

Service Sector Impact on Economic Growth of Bihar: An Econometric Investigation

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Abstract

The objective of this study is to examine the service sector impacts on economic growth of Bihar, since it plays an important role in contributing in Bihar's GSDP. At the all India Level, services share has increased at a greater rate than industry after 2003-05 while in Bihar, services through have easily increased at a greater rate than agriculture. The economy of Bihar is largely service oriented, but it also has a significant agricultural base. This study discusses the nature of growth of services in Bihar and compare with the overall India level. This study also look into the sectoral contribution of services in Bihar and other important feature of the services led growth in the state. India has experience rapid change in the growth of service sector since 1990-91, to become the economy's leading sector, during the same period services in Bihar have too up grown. The study also find that there are variations in growth and performance of different sub-sectors of services. While the main contributors to services growth in India are transportation, trade, hotel and communication, the main contributors in Bihar are hotels, trades, and restaurants. After the economic reforms of the 1990s, the share of all the services subsectors in GDP has increased. The share of financing, trade and transport sectors in total services sector has increased while that of community, social and personal services has declined.

Keywords: Service Sector; Gross State Domestic Product (GSDP); Bihar

Introduction

India is a developing country, and its growth is depending upon the service sector at the present era. In other word we can say that Indian economy is services led growth. According to the development economics, development is a three stage process of any economy. There is primary sector (agriculture sector), secondary sector (industrial sector), and tertiary sector (service sector), if these three sector are developed in a sequencing form, so that economy is known as the matured or developed economy, because the developed nation has

followed the same trend of growth. But in context of India there is only two sector growth, because after the agriculture, service sector growth is higher than the industrial sector, this sector is accelerated during the liberalisation phase (after 1980). This service sector growth process is common in all the state but there determinant and nature is different.⁶

Above mentioned the growth trend for Indian economy is same for the Bihar's economy, because in Bihar the contribution by the Industries is stagnant and its rate of growth also. The contribution of services sector in Bihar GDP is higher than the other sector which is 58.8 per cent where the other



sector's contribution are primary 22.0 per cent and, secondary 19.2 per cent (2014-15) and its growth rate is also higher among the state which is 17.3 per cent (2013-14) according to the Economic Survey of India¹¹.

Service sector:

Those who are provided the services range from president to sweeper, and sophisticated IT or BPO sector to a simple vegetable street vender or barber all are under the service sector.

There are four types of service employment:-

1. Personal services are those services which are for consumers own purposes, like - entertainment, repairs, eating and drinking.
2. Social services are those services which are for society or social welfare, like - medical, education, government.
3. Producer services are those services which are related to banking legal services, communication, accounting, and other business services.
4. Distributive services are those services which are related to whole sale trade, retail trade, transportation.

The following are the examples of activities can be considered to be the part of service sector:

- Trade
- Hotels and restaurants
- Transport including tourist assistance activities as well as activities of travel agencies and tour operators
- Storage and communication
- Banking and insurance
- Real estate and ownership of dwellings
- Business services including accounting; software development; data processing services; business and management consultancy; architectural, engineering and other technical consultancy; advertisement and other business services
- Public administration and defence
- Other services including education, medical and health, religious and other community services, legal services, recreation and entertainment services
- Personal services and activities of extra-territorial organisations and bodies.⁷

Objective of the study

1. This would be examine the factors of services sector growth in Bihar.
2. This would examine the Sectoral contribution of services in Bihar.
3. The study also find that there are variations in growth and performance of different sub-sectors of services.

Justification of the study

Service sector of Bihar is contributing higher share of GSDP, and higher employment also, so our purpose is to verify the reason behind the growth or obstacle of this sector, which may help to generating more employment and GSDP growth.

Review of the literatures

It is hard to find a theoretical frame work of the growth of service sector in macroeconomic context on the country.⁶ It is well known since Alfred Marshall's time that both goods and services satisfy the wants of the consumers and therefore should be included in the estimation of National product.¹ But in context of India the service sector growth accelerated after liberalisation during the period 1980-90s. This led to agriculture based economy to a knowledge based economy.⁷ These things were also found by Ashok Kotwal, Bharat Ramaswami and William Wadhawa in their paper (Economic liberalisation and Indian Economic growth: what's the evidence?), according to them India's was one of the most protected and heavily regulated economies in the world at the end of the 1970s to 1980s. They found that the decade of the 1970s, the variance in GDP growth rate was 15.8 per cent. It came down to 4.6 per cent in the 1980s. After that in 1990s the Indian economy faced reforms in all sectors, this reform's main purpose was opening up the economy which led to more private and foreign trade and investment. Where, the period (1980-2000) have played important role for Indian economy development, especially for Service sector. During the period (1980-2004), the Indian Economy growth was relatively same as 'Asian Model'. But this 'Asian Model' is based on Industrial Growth, private and foreign investment and export of manufactured product, but still India's economy was not as developed as to export. During this phase Indian economy was experiencing different type of development which is services led growth rather than manufacturing, due to liberalisation, import was easy so that technology import, better intermediate inputs was able to increase the productivity in industry

