IJBARR
E- ISSN -2347-856X
ISSN -2348-0653

GROWTH AND DEVELOPMENT OF THE INDIAN MACROECONOMY

Uma.T*   Dr.N.Kalyanaraman**
**Research Scholar, Bharathiar University, Coimbatore.*
***Associate Professor and HOD, D.G.Vaishnav College, Chennai.*

Introduction

Economic growth can be defined as the change or expansion of an economy in quantitative terms over a period of time. Economic development, on the other hand, is a much broader concept. As per Todaro and Smith (2009:16) development is "a multidimensional process involving major changes in social structures, popular attitudes, and national institutions, as well as the acceleration of economic growth, the reduction of inequality and the eradication of poverty." Though GDP growth is considered as the backbone of economic growth of any country, a comprehensive study of other macroeconomic indicators like money supply, exchange rates and inflation rates is also required in order to assess a country's economic growth and development.

India has been a bit of a laggard in the process of economic reforms .The process of economic reforms was initiated in full earnest only in the early 1990s through a chain of reforms which were aimed at making the country more globally competitive .The new economic reforms called the Liberalization, Privatization and Globalization model (LPG) model led to the dawn of hitherto unprecedented changes making India one of the fastest growing economies in the world. (Goyal 2006).
As per data from the world bank India's average annual growth rate has been around 7% after the 1990s .Considering that India's economy hardly grew in the first half of the twentieth century and grew at a sluggish rate of around 3% post independence, this recent acceleration in growth is quite remarkable(Kohli, 2006).

Literature Review

The relationship between macroeconomic indicators and growth has been a subject of interest for researchers for many decades. Some of the earlier studies by Kormendi and Meguire (1985) and Barro (1991) present interesting and fascinating results for a variety of macroeconomic variables to explain growth. The stock market is considered to be a popular leading macroeconomic indicator of any economy. Many believe that large decreases in stock prices are reflective of a future recession, whereas large increases in stock prices suggest future economic growth. (Comincioli and Wesleyan, 1996).Many studies have used stock markets as a leading indicator in studying economic growth of countries. Billson, Brails ford and Hooper (2001) analyzed the impact of selected macroeconomic variables like money supply, inflation, industrial production, exchange rates on stock markets of twenty emerging economies. Their research pointed to a model that local factors were more relevant in determining growth and commonality in exposures across markets could not be expected. Another interesting study by Bhattacharya and Mukherjee (2002) found a causal relationship between stock prices and macro-economic factors in India. Levy Yeyati and Sturzenegger (2003) did an extensive study on the impact of exchange rates on growth of 183 developing countries .Their study showed that exchange rate regimes had a strong impact on real economic performance and that fixed exchange rates were linked to slow growth rates. Basher and Sardosky (2006) examined the impact of oil prices on the stock indices of twenty emerging economies and found strong evidence that oil price risk impacts stock price returns in emerging markets

Though the impact of macroeconomic variables on growth of developed countries has been studied extensively, the interest of researchers in developing economies like India has taken wings only over the last decade.Basu and Maertens (2007) outlined the phenomenal growth story of India from the 1950s till 2005 through a comprehensive study which shed light on the phenomenal GDP growth, imports and exports of India. The study outlined the reasons for the emergence of India as a powerful nation in the global economy. An analysis of the relationship between stock market development and economic growth for the Indian economy by Deb and Mukherjee (2008) found strong evidence of a causal flow from the stock market development to economic growth. Further studies of macroeconomic indicators and the Indian stock market by Singh (2010) concluded that though IIP, exchange rate and WPI strongly influenced the Indian stock markets, only IIP results could be used to predict the stock market movement. An evidence of a long run relationship between macroeconomic variables like exchange rates, interest rates, inflation rates and the stock markets in India was found by Pal and Mittal (2011). Aizenman and Sengupta (2013) explain that India's growth is based on the convergence of a middle ground between the three policy objectives of exchange rate stability and financial integration buffered by sizeable international reserves.

