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Growth of Indian Service Sector Over Cyclical Variations

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The structural transformations and reforms of 1991 have turned India as fastest growing economy of world. Growth of service sector is broad-based. The paper observes the economic growth over cyclical variations highlighting the service sector for the period 1991-2012. Using exponential smoothing, trend components of real GDP are estimated. The end result illustrate that service sector is subject to less cyclical uncertainty as compared to other sectors. The trend depicts that economy had undergone one complete cycle during the period of study. So, the paper put forward that the growth of service sector of India is quite earlier as compared to agriculture and manufacturing sector.

Keywords: Cyclical Variations, Growth Rate, Service Sector, Structural Transformation

Introduction

India has nice potential in a very form of services. The massive range of persons, professionals and delicate personnel operating abroad are indicative of India's potential in many fields. With correct coming up with development, India improve service trade to a good extent. The expansion of Indian service sector not solely confined to domestic market however is additionally mirrored on its trade front. India's service sector has matured significantly throughout the previous few years and has globally recognized from its high growth and development. Services include the five sub sectors on trade, hotels and restaurant; transport, storage and communications; finance, insurance, real estate and business services; public administration & defence, and social & personal services.

India may be a soul to the final agreement on change services (WTO, 1995) and is actively engaged in seeking full opportunities for complimentary movement of service across borders. Keeping in sight, the growing dimensions with structural shift, government of India has given special standing to the service sector in its export- import policy 2002-2007 proclaimed on 31st March, 2002. It enclosed all the 161 tradable services coated below the pinnacle services wherever payment has received from interchange. The FDI approval has been increasing and accounts for 30 percentage of the full FDI approvals to the country. In recent years, the excess within the invisible things comprising of various services has not solely tired deficit in balance of trade however additionally has created a positive balance on accounting in India's balance of payment.

The growth rate of service sector is above average from 1996. The slowing down of growth in the Indian economy has raised significant interest in business cycle indicators. Cyclical fluctuations in the Indian economy can be measured by GDP as NBER declared GDP as a most essential indicator to measure cyclical variations and to compare cyclical movements (Zarnowitz & Ozyildirim, 2002; NBER, 2011).The purpose of an early warning indicator is to detect economic recessions as quickly as possible (Patnaik and Sharma, 2002). So GDP provides a base to measure the effects over the business cycle. In post reform period, service sector has accelerated its pace, although a prominent shift in the sectoral composition was commenced earlier years. The paper attempts to explain the premature dominance of service sector over cyclical variations

Review of Literature

The paper put forward that the observed shift towards services in India can be understood with references to classical explanation of structural change in terms of productivity changes (Nadkarni, 2012). Rising urbanization, privatization and demand for services bring boom in Indian service sector. This sector continues to be a star performer and by contributing 59 per cent of GDP, it is enjoying first place among all sectors in Indian economy. In employment providing, this sector is occupying second place, next only to agriculture. Unlike the unskilled or semi-skilled nature of jobs in the agriculture sector, tertiary sector provides myriad job opportunities ranging from highly skilled to unskilled in a variety of activities. Its respectable share in FDI inflows as well as in total exports makes it the engine of economic growth (Ahulawalia, 2002; Garg & Walia, 2013).

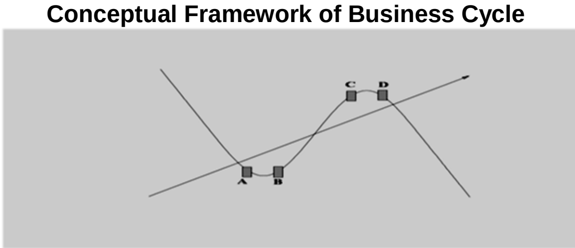
Services as a category, gained importance during the first quarter of the twentieth century and their role in the process of economic development were largely captured by the 'stage theories of development' (Bosworth, Collins & Virmani, 2007; Garg & Walia, 2013). Firstly, Fisher classified the economy into primary, secondary and tertiary sector. Later on Kuznets introduced the term 'services' instead of tertiary, there by bringing the sector into economic discussion (Kuznets, 1972).