and service sector, which led to attract the labour force from agriculture to industry and services sector. This spill-over effect was good for Indian labour market, because this labour demand was able to increase the wages, both sectors (organised and unorganised). In organised sector due to new technology the demand for skilled worker was high and their wage was also high, and at the same time unskilled worker in organised sector, through the collective bargaining power their wages was also increased. Whereas unorganised sector was able to absorbed direct benefit. They describe it through

the example first a small unit of benefit due the improved communication such as cell phones. Second cheaper products of the organized sector is increase the income of the unorganised sector due to this they are able to consume more of these products and services. This demand for goods and services also depend upon the price of the relative goods and services. This paper is also trying to find the effect upon the goods and services due to economic reform during the period 1991.²³ Whereas firstly tariff barriers on import -which shows by this table-2.1

Table:2.1: Per cent of Manufactured imports subject to nontariff barriers

Industry group	1980-85	1986-90	1991-95	1996-2000
Intermediate inputs	98	98	42	28
Capital goods	95	77	20	8
Consumer goods	99	88	46	33

Source: Das (2007)

The import duties were higher among the world about 200 per cent is common (cited in Ahluwalia 1999) this table shows that effect rates of protection for the period 1980-2000. Whereas the non- tariff barriers worked through import licences that automatically restrict the amount of goods and services. Second, restriction on both the domestic and foreign private sector-this restriction is prohibited to FDI (foreign direct investment) in many sector of the economy; this is about 40 per cent. Third, state control of banking and insurance-fourteen leading private banks were nationalized in 1969 and six more in 1980. This initiative is taken by the government for expansion of the banking network especially in the rural areas. Fourth, public sector monopolies-eighteen most important heavy industries in the pre-1991 reserved as for public sector enterprises including telecommunications and its equipment, iron and steel industries, mineral oils, air transport services, electricity generation and distribution and mining. Another reason behind the growth of service sector is openness of the economy because the demand for services in closed economy is a function of the output generated in the commodity producing sectors of agriculture and industry only. Whereas in an open economy, domestic services can expand either directly through external demand for specific services or indirectly through external demand for specific services or through the remittances from emigrant labour which is helpful for boosting in the economy. This is also true for the Indian state.⁶

Gaurav Nayyar cited in his book "the service sector in India's development", according to Fisher (1935), Clark (1940), Chenery (1960), and Kuznets

(1971), they suggest that in the early phase of economic development, the share of agriculture in both output and employment is overwhelmingly large. Subsequently, the industrialization precedes the share of agricultural sector falls, with the decline being greater in output than in employment. At the same time the share of industrial sector rises. Once countries have industrialised and reached an advance stage of economic development, the share of industry declines while the share of the services sector increases. In Gaurav Nayyar's words "This literature shows the pattern of structural change to the income elasticity of demand-which for industrial goods is higher than for agricultural goods, whereas that for services is even higher than that for industrial goods. With rising level of income, the demand for agricultural goods will increase at a proportionally lower rate than income because the income elasticity of demand for agricultural goods is less than one, which means they are 'necessities'. On the other hand demand for industrial goods will grow at a proportionately higher rate than income as the income elasticity of demand for industrial goods is greater than one. This leads to the growth of the industrial sector. However, an economy reaches a sufficiently high level of income, the rate of increases in demand for services increases sharply as the services have a higher income elasticity of demand than the industrial goods".

He found that "factors underlying the demand side of services are that for the economic growth government final consumption is not only significant variable, there is also much of the private sector which is contributing in the expansion of service

sector over the last two decades. But the growth of India's services exports does although the overall size of this effect is still relatively small, being concentrated in the business services segment. Above lines suggest that exports of software, business process outsourcing, communication and financial services must continue to be encouraged. And on the supply side, privatization and greater deregulation induced growth in sectors—such as communication services—that were state monopolies in the pre-reform period. This implies that the liberalization of sectors such as retail trade and education and health services is likely to enable producers to meet growing domestic household demand. According to him, the availability of the huge skilled labour is one of the reasons behind the growth of certain skill-intensive services, later its positive impact on export of the business services. In contrast, according to data at the macro-economic level, the high income elasticity of households final demand for services appear to have a significant impact on the growth of India's services sector.¹⁸

(Cited in Rakshit, 2007) shows that private consumption is by far the largest component of final demand for both goods and services, similarly, (Cited in Eichengreen and Gupta, 2010) they conclude that growth of private final demand for output accounted half growth of the services-sector output since 1991. The other half is divided between outsourcing and exports by the industrial sector, unfortunately, National Accounts do not show the final data of private final consumption expenditure of goods and services (Cited in Geordon and Gupta, 2004), This is true, at the all India level it is hard to find the relation between house holds final demand on services growth.⁹ Arpita Mukharjee found in their paper "service sector in India, 2013, which the share of services sector in India's total trade is higher than the global average and, India is under top ten WTO member's countries which has accounted higher trade of services in terms of both export and import. Still India does not have a policy related to service sector growth. In present era there is need to work on it because India's services sector growth and export both are lower than that of competitive countries, like-PRC. There is a huge difference in growth of different type of service, there is dominancy of some services, India is unable to access of some basic services such as education and medical facility, there is huge population (poor people) who cannot access these services.¹⁶