Though studies have explored the relationship between macroeconomic indicators and growth factors influencing the Indian economy, most of them have focused on a relatively limited number of macroeconomic indicators. Studies showing the impact of a broad spectrum of major macroeconomic variables on the growth of the Indian economy over the last decade are still limited in number. The advantage of studying a broader spectrum of macroeconomic indicators is that it helps to understand the interrelationship between these variables and their significance in the Indian growth story.

Objectives

The Indian growth story and the country's comparative insulation from the damaging effects of the global recession have put India firmly on the global financial map. Consequently the impact of key macroeconomic indicators influencing the country is an area that has ignited the curiosity of researchers. This is due to the crucial and significant influence exerted by key macroeconomic variables on growth patterns of countries. This paper makes an attempt at investigating the key macroeconomic indicators influencing the growth of India for the span of ten years from 2006 to 2015. It then further attempts to analyze the reasons for the changes in these macroeconomic indicators during the span of ten years. The objectives of this paper can be defined as:

- To study the growth of macroeconomic indicators of India for a span of ten years from 2006-2015
- To elucidate the analytical reasons for the changes in macroeconomic indicators for the span of ten years from 2006-2015

Hypothesis

Since the study makes an attempt to examine the growth of key macroeconomic indicators influencing the Indian economy, the hypothesis for the study can be stated as "There is no significant growth in the macroeconomic indicators of India for the span of ten years from 2006 to 2015".

Research Methodology

This study of macroeconomic variables of India is based on pure secondary data collected from websites of RBI, Bombay Stock Exchange and Data monitor for the span of 10 years from 2006 to 2015.After collecting secondary data for the adequate number of years the researcher used simple percentage method and trend analysis to examine the growth rate for the seven macroeconomic indicators, i.e., exchange rates, short term interest rates, money supply (M1), money supply (M2), gross domestic product, consumer price index and stock index values of India

Analysis and Discussion

Analysis of the data of India for the span of 10 years from 2006 to 2015 has been done using MS-Excel. Average annual values and the percentage changes have been calculated for each of the seven macroeconomic indicators. A trend analysis of the percentage change of each of the seven macroeconomic variables helps to determine the extent of growth for each indicator. This in turn helps in analyzing and understanding the reasons for the macroeconomic developments for the specified number of years. Table 1 shows the changes in the specific macroeconomic indicators for for the span of ten years from 2006-2015

Table 1

Years	USD/INR Ex rate	% change	Money supply (M1 Rs in billions)	% change	Money supply (M2,Rs in Billion)	% change	GDP(in billions of USD)	% change
2015	64.15	5.11	23378.27	10.86	23879.58	10.94	2346.81	7.27
2014	61.03	4.14	21089.03	10.59	21525.37	10.66	2187.79	7.29
2013	58.60	9.67	19070.26	9.27	19452.30	9.27	2039.21	6.90
2012	53.44	14.51	17453.13	9.14	17801.44	9.26	1907.60	5.08
2011	46.67	2.06	15991.23	7.76	16292.92	7.75	1815.35	6.64
2010	45.73	-5.53	14840.22	17.94	15121.49	18.01	1702.35	10.26
2009	48.40	11.26	12583.12	13.47	12813.28	13.48	1543.94	8.48
2008	43.51	5.21	11089.74	16.93	11291.01	16.76	1423.25	3.89
2007	41.35	-8.74	9484.08	15.89	9670.47	15.76	1369.95	9.80
2006	45.31		8183.82		8353.92		1247.66	
Years	**Interest rate (%)**	**% change**	**CPI**	**% change**	**BSE Sense**	**% change**		
2015	7.83	-11.23	147.46	5.06	27348.65	10.89		
2014	8.82	-2.50	140.36	6.35	24662.42	25.15		
2013	9.04	-2.11	131.97	10.91	19706.79	11.70		
2012	9.24	3.43	119.00	9.31	17641.98	-0.81		
2011	8.93	54.44	108.86	8.86	17786.04	-2.21		
2010	5.78	25.95	100.00	11.99	18187.59	33.68		
2009	4.59	-50.50	89.29	10.88	13605.19	-5.64		

2008	9.28	11.25	80.53	8.35	14418.65	-7.28		
2007	8.34	18.31	74.32	6.37	15551.55	35.88		
2006	7.05		69.87		11445.14			

