

Lastly the growth process must be broad based so that benefits of growth are widespread. When the benefits accrue to a small group and large sections are left behind, social stability becomes the casualty and the growth process comes to a halt.

ST and SC population have the highest incidence of absolute poverty which implies that there is a need to reorient welfare programmes towards ST and SC population. But ironically many states are not utilising even the mandated budgetary provisions under ST and SC sub plans. The state must be an active agent in providing certain basic needs to all its citizens, particularly to those away from the mainstream. Without a new social contract towards this end, the growth process might be jeopardized. Developing a broad consensus for balancing the distributional objective with the growth objective requires innovative state craft.

CONCLUSION

In this decade India's investment rates have increased from 25% to 35% of GDP. The effect of change in the investment rate on growth rate depends on percentage changes but not on absolute changes. Thus using the square root value, increasing the investment rate from 25% to 35% implies 1.18 fold or 18% increase in per capita income

over a full transition, with a transition half life of 14 years this change in the rate of investment implies 9% increase in income level over the next 14 years or approximately 0.6% per year from 2000-2014. The 0.6% is a significant number it will only account for a small fraction of India's growth in the near future growth rate of around 6-7% per year. The neoclassical growth model suggest that each percentage point rise in the investment rate has an increasingly smaller effect on the income level and on the growth rate over a transition. Hence the recent, investment rate increase will have a smaller impact than past increase of a similar absolute magnitude. Any further increase in investment rate must play an increasingly diminishing role in India's growth and may be costly in terms of foregone consumption opportunities.

Despite the stratospheric investment rate of recent years, the picture that emerges for India is that rising productivity has been the key ingredient of economic growth. The lack of change in the capital output ratio or its inverse is not due to a lack of capital deeping but due an acceleration in the productivity growth rate. Productivity growth clearly dominates. With an investment of about 30%, a similar percentage increase in the investment rate is highly unlikely. The square root rule implies that it is unlikely to generate any significant growth benefit.

Despite the recent slow down, potential growth in India continues to be high. However even under optimistic scenario whereby India continues to grow at its peak growth rate close to 10% in 2007 and it would take India 23 years to become an upper middle income country. In order to boost the potential close to double digit and regain the momentum as in early 2000's, structural reforms must be hastened. In the short term, given that the economy faces a positive output gap, RBI should exercise caution in further liberalising the monetary policy given the limited scope for lowering interest rate, there is no substitute to structural reforms for stimulating growth rate in the Indian economy.

References

- Aghion Philippe and Howitt Peter *The Economics of Growth*, (2010) PHI Learning Pvt. Ltd., New Delhi, P. 106-108.
- Ahulwalia Montek S (2011), *Prospects and policy challenges in the 12th Plan*, 21st May, 2011 EPW, P 88-108.
- Datt Gourav and Martin Ravallion (1992), *Growth and Redistribution Component of changes in poverty measures*, *Journal of Development Economics*, P. 275-95.
- Economic Survey GOI, Ministry of Finance, 2011-12 and 2012-13.
- Faster sustainable and more inclusive growth: An approach to 12th FYP, Planning Commission, (2011), Vol. I, Downloaded from website of Planning Commission.
- India Development Report, 2012-13, edited by S. Mahendra Dev, IGIDR, Oxford Publisher, New Delhi.
- Kochhar Kalpana *et al.*, (2006), Working Paper 12023, Cambridge, MA, National Bureau of Economic Research.

- Krishna K. L. (2012), *Idiosyncratic, Industrial Development in India, Employment implications.*
- Meir M.G. and Rauch J.E. *Leading Issues in Economic Development* (2000), P-126-129.
- Mishra Prachi (2013), *Has India's Growth Story Withered ?* 13th April, 2013 EPW, P 51-59.
- Panagariya Arvind (2008), *India, The Emerging Giant*, New York, Oxford University Press.
- Rebertson Peter E. (2010), *Investment Led Growth in India: Fact or Mythology ?* 2nd Oct 2010 EPW, P. 120-134.
- Reddy Y.V. (2011), *Risk in the 12th Plan* 11th Jun 2011, EPW.
- Report of Expert Group to Review the Methodology for Estimation of Poverty*, (2009) Govt. of India, Planning Commission, November, 2009.
- Sukhadeo Thorat, Amaresh Dubey (2012), *Has Growth been socially inclusive during 1993-94-2009-10 ?* 10th March 2012, EPW, P. 43-53.
- Thirlwall A.P. *Growth And Development* (1999), Sixth Ed. 1999, P 185-188.
- Yojana Jan 2012, *Approach to 12th FYP* P 9-28.
- Virmani Arvind (2004), *India's Economics Growth, From Socialist rate of growth to Bharatiya rate of growth*, Working paper No. 122.