Analysis of Service sector Growth

Introduction

The service sector is the largest and fastest growing sector in India, contributing significantly to GDP, GDP growth, employment, trade and investment. The services sector has in recent decades been performing much better than agriculture and industry in India and in many other developing countries as well. At the all India level, services share has increased at a greater rate than industry after 2003-05 while in Bihar, services though have easily increased at a greater rate than agriculture. The increase in the share of services has been accompanied by the rapid decline in agriculture the economy of Bihar is largely service-oriented, but it also has a significant agricultural base.²⁰

This paper discusses the nature of growth of Services in Bihar and, compares the growth of GDP and Services in Bihar with the overall India level. This study also looks into the sectoral contribution of services in Bihar and other important features of the Services led growth in the state. India has experienced a rapid change in the growth of services sector contributed 55% of India's real gross domestic product (GDP) at factor cost, having grown annually at 8% since 1990-91, to become the economy's leading sector [Nagraj 2009]. During the same period services in Bihar too have grown at the rate of 5.12% where Industry and Agriculture grew at 1.31 and 4.35 percent respectively.¹⁰

The objective of this chapter is to examine the performances of Indian services sector, focusing on its contribution to GDP growth and states' domestic product, and makes comparison. This paper also examine the performance of different sub-sectors of service sector, such as trade, hotels and restaurants, tourism, shipping and port services, telecommunications related, storage, transportation, real estate, information technology(IT) and IT enabled services (ITes), accounting and auditing services, research and development (R&D).

There are variations in growth and performance of different sub sectors of services. Business services (including IT), communications and trade have grown faster than the overall services sector growth in India. Others such as real estate, legal services, transport, storage and personal administration and defence services have grown at the same rate as the overall services sector growth (see Gordon and Gupta 2003). This chapter shows that the share of different sub-sectors of services in the GDP. After the economic reforms of the 1990s, the share of

all the services subsectors in GDP has increased. The share of financing, trade and transport sectors in total services sector has increased while that of community, social and personal services has declined.⁹

Sectoral Growth of Service Sector in India

Table – 3.1 shows that the share of services sector which includes ‘construction’, ‘Trade, Hotels, Transportation & Communication’, ‘Financial, Insurance, Real Estate & Business Services’,

Table 3.1: Sectoral growth of Services Sector at Constant prices (at Factor Cost) (Rs. Crore).

Year	Construction	Trade, Hotels, Transportation and communication	Financial, Insurance, Real Estate, and Business Services	Community, Social and Personal Services	Total
1990-91	951.84 (14.23)	2377.36 (35.55)	1551.65 (23.20)	1805.64 (27.00)	6686.49 (100)
1991-92	971.44 (13.92)	2431.78 (34.86)	1719.56 (24.65)	1852.32 (26.55)	6975.1 (100)
1992-93	1005.26 (13.67)	2568.97 (34.94)	1813.2 (24.66)	1963.32 (26.70)	7350.75 (100)
1993-94	1010.99 (12.92)	2746.82 (35.10)	2015.68 (25.76)	2051.01 (26.21)	7824.49 (100)
1994-95	1065.39 (12.87)	3019.97 (36.48)	2094.01 (25.29)	2097.42 (25.34)	8276.79 (100)
1995-96	1129.11 (12.44)	3425.36 (37.76)	2263.48 (24.95)	2251.57 (24.82)	9069.51 (100)
1996-97	1150.27 (11.87)	3702 (38.20)	2403.54 (24.80)	2432.88 (25.11)	9688.7 (100)
1997-98	1270.73 (12.02)	3981.09 (37.65)	2684.95 (25.39)	2634.86 (24.92)	10571.63 (100)
1998-99	1350.48 (11.82)	4286.13 (37.52)	2894.4 (25.34)	2890.85 (25.30)	11421.86 (100)
1999-00	1463.8 (11.56)	4760.88 (37.59)	3149.9 (24.87)	3287.71 (25.96)	12662.3 (100)
2000-01	1553.78 (11.63)	5067.42 (37.94)	3292.71 (24.65)	3439.63 (25.75)	13353.55 (100)
2001-02	1615.74 (11.35)	5503.83 (38.68)	3527.92 (24.79)	3579.84 (25.16)	14227.32 (100)
2002-03	1749.59 (11.48)	5969.06 (39.16)	3800.81 (24.93)	3720.48 (24.41)	15239.95 (100)
2003-04	1967.08 (11.88)	6634.32 (40.09)	4022.43 (24.31)	3921.21 (23.70)	16545.05 (100)
2004-05	2288.55 (12.67)	7277.2 (40.31)	4371.74 (24.21)	4113.61 (22.78)	18051.1 (100)
2005-06	2581.29 (12.86)	8154.07 (40.64)	4923.4 (24.53)	4404.26 (21.95)	20063.02 (100)
2006-07	2848.06 (12.89)	9100.84 (41.20)	5610.63 (25.40)	4528.23 (20.50)	22087.76 (100)
2007-08	3154.95 (12.94)	10095.2 (41.42)	6281.24 (25.77)	4839.17 (19.85)	24370.56 (100)
2008-09	3323.29 (12.46)	10851.25 (40.70)	7036.29 (26.39)	5444.97 (20.42)	26655.8 (100)
2009-10	3544.36 (12.08)	11978.91 (40.84)	7719.05 (26.32)	6083.69 (20.74)	29326.01 (100)
2010-11	3747.08 (11.70)	13440.24 (41.97)	8491.89 (26.51)	6341.67 (19.80)	32020.88 (100)
2011-12	4151.87 (12.11)	14022.61 (40.90)	9455.34 (27.58)	6652.47 (19.40)	34282.29 (100)
2012-13	4197.95 (11.52)	14733.53 (40.44)	10487.48 (28.79)	7005.79 (19.23)	36424.75 (100)
2013-14	4266.64 (11.03)	15178.26 (39.24)	11837.13 (30.60)	7394.77 (19.11)	38676.81 (100)