The present paper studies the cyclical fluctuations of economic growth in India highlighting upon the service sector for the period 1991 to 2012. Business cycles are a sort of fluctuation found within the economic activity of states that organize their work chiefly in business enterprises. Burns (1946) defined business cycle as – "A cycle consists of expansions occurring at about the same time in many economic activities, followed by similarly general recessions, contractions, and revivals which merge into the expansion phase of the next cycle; this sequence of changes is recurrent but not periodic; in duration business cycles vary from more than one year to ten or twelve years; they are not divisible into shorter cycles of similar character with amplitudes approximating their own". These possible variations of economy are derived by knowing the character and origin of shocks and response of economy. In fact, the variation may be accord of cycles in several activities, that have a bent to peak and trough round the same time (Zarnowitz & Moore, 1986; Niemira and Klein, 1994).

The term variation refers to the recurrent fluctuations between periods of vigorous economic activity and periods of economic stagnation. There are 3 main kinds of business cycle: the classical cycle, the expansion cycle, and growth rate cycle (NBER, 2011; Yamasawa, 2008). The classical cycle refers to perennial fluctuations around a precise steady state and makes no assumption of economic process. An economic indicator consistent with a classical cycle, all-time low price of the indicator indicates a trough within the cycle (shown by A in Figure 1), whereas the very best price marks a peak (point D).

The growth cycle, meanwhile, refers to recurrent fluctuations around a growth trend. This methodology defines the fluctuation supported however so much a selected economic indicator strays from the trend. With this methodology, the point furthest from the trend on the low facet represents a trough (point B), and also the point furthest from the trend on the high facet represents a peak (point C). The expansion rate cycle assumes that the expansion rate of an economic indicator is circular.

Figure 1
Conceptual Framework of Business Cycle



Furthermore Zarnowitz (1992) has explained that the cyclical variations are the major part of business cycle. The National Bureau of Economic Research, in its comprehensive studies of long time series for the United States, Britain, France, and Germany documented the timing and amplitudes of recurrent non seasonal fluctuations in numerous indexes and aggregates covering a variety of economic processes. NBER dating committee (2003) defines the recession as a significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in real GDP, real income, employment, industrial production, and wholesale-retail sales. A recession begins just after the economy reaches a peak of activity and ends as the economy reaches its trough. Between trough and peak, the economy is in an expansion. Expansion is the normal state of the economy, most recessions are brief and they have been rare in recent decades (Patnaik & Sharma, 2002; Dua & Banerji, 1999).

To examine these repetitive sequences, the indicator approach consists essentially of classifying economic indicators into leading, coincident and lagging categories and then combining the relevant components into corresponding composite indexes (Maroto-Sánchez, 2011). The coincident index comprising of indicators that measure current economic performance is then used to represent the level of current economic activity. Examples of such indicators include measures of output, income, employment, and sales. These help to date peaks and troughs of business cycles. The leading index, on the other hand, combines series that tend to lead at business cycle turns and provides a summary measure of what can be expected in the near future. Leading indicators generally represent commitments made with respect to future activity or are factors that influence such commitments. Examples are placement of new orders, intentions to build, and changes in profitability. The lagging index, a composite of indicators that reach their turning points after the peaks and troughs of the coincident indicators. It helps to clarify and confirm the underlying pattern of economic activity identified with the help of coincident and leading indexes. For instance, the levels of stocks, installment credit outstanding, and interest rates depict previous changes in the economy (Moore, 1982).

Dua and Banerji (2001) with the assistance of leading index approach instructed that the new Indian economy has additional cyclic options in common with alternative market economies. The study reveals that it had been potential to spot leading indicators that were sturdy enough to figure in an exceedingly style of market economies. Gorden(1986) conclude that varied structural, institutional and policy changes contributed to the evolution of fluctuation and therefore the cyclic processes compressed relying upon the future trends in growth. Wachter (1980) focuses on the degree of cyclical sensitivity of the quickest growing element of the services manufacturing sector. The study has shown that the expansion of employment within the services sector has continuing even throughout economic downturn and found that a services-dominated economy promotes stability over the fluctuation.