Exchange rates
The USD/INR exchange rate has shown a significant depreciation over the last ten years. The above table shows that the USD/INR exchange rate which had an annual average of 1USD= 45.31 INR in 2006 fell to 64.15 by 2015.The overall rate of depreciation is around 40% from 2006 to 2015 showing an annual average depreciation rate of around 4%. The exchange rate table shows a continuous weakening of the rupee since 2006 except for the years 2007 and 2010. From 2011, the Indian rupee has gone into a free fall falling by 25% over two years. Though the rupee continued to depreciate after 2013, the rate of change was not as steep or as alarming.

Money Supply
The money supply of India has increased by a whopping 185% over the last ten years. The average annual increase is around 12%.The increase in both M1 and M2 money supply has been around the same level. The increase has been especially high at 16% per annum from 2006 to 2010. The maximum change has occurred during the year 2009-10.The money supply has increased by a massive 18% during this period. From 2011, the average annual percentage change in M1 and M2 money supply has been around 10%.

Gross Domestic Product
The GDP of India has shown a tremendous increase over the last ten years. For this study, the real value of GDP has been considered. The real value of GDP of India has increased by around 88% from 2006 to 2015.The average annual growth rate has been around 7%.India has shown a steady increase in GDP throughout the last decade with the exception of 2008.This was due to the effect of the global financial recession. India has been one of the few countries to have maintained a consistent growth rate of more than 6% for the last five years.

Interest Rates
The short term Mibor rates have not changed significantly over the last ten years. The interest rates have drifted between 7% to 9% over the last ten years. During the period from 2009 to 2010 the interest have shown a dramatic drop touching a low of 4.5%.Other than these two years, the interest rates have mostly remained between 7% to 9% per annum.Post 2012,interest rates have steadily declined from a high of 9% touching 7.83% by the end of 2015.

Consumer Price Index
The colossal increase in India’s inflation is visible from the Table 1.The consumer price index which is an estimation of price changes in a basket of goods and services, has been taken as a measure of the inflation of the economy. The CPI has more than doubled during the last ten years. The increase in inflation has been around 8.6% per annum.The rate of inflation has been especially high from 2009 to 2013 touching double digits during some years. Post 2013, the inflation has reduced considerably and has been around 5% to 6% for the last two years.

BSE Sensex
The oldest index in the country, the BSE Sense, has increased by a whopping 138% over the last ten years. On an average the increase has been around 11% per annum.The movement of the Sensex has been rather unpredictable with many ups and downs over the last ten years. The years 2007, 2010 and 2014 have shown a phenomenal increase of more than 25% per annum while 2008, 2009, 2011 and 2012 have shown a drop. Starting from 2013, the Sensex has shown a steady increase crossing 30,000 points in 2015.

Findings
The above results indicate a significant growth in all the macroeconomic indicators of India except interest rates for the period between 2006 to 2015. The study shows that the major macroeconomic indicators, namely, exchange rates, consumer price index, money supply (M1 and M2), GDP and stock index values of BSE Sensex have all shown a considerable increase for the span of 10 years from 2006 to 2015.Therefore the null hypothesis can be rejected. Changes in each of these macroeconomic indicators have a significant and compelling impact on the growth and development of the Indian economy. The reasons for the growth in each macroeconomic variable can be attributed to a combination of factors which are interrelated and often, interdependent.

Exchange rates
The rupee has been on a continuous downslide since 2006. The initial appreciation in the value of the rupee in 2006 was primarily due to a surge of foreign exchange inflows in India, especially with respect to US dollars. However the global