Source: Author's Calculations from RBI (handbook of statistics on Indian Economy).

'Community, Social & personal Services' in GDP improved from Rs. 13478.89 crore, in 1990-91 to Rs. 23484.81 crore in 2000-01 and further increase to about Rs. 57417.91 crore in 2013-14. The share of construction declined from 14.23 per cent in 1990-1991 to 11.63 per cent 2000-01, thereafter it increasing at some time but not reach the previous higher level (14.23 in 1990-91) and gone the lowest level of 11.03 in 2013-14. This sector's contribution in the service sector is lowest. its growth trend is also steady between 10 to 15 per cent. The share of Trade, Hotels, Transportation & communication was 35.55 per cent in 1990-91 and reached at a maximum of 41.97 in 2010-11, thereafter it declined at 39.24 in 2013-14. The share of 'financing Insurance, Real Estate and Business Services' has been increasing from 23.20 per cent in 1990-91 to 25.76 per cent 1993-94. Thereafter it started decreasing, and in 2007-08 it started increasing continuously and reached at the higher point 30.60 per cent in 2013-14. The share of 'Community, social and personal services' has been 27.00 per cent in 1990-91, which is highest point of this sub sector but after that it has been decreasing continuously, it was increased in 2008-10 at 20.74 per cent. Thereafter it has declined and reached its minimum level at 19.11 per cent in 2013-14.

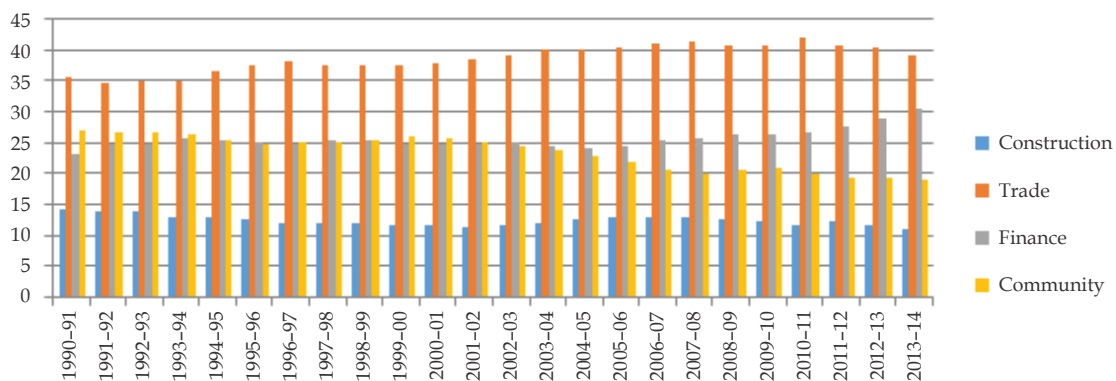
Here, in graph:- 3.1 we have taken the data from the year 1991 to 2014, percentage of each sector like-construction, trade, hotels, transport & communication, financing, insurance, real estate & business services, community, social & personal services (at constant price), has been analysed in the above figure. Through the graph, we can see that, the growth rate of construction, trade, hotel, and other sectors contribution are high in service sector.