Moreover Fuchs (1968) has been prospect the soundness of industry over the fluctuations. The tendency for employment and earning is a smaller amount, sensitive to fluctuation in commission trade than in product manufacturing trade. Vidya &Acharya (2008) has analysed the exposure of India's gross domestic product emphasing the service sector to cyclic fluctuations and check out to explore stability and property over future. The paper demonstrated that service sector in India has fully grown quicker than agriculture and trade. The remaining part of paper is organized as follow. Section 2 encompasses the objectives to examine the growth of GDP in service sector. Next section considers the research methodology for the study. Section 4 discusses the growth of service industry and extract cyclical pattern and last section provides the findings pertaining to sectoral changes emphasing service industry.

Objectives of Study

- To examine the growth of GDP in service sector.
- To decompose the GDP and extract cyclical pattern on the basis of degree and timing of fluctuation.

Research Methodology

In order to fulfill the above objectives, annual data from 1991 to 2012 of GDP and it sub-sectors have been collected from the Central Statistical Organization of India.

At first, decompose GDP into cyclical and trend components. This is done by applying the most widespread practice of decomposing i.e. Exponential smoothing. Exponential smoothing is a smoothing method which is used to obtain a smooth estimate of the long-term trend component of a series. It has an advantage over simple de-trending procedure based on linear trend that is a time varying method and allows the trend to follow a stochastic process. In the light of available data, and to better examine the service industry growth cycle following propositions are constructed.

Proposition 1*- Service industry reacts in different ways to the business cycle fluctuation of the Indian economy (degree and timing of its fluctuation).*

Proposition 2 *-cyclical fluctuations of the growth of the service industry can be projected by measuring and analyzing series of economic indicator (GDP)*

Discussion

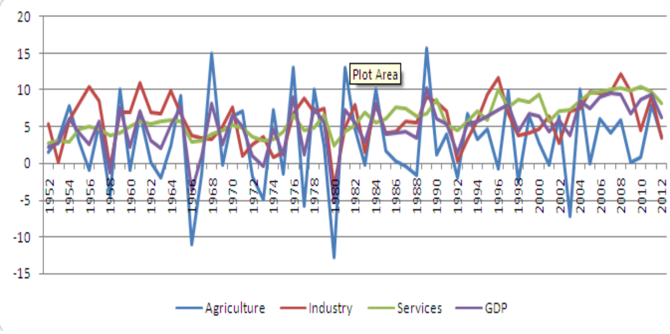
The service sector contributes 63 percent concerning the world's value. Developed economies are dominated by services over 65 percent of their value and generate around same percent of employment. The structural changes in Indian economy are often determined through the sectoral contribution of three sectors; agriculture, trade and services to the value. Table 1 provides the sectoral distribution of value in share throughout the amount of 1991-2013.

The table shows the sectoral shares of total GDP between 1990–2000, 2001-2010 and 2011-13, highlighting the change in sectoral composition of India's GDP. The agriculture sector's share of the total GDP decreased from 1991 to 1992 (-2 percent) to 17 percent in 2008–09, and the industrial sector's share also to 18.5 percent in 2008–09. Meanwhile, the services sector's share increased substantially to 64.5 percent in 2008–09.

During the global economic crisis, the services sector's share in real GDP increased from 63 percent in 2007–08 to 64.5 percent in 2008–09, while that of the agricultural and industrial sectors decreased. The services sector experienced the smallest decline in growth rate compared to the other two sectors. The growth rate of the services sector fell from 10.3 percent in 2007–08 to 9.8 percent in 2008–09, a decline of 1.5 percent, compared to declines of 3.3 and 4.7 percent in the agricultural and industrial sectors.

The table 1 shows the growth rate of the various services within the services sector. The figure 2 shows that the maximum contribution to GDP growth rate in 2007–08, which was 6.7 percent, came from the domestic trade sector (retail and wholesale), which contributed 1.42 percentage