financial crisis of 2008 caused widespread panic across markets worldwide. The most immediate effect of this global financial crisis on India was an out flow of foreign institutional investment from the equity market. This withdrawal by the FIIs led to a steep depreciation of the rupee. (Bhatt, 2011). Increasing crude oil prices lead to a further depreciation of the rupee vis a vis the US dollar(Ghosh,2011).A widening current account deficit ,weak capital inflows ,reduced domestic savings, government policy inaction and a spiraling inflation rate added to India's woes.(Goyal,2014) .The RBI shifted to currency intervention to manage the rupee decline releasing further foreign exchange into the market . Key policy rates were reduced and foreign exchange liquidity was eased by loosening restrictions on external commercial borrowings (ECBs) and short-term trade credits. (Islam and Rajan, 2011). As a consequence, the rupee which was on a free fall started stabilizing which partially restored investor confidence in the currency. The single-party majority after the 2014 elections set the foundation for a stable central government which significantly reduced downside risks to the economy (Majumdar, 2014).It played a major role in further stabilizing the currency. The falling prices of crude oil from 2014 coupled with increase in GDP growth also gave a huge fillip to the Indian economy and partly helped to apply the brakes on the depreciation of the rupee.

Money supply

The money supply of India has increased significantly over the last decade. An increase in the money supply leads to an increase in the amount of money that is held .This would lead to increase in aggregate demand .Research on the effects of money supply on the economy by Cover (1992) shows that the there could be an increase in the growth rate of real output by reducing the standard deviation of unexpected changes in the money supply. In the long run money supply and economic growth boost each other. (Lin and Yunhui, 2005). The increase in money supply in India till 2010 was primarily with the intention of boosting economic growth and demand. However, as pointed out by Chimobi and Uche (2010) in the long -run, money supply determines prices. This was seconded by Hosseini, Ahmad and Lai (2011), who pointed out that an increase in money supply could also result in increased inflation, which in turn may trigger an increase in interest rate and dampen stock prices. The Indian economy faced the same problem when increases in money supply soon lead to a burgeoning inflation rate which in turn led to a shrinking growth rate. Post 2010, the increase in money supply was controlled with a view to balance growth and inflation in a better manner. The enduring challenge for any developing economy is to increase money supply and manage the tightrope walk between increasing growth and curtailing inflation.

Gross Domestic Product

The gross domestic product is the value of all goods and services produced within a country. It is a broad measure of the country's economic activity. India's GDP has shown a steady increase of around 7% over the last decade. As per IMF projections, this growth is expected to continue into 2017**.** India's GDP growth and exports have been driven by growth in domestic output, growth of global economy and changes in exchange rate (Mallik, 2005). GDP has also been boosted by increased private consumption, higher real incomes and the falling oil prices of late. The focus on India's consistent GDP growth was especially evident when after the global financial recession, India's growth rate bounced back to over 6% while the global economy recovered at a sluggish rate. The service sector share accounts for a huge share in India's GDP (Balakrishnan and Parameshwaran, 2006) and it continues to form the cornerstone of India's GDP. However, India will need to broaden its horizons beyond services. A turnaround in the manufacturing sector will likely help generate growth in GDP and employment and help the country sustain its growth rate. (Majumdar, 2014)

Interest Rates

The MIBOR interest rates represent the average interbank borrowing rate in Mumbai. It is calculated as the weighted average of lending of a group of banks. Nath (2007) stated that the most widely used benchmark rate in India is the MIBOR rate. Lower interest rates decreases the cost of capital,stimualtes investment demand ,causes the currency to depreciate and leads to a flow of funds to other assets such as equity.(Islam and Rajan,2011)..Higher interest rates encourage savings and reduce consumption which automatically controls inflation. India has strived to maintain a balanced interest rate which helps to boost savings and control inflation while also encouraging growth. Today, the only effective policy tool that monetary authorities have is the short-term interest rate. Complementing interest rate policy with a new financial sector regulatory framework is necessary to stabilize financial markets and stimulate growth. (Palley, 2013).