First, growth trend of Trade, Hotels, Transport and communication has contributed better in service sector rather than other sectors; we can see that this

sector growth is higher during the period 2003-04 to 2012-13, during these periods it is about 40 to 42 per cent. Before and after this period its growth has declined. But one thing is good about this sector is that; its contribution is always higher in the service sector. Second, community, social, & personal services, its contribution in service sector is second lowest, in the earlier phase 1991 to 2001 its growth trend was good, it was about more than 25 per cent or 25 per cent, but after 2001 it has diminished rapidly and reached its lowest level about less than 20 per cent. Third, Financing Insurance, Real Estate & Business Services, and this sector has recorded tremendous growth after 2005, and its contribution is second highest in service sector. It is about 25 per cent from the period 1990-91 to 2005-06 and after that, it is increasing and reached its higher level about 30 per cent. Fourth, construction sector, its growth trend is steady, between 10 to 15 per cent and its contribution is lowest among the all sectors.

Now, I am going to discussing about the trend growth of Bihar's services sector below the table 3.2 it shows that sub sector's percentage share in services sector of Bihar, which is calculated by the Economic Survey of Bihar 2014-1510.

The table 3.2: shows that the percentage share of sub sector in services sector of Bihar. Through the table we can see that higher contribution in services sector by Trade/Hotel/Restaurant, 28 per cent in 1999-00 and 40 per cent in 2012-13. The growth rate of Trade/Hotel/Restaurant is increases with increasing rate over the period (1999-2013). The second higher contribution of Other Services, in 1999-00 the percentage was 29 per cent and in 2012-13, it has 20 per cent. The growth rate of Other Services is increasing with decreasing rate. Third highest contribution in the services sector is Transport/Storage & Communication this was accounted 12 per cent in 1999-00 and, in 2012-13 it



Graph: 3.1: Sector wise percentage share of service sector in India.

Source: Author's Calculations.

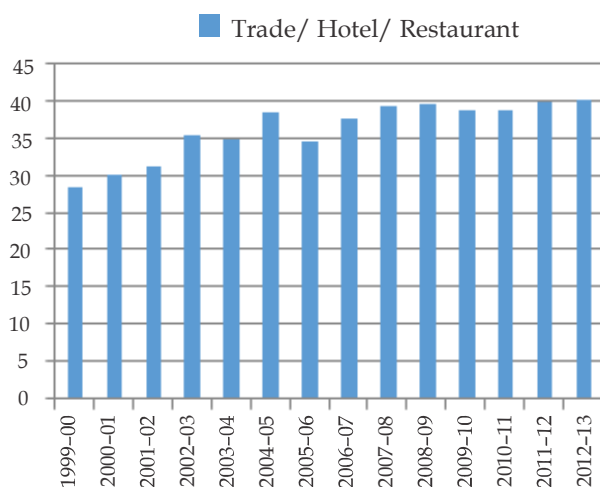
is also 12 per cent. Its maximum growth is 14 per cent in 2010-11. Its growth is increasing at steadily over the period (1999-2013). Fourth one is Public

Administration its percentage was 13 per cent in 1999-00 and 9 per cent in 2012-13. It increases at the decreasing rate. Table 3.2 According to the

Table 3.2: Sector Wise Percentage Share of Services Sector of Bihar.
(Rs. Crore and in percentage).

Year	Transport, Storage and Communication	Banking and insurance	Real Estate, ownership of dwellings and business	public administration	other services	Trade/ Hotel/ Restaurant	Total
1999-2000	3936 (12.555)	1940 (6.188)	3211 (10.242)	4282 (13.659)	9134 (29.136)	8847 (28.221)	31349 (100)
2000-2001	4285 (12.570)	2148 (6.301)	3385 (9.9304)	4661 (13.673)	9400 (27.576)	10207 (29.944)	34087 (100)
2001-2002	4285 (11.890)	2638 (7.320)	3530 (9.795)	5036 (13.974)	9369 (25.997)	11180 (31.022)	36038 (100)
2002-2003	4586 (12.103)	2524 (6.661)	3676 (9.701)	4342 (11.459)	9439 (24.911)	13324 (35.165)	37890 (100)
2003-2004	4293 (11.085)	2448 (6.321)	3843 (9.923)	4925 (12.716)	9818 (25.351)	13402 (34.605)	38728 (100)
2004-2005	4612 (10.840)	2586 (6.078)	4041 (9.498)	5179 (12.712)	9842 (23.133)	16286 (38.279)	42545 (100)
2005-2006	5105 (11.867)	2941 (6.836)	4403 (10.235)	5107 (11.872)	10598 (24.637)	14862 (34.549)	43016 (100)
2006-2007	5776 (11.992)	3513 (7.293)	4819 (10.005)	5153 (10.698)	10873 (22.574)	18030 (37.434)	48164 (100)
2007-2008	6322 (12.049)	3915 (7.461)	5270 (10.044)	5284 (10.078)	11183 (21.314)	20493 (39.058)	52467 (100)
2008-2009	6957 (11.838)	4205 (7.155)	5788 (9.849)	6525 (11.103)	12058 (20.518)	23233 (39.534)	58766 (100)
2009-2010	8738 (13.255)	5266 (7.988)	6343 (9.622)	6872 (10.424)	13294 (20.166)	25408 (38.543)	65921 (100)
2010-2011	10512 (14.475)	6304 (8.681)	6834 (9.411)	7492 (10.317)	13530 (18.632)	27944 (38.481)	72617 (100)
2011-2012	11240 (13.922)	7495 (9.283)	7486 (9.272)	7691 (9.526)	14754 (18.275)	32065 (39.717)	80732 (100)
2012-2013	12093 (12.817)	8726 (9.248)	8235 (8.728)	8606 (9.121)	18921 (20.053)	37769 (40.030)	94351 (100)

Source: Author's calculation (economic survey of Bihar 2014-15).