Figure 2
Sectoral Contribution of GDP



Source – CMIE database

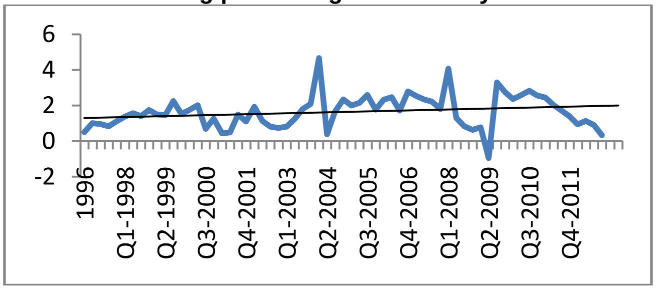
out of the 6.7 percentage growth. This was followed by communication services (which include telecommunication and software services) and banking and insurance services, which contributed 1.25 and 1.03 percent, respectively. Construction services, other services, and real estate services contributed 0.72, 0.68, and 0.65 percentage, respectively. These were followed by transport and public administration and defense services. The contribution of hotels & restaurants and railways to services growth was less than 0.2 percent. Thus, the emergence of service sector as the major contributor to the expansion of Indian economy deserves special mention. The sector's share in gross domestic product was a lot of below five until 1980s; concomitantly, services gained a lot of strength throughout 1991-2010. 'Advances in data technology, easing of the telecommunications sector and accessibility of practiced labor have permissible Asian nation to reap blessings through economic process of some services' (Mohan, 2006). A comparison of the services performance of the top 15 countries in the eleven-year period from 2001 to 2011 shows that the increase in share of services in GDP is the highest for India (8.1 percentage) followed by Spain. The CAGR of the services sector GDP at 10 per cent for the period 2004-5 to 2011-12 has been higher than the 8.5 per cent CAGR of overall GDP during the same period. However in 2011-12 and 2012-13, there has also been a deceleration in growth rate of services sector at 8.2 per cent and 6.6 percent respectively. Among the major broad categories of services, financing, insurance, real estate, and business services, which continued to grow robustly both in 2010-11 and 2011-12 decelerated to 8.6 percent in 2012-13. While in 2011-12 growth in trade, hotels, and restaurants and transport, storage, and communication slowed down to 6.2 per cent and 8.4 per cent respectively, in 2012-13 trade, hotels, and restaurants and transport, storage, and communication combined grew by an estimated 5.2 percent. Once scrutiny industrial growth to agriculture, despite the fact that industrial rate did truthful higher than agriculture, it are often seen that the world is additionally volatile. During this state of affairs, thus, it are often inferred that the service sector is relatively less volatile and a lot of consistent within the growth path over years. Therefore, it is often finished that the soundness of the service sector guarantees a positive growth within the future. So the study agrees that

***Proposition 1**- Service industry reacts in different ways to the business cycle fluctuation of the Indian economy (degree and timing of its fluctuation).*

To get a clearer image of the dynamic pattern of economic process and emergence of service sector, next section proceeds with the empirical analysis. The study tends to dissect the value and its major sub aggregates into long trend, alternate movements and irregular movements (shocks). The turning points within the trade cycle are unit dates that mark once the particular level of economic activity reached a peak or trough. Varieties of ways are developed to spot cycles and turning points. These vary in their degrees of technical sophistication. The main focus of those ways is to forecast the start of a recession or growth within the economy.

The temporal arrangement of recessions and expansions of Indian business cycles is decided on the premise of a careful thought of the accord of alternate co-movements within the broad measures of output, income, employment and domestic trade that outline the cycle. An outline combination of those coincident indicators, viz., variables that move in wheel with mixture economic activity, is named the Coincident Index, whose alternate upswings and downswings usually correspond to periods of growth and recession severally.

Figure 3
Turning points of growth rate cycle

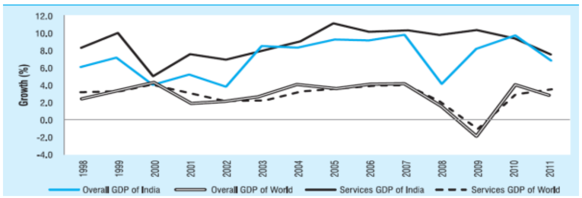


Source- OECD Statistics

Table 2 reports the business cycle chronology for the Indian economy since the 1990s and gives the dating of peaks and troughs as well as the duration of recessions and expansions. The objective is to form the industry cycle. The cycle is a time series representing the total activity of the Indian economy taking GDP for measurement. Figure 3 portrays the cycle as measured by GDP of the economy. The identified and dated peaks and troughs of cycle are also plotted in Table 2. The cycle covered a twenty-one year period (from 1991 to 2012). During this period the economy of India demonstrated two cycles (peak to peak or trough to trough). The turning points are analyzed in Table 2. The Indian economy reached at peak in 1997, 2004, 2008 and 2010 and at trough in 1996, 2001 and 2009. Overall, the mean duration of the cycle was 5.6 years, calculated trough to trough and 4 years calculated by peak to peak. The mean duration for the expansion was about 2 years and for the contraction was about quarterly (.25). In relation to the service sector, cycle is steady, although another sectors experience slowdown followed by trough.