Consumer Price Index (Inflation)

The steep and soaring inflation of the Indian economy has been one of the primary areas of concern for the country. Inflation control has always the focal point for any developing country in order to attain sustained growth. Important inflation generating impulses in developing countries are weather failures that lead to supply shortfalls, fiscal and monetary policies that result in monetary expansion, external factors that push domestic costs and prices leading to balance of payments problems.(Krishnamurty,Saibaba and Kazmi,1984).Some of the additional reasons for a high inflation in India include a depreciating exchange rate and a fluctuating oil prices.However,a major challenge plaguing India consistently has been

IJBARR
E- ISSN -2347-856X
ISSN -2348-0653

India's stubbornly high food inflation. (Patra and Ray, 2010; Nair and Eapen, 2012).Between 2009 to 2013 food inflation has shown a monstrous 17% increase. Under these circumstances, the classic dilemma facing policy authorities in India is whether to act against inflation and risk undermining the recovery, or accommodate the resumption of growth and risk inflationary pressures getting embedded in expectations. (Patra and Ray, 2010)

BSE Sensex

Stock markets are considered as one of the best leading indicators of economic growth. Research has shown that the Indian stock market has become larger and more liquid in the post liberalization period (Biswal and Kamiah, 2001).They also attract more foreign investment due to the country's high growth rates and the open nature of its markets. However, the inflow of FII and FDI significantly influences stock market fluctuations. This was evidenced when the BSE Sensex witnessed a free fall from early 2008 owing largely to massive outflows of foreign institutional investors funds from Indian equity market, (Islam and Rajan,2011).2010 saw the Sensex make a recovery when it became apparent that India had weathered the crisis better than other developing countries. But a depreciating rupee and soaring inflation eroded the gains of investors in the markets leading to a drop in stock markets again after 2011..The hysteria surrounding the elections saw the Mumbai's benchmark Sensex index rise 15% between the announcement of the elections in early March and the declaration of Modi's victory on May 16, 2014.(Svobodova and Fernandes,2014) The establishment of a strong government at the centre significantly reduced political risks and induced stable policies which restored investor faith in the country helping the stock markets continue on their upswing.

Conclusion:

India's stellar growth rate over the last five years has made the world sit up and take notice. This growth rate is even more spectacular considering that the global economy is still worming its way out of a financial recession. India currently has a lot of things going its way. A strong government with a full majority and a tight lid on inflation has given stability to the country's policies ushering in reforms that were stuck in the mud. A robust growth rate of over 7% propelled by strong domestic consumption, low crude prices and the world's largest youth population augurs well for India. However, in order to sustain this miraculous growth rate, the country has to address some major issues at the earliest. The rampant epidemic of corruption existing in the government bureaucracy has to be eradicated and red tapism has to be cut down. Increased focus on investment in infrastructure, improved productivity from agriculture and inclusive development by upliftment of the rural sections is imperative to the country's sustained growth in the coming years. India is currently on the brink of a major turnaround. If the country's major bottlenecks are addressed and her strengths are leveraged in the right manner, India can become a major global powerhouse over the next decade.

References

1. Aizenman, J., & Sengupta, R. (2013). Financial trilemma in China and a comparative analysis with India. *Pacific Economic Review*, *18*(2), 123-146.
2. Balakrishnan, P. and Parameswaran M. (2006). 'Identifying Growth Regimes in India', presented at the South and South East Asian Econometric Society, December 19, Chennai, India
3. Barro, R. J. (1989). Economic growth in a cross section of countries (No. w3120). National Bureau of Economic Research.
4. Basher, S. A., & Sadorsky, P. (2006). Oil price risk and emerging stock markets. *Global Finance Journal*, *17*(2), 224-251.
5. Basu, K., & Maertens, A. (2007). The pattern and causes of economic growth in India. *Oxford Review of Economic Policy*, *23*(2), 143-167.
6. Bhatt, R. K. (2011). Recent global recession and Indian economy: an analysis. *International Journal of Trade, Economics and Finance*, *2*(3), 212.
7. Bhattacharya, B., & Mookherjee, J. (2001). Causal relationship between and exchange rate, foreign exchange reserves, value of trade balance and stock market: case study of India. *Department of Economics. Jadavpur University, Kolkata, India*.
8. Bilson, C. M., Brailsford, T. J., & Hooper, V. J. (2001). Selecting macroeconomic variables as explanatory factors of emerging stock market returns. *Pacific-Basin Finance Journal*, *9*(4), 401-426.
9. Biswal, P. C., & Kamaiah, B. (2001). Stock Market Development in India: Is There any Trend Break? *Economic and Political Weekly*, 377-384.
10. Chimobi, O. P. and Uche, U. C. (2010): "Money, Price and Output: A Causality Test for Nigeria", American Journal of Scientific Research, Vol.8, pp.78-87
11. Comincioli, B. (1996). The stock market as a leading indicator: An application of granger causality. *University Avenue Undergraduate Journal of Economics*, *1*(1), 1.