Graph 3.2: Growth trend of the Trade/Hotel/Restaurant (in percentage).

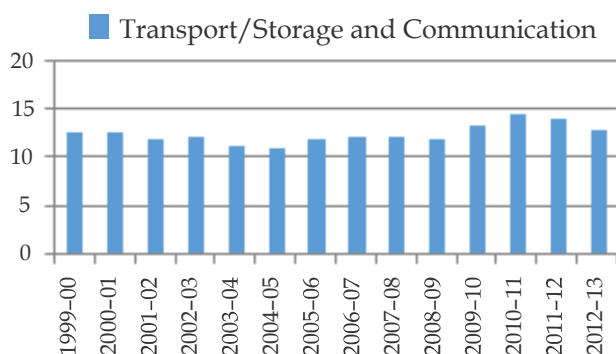
Source: Author's calculation.

above table in 1999-00, the share of Trade/Hotel/Restaurant was higher in service sector of Bihar (about 28.221) and in 2012-13 its percentage is about 40 per cent, this sector growth trend is increasing with constant rate this was between 25 per cent to 40 per cent this growth trend is clearly shown by the below the graph - 3.3

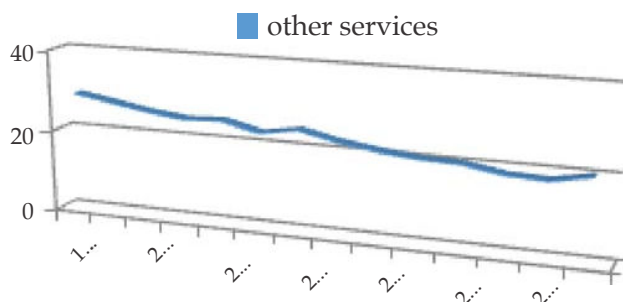
Trade/Hotel/Restaurant has accounted increasing growth trend (during the period 1999-13) due to this historical background that attracted more of tourist like-pilgrim centres, Patna, Bodhgaya, Gaya, Rajgir, Vaishali, Nalanda university .These are the tourist destinations which attracted more of the tourist each year this led to increase of Hotel/ Restaurant and tourism sector (which is include in other services) as well as the transportation and communication services. Graph - 3.3 Second most important sector is Transport, Storage and Communication it also plays a big role in service sector about 11 to 14 per cent in the year 1999-00 it was about 12.55, and it reached its highest level about 14 per cent in 2010-11 and after that it is declining, according to the current scenario 12.81 in 2012-13. We can see through the table its percentage of growth is between 10 to 15 per cent but according to the Economic Survey of Bihar 2014-15, communication services is increased fifteen times more in 2005-06 it connection is about 42.14 lakh, and in 2014-15 it increased and reached

its maximum level about 661.69 lakh, this growth in the telecom due to the private network, with declining share of BSNL. The telecom density has increased from 1.15 to 51.17 per hundred populations during 2001-2015. However, the rural telecom density of Bihar is still lowest among all the major state of the India.

If we are looking back to previous data then we can get this very clearly according to the economic survey of Bihar (2006-07) the share of primary sector was fair enough in 1993-94 but over the period of time it decreases(1999-00), but during the period 2004-05 this accounted little bit growth due to some government initiative, Whereas the secondary's contribution in GSDP of Bihar and its growth rate is also lower than the other two sectors (during the period 1993-05) and, The tertiary sector (service sector) contribution in the GSDP was quit low rather than primary sector but still high than the secondary sector in 1993-94, whereas its growth rate is higher than the other sectors (during the period 1993-2005). Graph-3.4 after that the other services (which included education, health, tourism, construction, recreation and cultural services) also contributing second highest in the GSDP of Bihar which is about 29 per cent in 1999-00 and 20 per cent in 2012-13. Its growth rate is declining over the period of time, in other word we can say that it is increasing in the form of numeric



Graph 3.3: Growth trends of the Transport, Storage and Communication (in percentage).
Source: Author's calculation.



