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TAX CONTRIBUTION OF SERVICE SECTOR: AN EMPIRICAL STUDY OF SERVICE TAXATION IN INDIA*

Mini Thomas P[1]

Abstract

This paper attempts to study service taxation in India from a macro-economic perspective, focusing on broad questions such as the level and composition of service tax revenue during the time-span of the "positive list approach" from 1994-95 to 2011-12. The income elasticity of service tax revenue collection is estimated for the Indian economy with the help of pooled FGLS, utilising data from Directorate of Service Tax and National Account Statistics. The importance of service tax as a consumption-based tax is also analysed descriptively. The study finds that the contribution of service tax towards the Centre's tax revenue is not commensurate with the high share of services in India's GDP. The study finds that "business services" and "real-estate and ownership of dwellings" have emerged as the major service tax revenue earners in recent years. The study finds income elasticity of service tax revenue collection to be less than 1, which when juxtaposed with India's low tax-GDP ratio, points to the existence of untapped revenue potential for service taxation in the country.

Keywords: Service Tax, Tax-GDP ratio, Tax policy
JEL Classification Code: H20, H25, E60

1. Introduction

Service sector has emerged as the dominant sector in the Indian economy and its share in GDP at factor cost has risen from 33.3 per cent in 1950-51, to about 55.7 per cent in 2011-12 (Government of India 2013). In-addition to this, the service sector is contributing to the growth in employment, international trade and Foreign Direct Investment. The most notable feature of the growth of service sector in India is the rapid pace at which services such as business, communication and finance have grown in the post-liberalisation period. The advent of ICT (Information and Communication Technology) in the 1990s was the main trigger behind the quantum jump in service sector growth (Kotwal, Ramaswamy and Wadhwa 2011). The ICT spillovers helped in reducing transaction costs and speeding up innovation (Singh 2006). Service sector growth has resulted in increasing specialisation, expanding markets and enormous network externalities. There is growing evidence of service-sector growth inducing growth in other commodity-producing sectors of the economy (Hansda 2001). The Indian economy exhibited considerable resilience during the recent global economic crisis, by maintaining one of the highest growth rates in the world. Service-sector growth contributed in a big way to this resilience. The service sector accounted for around 88 per cent of the growth rate in real Gross Domestic Product in 2008-09 (Das, Banga and Kumar 2011). Given such a scenario, this paper attempts to study the tax contribution of India's service sector and examine service taxation in India from a macroeconomic perspective, focusing on the broad questions such as level and composition of service tax revenue. The paper specifically estimates income elasticity of service tax revenue in India and

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analyses the importance of service tax as consumption based tax. This study becomes quite relevant in the current economic context, as India plans to implement the Goods and Services Tax Bill in Parliament.

Service tax was introduced in India in 1994-95, in accordance with the provisions of the Finance Act of 1994, of the Constitution. Service tax is an indirect tax levied by the Central Government in India. Other indirect taxes levied by the Centre include the Central Excise and Customs Duty. The introduction of service tax in the country ushered in a major structural change in the indirect tax regime in the form of a wider tax-base and facilitated the process of rationalisation of excise duties, resulting in lower tax burden on productive sectors (Government of India 2011). India has been following the "positive list approach" to service taxation for past 18 years, i.e., from 1994-95 to 2011-12. The "positive list" provides a detailed description of each taxable service, and all other unspecified services are not liable to be taxed. The "positive list" approach to service-taxation has the advantage of definitiveness, which is an essential requirement for a good taxation law. This selective system of taxation of services in the form of incremental additions over the years, has served well in the past in familiarising both the taxpayers, and tax administrators to this levy.

The rest of the paper is organised as follows. Section 2 provides a brief review of the literature on taxation of services. Section 3 discusses the data sources and methodology used in this study. Section 4 presents the empirical results and Section 5 highlights the major conclusions to be drawn from the study.

2. Review of Literature

There is a dearth of international studies on taxation of services in particular. Bahl (1971) and Chelliah (1971) related tax shares of developing countries to explanatory variables such as mining share, agriculture share and export share. Agriculture share of income reflects the stage of development of a country, and the mining share of income reflects sectoral composition of output. Both studies independently found tax shares to respond negatively to higher agriculture shares and positively to higher mining shares. In a developing country, the agriculture sector may be difficult to tax, especially if it is dominated by a large number of subsistence farmers. However, a vibrant mining sector dominated by a few large firms can generate large taxable surpluses. With the help of panel-data regressions, Leuthold (1991) found that agriculture share exerts a negative impact on tax-GDP ratio. Her study covered 8 African countries from 1973 to 1981. Tanzi (1992) undertook a cross-sectional study of 77 developing countries for the years 1978, 1981 and 1988. With the help of OLS regressions, he found that the share of agricultural output in a country's total GDP exerted a significant negative influence on the country's tax-GDP ratio. Gupta (2007) estimated the principal determinants of tax revenue performance, using a panel data-set for 105 developing countries over 25 years. He found that structural factors such as per capita GDP, share of agriculture in GDP and trade openness are strong and statistically significant determinants of tax revenue performance. He also found that countries that rely on taxation of goods and services as their primary source of tax revenue have relatively poor revenue performance. On the other hand, countries that mostly depend on income tax, profit tax and capital gains tax perform much better.