The growth story overall and services of world and India in the 2000s began from almost the same level of around 4-5 per cent in 2000. But over the years, India's overall services

Figure 4
Services GDP of India and World



Source- Economic Survey of India 2012-13

growth rates have outpaced those of the world. Interestingly, unlike world services growth, which has been moving in tandem with its overall growth with mild see-saw movements over the years, India's services growth has been consistently above its overall growth in the last decade except for 2003 (when the former was marginally lower than the latter). Thus, for more than a decade, this sector has been pulling up the growth of the Indian economy with a great amount of stability (Ministry of Finance, 2013). Service sector, not at all, caught a negative trend and move stealthily above the line. That's why study proposes that

Proposition 2 *- Cyclical fluctuations of the growth of the service industry can be projected by measuring and analyzing series of economic indicator (GDP).*

Findings

The paper examines the growth of India's GDP accenting the service sector to alternate fluctuations and conjointly tries to explore the soundness and property over future. It shows that service sector in India has adult quicker than agriculture and trade. A comparative analysis of stability of the world with the remainder reveals the long amount of sustained growth path from 1991-2013, that emphasizes the consistency of the world. Whereas, agriculture and trade appear to be extremely volatile and there's a pointy decline within the volatility of India's real GDP. Hence, the decline within the GDP growth volatility appears to reflect the macro-economic stability of the country. Further, the results conjointly show that the economy has undergone one complete trade cycle throughout the amount of study. Compared to the semi permanent trend and shocks within the economy, business cycle might project some necessary dimensions of the study. With relevancy services, the cycle was additional consistent than the remainder within the initial cycle and therefore all the on top of facts motivate that service sector might catch up in India and its growth was found to be stable within the amount of study.

Limitations And Future Research

The study has limited to a short period from 1991 to 2012. It can be enlarged by considering years before structural transformation as well. There could be excellent comparison between the growth prospectus of service sector for the period of pre reform and post reform. A single adequate measure of economic activity is used to date recessions. Perhaps the most popular rule of thumb designates a recession as at least two successive quarters of decline in the gross domestic product.

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Annexure

Table 1 Growth prospectus of Indian Economy

Year	Agriculture	Industry	Services	GDP
1991	4	7.1	5.2	5.3
1992	-2	0.3	4.6	1.4
1993	6.7	3.3	5.7	5.4
1994	3.3	5.8	7.2	5.7
1995	4.7	9.3	5.9	6.4
1996	-0.7	11.6	10.1	7.3
1997	9.9	6.7	7.6	8
1998	-2.6	3.7	8.8	4.3
1999	6.3	4.1	8.3	6.7
2000	2.7	4.6	9.5	6.4
2001	-0.2	6.4	5.7	4.4
2002	6.3	2.7	7.2	5.8
2003	-7.2	7.1	7.4	3.8
2004	10	7.4	8.5	8.5
2005	0	9.8	9.6	7.5
2006	6	9.6	9.8	9
2007	4.16	9.72	10.06	9.57
2008	5.8	12.17	10.27	9.32
2009	0.09	9.67	9.98	6.72
2010	0.81	4.44	10.5	8.59
2011	7.94	9.16	9.75	9.32
2012	3.65	3.49	8.2	6.21
2013	1.91	2.10	7.10	4.96

Source- Ministry of Finance, India

Table 2 Growth rate Cycle chronology for India

Trough	Low to Low	Peak	High to High	Slowdowns (P-T)	Speedups (T-P)
1991		**1992**			
1996	**5**	**1997**	**5**	**0**	**5**
2001	**4**	**2004**	**7**	**3**	**1**
2009	**8**	**2008**	**4**	**-4**	**4**
		2010	**2**	**2**	**-2**
Mean	**5.6**		**4**	**0.25**	**2**

Source- OECD Statistics