Graph 3.4: Growth trends of the other services (in percentage).
Source: author's calculation.

value which shown by the table but it's percentage share in the growth of services sector is declining over the period of time.¹⁰

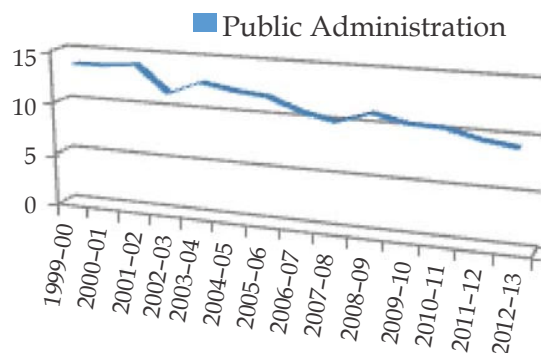
Source: author's calculation

Table-3.5: Now if we are talking about share of public administration its contribution is quite good toward the GSDP of Bihar, this is increases with slow growth, but its percentage share is decreasing year via year in service sector. According to this table during the period 1999-00 it is about 13.65 per cent and after that its growth is accounted declining

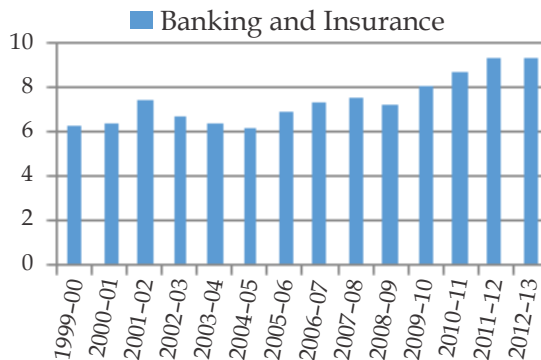
and reached its minimum level which is 9.21 per cent in 2012-13. This is clearly shows by this graph

Graph -3.6 now I am going to discuss about the contribution of Banking and Insurance in services sector as well as GSDP of Bihar. Its contribution is little bit smaller than the others but it is an important sector for growth of the economy because, without its presence you

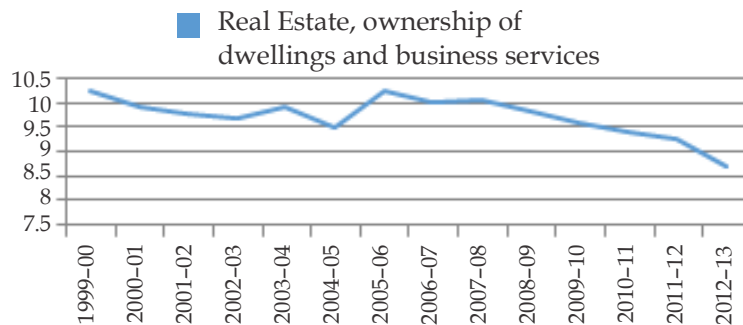
Cannot measure the economic growth. According to the table its contribution is quite significant and its growth trend is also increasing year via year due to some initiative taken by the government in



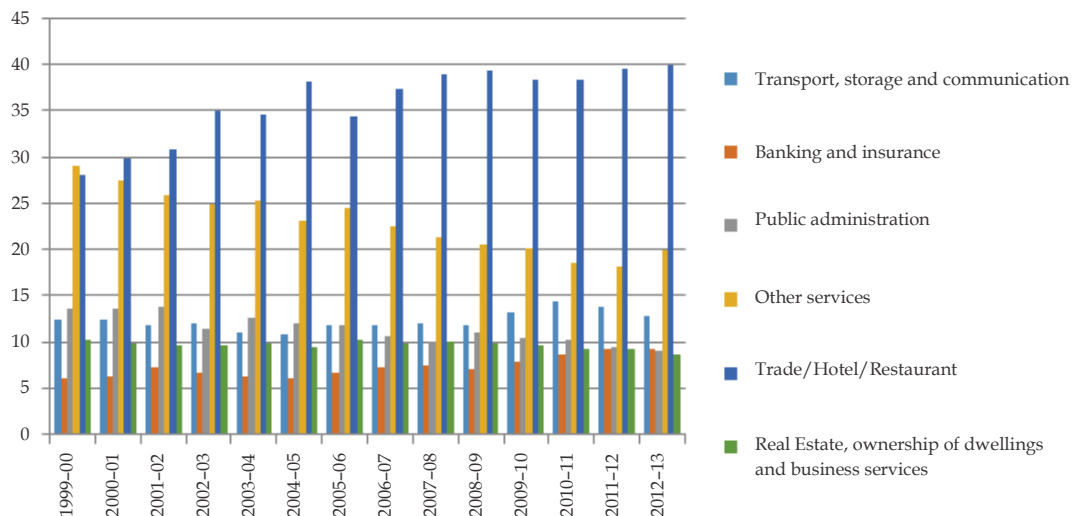
Graph 3.5: The growth trend of the Public Administration (in percentage).
Source: Author's calculation.



Graph 3.6: The growth trend of the Banking and Insurance (in percentage).
Source: Author's calculation.



Graph 3.7: The growth trend of Real Estate, ownership of dwellings and business services.
Source: Author's calculation.



Graph 3.8: Sector wise percentage share of service sector of Bihar.

Source: Author's calculation.

terms of reform in Banking and Insurance services. We can see through this growth trend by the given graph.