According to Tanzi and Zee (2000), the vast literature on tax theory provides little practical guidance on the choice of an "optimal" level of taxation, which is robustly linked to different stages of a country's economic development. An alternative approach to assess whether a developing country's tax-GDP ratio is "appropriate" is to compare it with a representative group of developed and developing countries. They made a comparison of tax-GDP ratios between OECD countries and developing countries for two time-spans, 1985-97 and 1995-97. The average tax-GDP ratio for OECD countries was found to be 36.6 per cent during 1985-97, whereas it was only 17.5 per cent for developing countries. The tax-GDP ratios during 1995-97 were found to be 37.9 per cent and 18.2 per cent respectively. When consumption tax pattern was compared, it was found that consumption tax-GDP ratio averaged 6 per cent for OECD countries and 2.3 per cent for developing countries, during 1985-97. During 1995-97, consumption tax-GDP ratios were found to be 6.6 per cent for OECD countries and 3.6 per cent for developing countries.

In the Indian context, Rao (2001) analysed the issues involved in extending consumption taxes to the service sector. His empirical analysis revealed that the revenue productivity of the prevailing taxes on services was low. He also found that service tax has not been responsive to increase in incomes in the service sector. He argued in favour of a general tax on services rather than continuing with the then prevailing selective taxation system. However, he also favoured a small but well-defined negative list consisting of basic public services and services of a meritorious nature, and a threshold to exclude small service providers. Bagchi (2004) also examined the structural and administrative issues relating to service taxation. Structural issues were centered on questions relating to tax base, tax rate and design. Administrative issues pertained to whether service tax should be levied by the Centre or States and definition of their jurisdiction. He concluded that service tax is best levied on a comprehensive base comprising goods and services under a system of Value Added Tax (VAT), at the national level. Rath and Rajesh (2006) studied the tax contribution of service-sector growth to Indian economy but it was limited to analysing only the growth trend and share of service tax in the government's total tax revenue collection, from 1994-95 to 2005-06. They found that the imposition of service tax has boosted the Government of India's tax revenue collection. Sarma and Bhaskar (2012) analysed the amendment to the Finance Act of 2012, which introduced the "negative list approach" to service taxation. They found that some of the services proposed to be taxed by the Centre as per this amendment, come within the legislative purview of the States. The disputed items include renting of immovable property, tax on hire purchase, tax on luxuries and missing services (i.e., services included in the negative list such as Railways). Kumar (2015) analysed the macro-economic aspects of the proposed introduction of Goods and Service tax (GST) in India. Introduction of GST is supposed to raise GDP growth by 1 to 2 per cent and the tax-GDP ratio by 2 per cent. However, the author argued that if tax-GDP ratio rises as a result of implementation of GST, prices would increase, demand will stagnate, growth rate will not rise and stagflationary conditions prevail. All five studies were descriptive in nature.

Based on the key objectives and review of literature, the focus of the present study is as follows:

(1) Empirics of service tax revenue collection is analysed for the Indian economy in terms of trends and growth patterns.

(2) Composition of service tax revenue basket is examined since 1994-95, to identify the services generating maximum amount of service tax revenue collection in India.
(3) Importance of service tax as a consumption-based tax is analysed.
(4) Estimation of income elasticity of service tax revenue collection for the Indian economy.