12. Cover, J. P. (1992). Asymmetric effects of positive and negative money-supply shocks. *The Quarterly Journal of Economics*, 1261-1282.
13. Deb, S. G., & Mukherjee, J. (2008). Does stock market development cause economic growth? A time series analysis for Indian economy. *International Research Journal of Finance and Economics*, *21*(3), 142-149.
14. Debabrata Patra, M., & Ray, P. (2010). Inflation expectations and monetary policy in India: An empirical exploration. *IMF Working Papers*, 1-26.
15. Ghosh, S. (2011). Examining crude oil price–Exchange rate nexus for India during the period of extreme oil price volatility. *Applied Energy*, *88*(5), 1886-1889.
16. Goyal, K. A. (2006). Impact of Globalization on Developing Countries (with special reference to India). *International Research Journal of Finance and Economics*, *5*, 166-171.
17. Goyal, A. (2014). External shocks.
18. Hosseini, S. M., Ahmad, Z., & Lai, Y. W. (2011). The role of macroeconomic variables on stock market index in China and India. *International Journal of Economics and Finance*, *3*(6), 233
19. Islam, M. S., & Rajan, R. S. (2011). Bank lending channel of monetary policy transmission: India and the global financial crisis. *International Journal of Economics and Business Research*, *3*(5), 557-575.
20. Kohli, A. (2006). Politics of economic growth in India, 1980-2005: Part I: The 1980s. *Economic and Political Weekly*, 1251-1259.
21. Kormendi, Roger and Meguire, Philip, "Macro- economic Determinants of Growth: Cross-Country Evidence," Journal of Monetary Economics, September 1985, 16, 141-63.
22. Krishnamurty, K., Saibaba, P., & Kazmi, N. A. (1984). Inflation and growth: a model for India. *Indian Economic Review*, *19*(1), 16-111.
23. Levy-Yeyati, E., & Sturzenegger, F. (2003). To float or to fix: evidence on the impact of exchange rate regimes on growth. *The American Economic Review*, *93*(4), 1173-1193.
24. Lin, L., & Yunhui, J. (2005). Money Supply, Inflation and Economic Growth of China——The Experimental Analysis Based on Cointegration Analysis [J].*Statistical Research*, *3*, 002.
25. Majumdar, R.(2014) A new wave of policy changes in “Modi-fied” India. *Global Economic Outlook*, 24.
26. Mallik, J. K. (2005). India's exports: Policy defeating exchange rate arithmetic. *Economic and Political Weekly*, 5486-5496.
27. Monaj Kumar Panda, D., Chaudhury, S. K., & Das, S. K. (2014). Correlation Between Fdi And Indian Stock Market: A Study.*International Journal Of Research In Management & Social Science*, 95
28. Nair, S. R., & Eapen, L. M. (2012). Food price inflation in India (2008-2010).*Economic and Political Weekly*, *May*, *19*.
29. Nath, G. C. (2007) CCIL MIBID/MIBOR - Clean benchmark reference rates for Indian market. Clearing Corporation of India
30. Pal, K., & Mittal, R. (2011). Impact of macroeconomic indicators on Indian capital markets. *The Journal of Risk Finance*, *12*(2), 84-97.
31. Palley, T. I. (2013). Financialization: what it is and why it matters. In*Financialization* (pp. 17-40). Palgrave Macmillan UK.
32. Singh, D. (2010). Causal relationship between macro-economic variables and stock market: a case study for India. *Pakistan journal of social sciences*,*30*(2), 263-274.
33. Svobodová, V. H., & Fernandes, O. (2014). New Focus on India: A CEE perspective for Investment, Business and Trade Development. *Studia Commercialia Bratislavensia*, *7*(27), 417-425.
34. Todaro, M. P. & Smith, S. C. (2009). Economic development. England: Pearson Education Limited.