Graph- 3.7: shows that the growth trend of Real Estate, ownership of dwellings and business services. This sub sector have accounted decreasing trend of growth over the period of time. There is a lot of problem with the development the real estate, ownership of dwellings and business services, like-lack of clear land, lack of credit, rising labour cost and material cost, administrative related difficulties. The another problem with real estate related is the urban development and housing department, through a notification issued on December 2013, imposed a ban on approved of maps for any multi-store building over the height of 11 and length of road abutting the building on all side is 20 feet in width. Due to this judgment many construction stopped in mid-way. Loss of the builders loss was around 10000-12000 crore.

Through the graph 3.8 we can see the percentage share of each subsector in services sector, whereas the Trade/Hotel/Restaurant contribution in services sector is higher about 40 per cent, and its growth is also high rather than other sub sectors. After that the second highest contribution in services sector is other services (it included construction, tourism, education, health, recreation and cultural services) about 20 per cent, but its growth trend is declining over the period of time, but still its numeric value is increasing over the period of time. Third highest contributor in the services sector is transport/storage and communication about 12 per cent, yet it is increasing after the period 2006-07. Before it the contribution of the public administration is

high. But after the 2006-07 public administration growth rate as well as contribution in the services sector is declining. Besides these four sub sector the contribution of Banking and Insurance and Real Estate, ownership of dwellings and business are quite good and its contribution in the economy is also significant.

Database and Methodology

The present section presents the Regression Analysis and its empirical result. Here we have taken each sub sector as dependent variable, and Time "t" as Independent variable, the complete detail of those variables has been given in the table 3.3.

For the analysis purpose, time-series data on various variables have been taken from the Economic Survey of Bihar 2014-15; all those variables have been taken in log terms to make interpretation in proportionate terms. Time has taken here as Independent Variable for each sub sector, why? The answer is, this will shows the growth trend of all those variables over the period of time¹⁰.

Estimation specification and result

Firstly Trade, Hotel & Restaurant has accounted significant result. The result shows that over the period 1999-2013, the output of Trade, Hotel & Restaurant increases at the annual rate of 29 per cent, R square is 98 also significant. Overall we can say that the growth rate in the Trade, Hotel & Restaurant is the highest over time. Second, significant result is Real Estate, ownership of dwellings and business, its shows that over the period of time (1999-2013) the output of it increases

Table 3.4: Regression Result.

No.	Sub Sectors	p-value	β_1	β_2t	R ²	Adjusted R ²	F	t stat
1.	T,S&C	0.00000	8.040943	0.090709	0.915587	0.908553	130.159	11.40872
2.	B, I	0.00000	7.361679	0.110789	0.936284	0.930975	176.3367	13.27918
3.	R,B	0.00000	7.928078	0.074006	0.980887	0.979294	615.833	24.81598
4.	P A	0.00000	0.050216	0.050216	0.873266	0.862705	82.68651	9.093213
5.	O Ser.	0.00000	8.979456	0.047401	0.86483	0.853566	76.777	8.762249
6.	T,H,R	0.00000	8.998453	0.105179	0.985969	0.9848	843.274	29.03918

Source: Author's calculation ($Y_t = \beta_1 + \beta_2 t + \epsilon_i$).

at the annual rate of 24 per cent, R square is also significant about.⁹⁸ Third significant result of Banking and Insurance, its result shows that over the period of time (1999-2013) the output of Banking and Insurance increases at the annual rate of 13 per cent and its R square is also significant about .93. Fourth, Transport, storage & communication ($Y_t = \beta_1 + \beta_2 t + \epsilon_i$), its result shows that over the period 1999-2013 the output on transport, storage & communication increases at the annual rate of 11 per cent, R square is significant. Fifth, Public Administration has accounted significant result. The result shows that over the period 1999-2013, the output of Public Administration is increases at the annual rate of 9 per cent.

Conclusion

Service sector of Bihar accounted more than 50 per cent contribution in GSDP since 1999; it is a dominant sector in terms of both growth and share. It is also generating second highest employment after the agriculture. Because service sector gives the opportunity to both type of workers, skilled and non- skilled and, people are moving towards it due to non-profitability of agriculture sector. Behind the service sector growth contribution of the private institution is more than the government sector, like-the Trade, Hotel and Restaurant, whose contribution is higher in services sector, whereas the public administration accounted for declining growth trend. The real estate and dwelling is also accounted declining growth rapidly.so, there is need to take the initiative by the government to improve these sub sectors. Service sector of Bihar has lots of opportunity in terms of both generating employment and contributing in GSDP. For example-Bihar has a rich cultural heritage. If government as well as private institution participate equally then it must be accounted highest growth. Tourism sector and recreational spot attracted more tourists, foreign and domestic. This sub sector is inter-related with the other services like retaining,

hotel, restaurant, transportation and, this will help to generating employment as well as income. Second thing to do with the industry development, because there are many activities correlated with the services sector like- transportation, storage, communication and, construction etc. Regression analysis also shows that over the period of time service sector's growth is increasing.

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