3. Data and Methodology

An in-depth descriptive analysis of the trends and patterns of service taxation in India is initially carried out, in terms of growth rates and percentage shares. This study differs from Rath and Rajesh (2006) in terms of the definition of "service-sector". Rath and Rajesh (2006) followed the Reserve Bank of India (RBI) definition by including "construction activities" within the service-sector fold. However, this study follows the definition put forth by the Central Statistical Organisation (CS0) and excludes "construction activities" from the ambit of service sector. In addition to the definitional differences, this study estimates the income elasticity of service tax revenue collection in India by applying the cross-sectional time-series FGLS (Feasible Generalised Least Squares) regression. Since the time-series data on service tax collection is available only for 18 years, a panel dataset of service tax revenue collection is constructed for the econometric analysis. Pooled FGLS imposes a common coefficient vector on a panel-data model. Pooled FGLS is more efficient than Pooled OLS, under the group-wise homoscedasticity assumption. Since service tax is a consumption-based tax, the growth trend in the Services Private Final Consumption Expenditure (PFCE) is studied, and the relationship between service tax collection and services PFCE is examined. The changing composition of India's service tax revenue basket over the past one decade is also analysed descriptively, using percentage shares. This is done based on both the GDP classification and PFCE classification put forth by CSO. A comparative analysis of the service sub-sectors contributing maximum to India's private services GDP and service tax revenue collection is carried out for the time-span under study, and implications are drawn. The period of this study covers the duration of "positive list approach" to service taxation, from 1994-95 to 2011-12. With regard to the data-sources used for this study, data on all aspects of service tax revenue collection is published by the Directorate of Service Tax (DST), Ministry of Finance. The National Accounts Statistics (NAS) of the CSO publishes data on India's GDP at the sectoral and sub-sectoral level. Annual data on the Central Government's tax revenues is collected from Indian Public Finance Statistics 2012-13, published by the Ministry of Finance.

4. Empirical Results

4.1. Trends in Service Tax revenue collection for Indian Economy

Table 1 gives the empirics of service tax revenue collection in India, during the 18 years since its inception. Service tax collection has gone up from a modest Rs 410 crore in 1994-95, to more than Rs 97,509 crore in 2011-12. This can be mostly attributed to the quantum jump both in the number of services taxed, as well as the number of tax assessees. The number of services taxed shot up from just 3 services in 1994-95 (namely, telecommunications, non-life insurance and stock-brokers) to 119 services in 2011-12. The number of service tax assessees also increased substantially during this time-span, from 3,943 assessees in 1994-95, to about 1.5 million by 2011-12. Most of the growth in the number of service tax assessees happened during the initial few years after the imposition of the tax, especially 1996-97, 1997-98 and 1998-99, when the growth rates registered were more than 100 per cent.

Table 1: Trends in Service Tax Revenue Collection in India (1994-1995 to 2011-2012)

Financial Year	Revenue (₹ in Crores)	Simple Annual Growth Rate (in %)	Number of Services under Tax net	Number of Tax Assessees	Simple Annual Growth Rate (in %)
1994-95	410	Base Year	3	3943	Base Year
1995-96	846	106.34	6	4866	23.41
1996-97	1022	20.8	6	13982	187.34
1997-98	1515	48.24	18	45991	228.93
1998-99	1787	17.95	26	107479	133.7
1999-00	2072	15.95	26	115495	7.46
2000-01	2540	22.59	26	122326	5.91
2001-02	3305	30.12	41	187577	53.34
2002-03	4125	24.81	52	232048	23.71
2003-04	7890	91.27	62	403856	74.04
2004-05	14196	79.92	75	774988	91.9
2005-06	23053	62.39	84	846155	9.18
2006-07	37482	62.59	99	940641	11.17
2007-08	51133	36.42	100	1073075	14.08
2008-09	60702	18.71	106	1204570	12.25
2009-10	58336.36	-3.9	109	1307286	8.53
2010-11	71016	22	117	1372274	4.97
2011-12	97509	37	119	1535570	11.90

Source: Directorate of Service Tax, Ministry of Finance, Government of India

When the simple annual growth rates in service tax revenue collection are compared, it is found that 1995-96 witnessed an overwhelming 106 per cent growth in service tax revenue collection[2]. However, this is mainly because of the base-year effect, since service tax was introduced in India just the previous year. In 2003-04, service tax revenue collection registered an impressive growth rate of 91 per cent over the previous year. The hike in the tax-rate from 8 per cent to 10 per cent, coupled with the phenomenal increase in the number of tax assessees in 2003-04 over the previous year, explains this impressive growth in service tax revenue. Growth in service-tax collection has exhibited a declining trend since then, and dipped to a negative simple annual growth rate of -3.9 per cent in 2009-10. This shocking decline can be solely attributed to the global economic recession of 2008-09, because of which the Government of India had to reduce the service tax rate from 12 per cent to 10 per cent, as a part of its fiscal-relief package. However, service tax collection registered a simple annual growth rate of 22 per

[2] When service tax was first introduced in India on July 1, 1994, it was imposed at the rate of 5 per cent. It was later on increased to 8 per cent in May 2003, and to 10 per cent in September 2004. The Union Budget of 2006-07 increased it further to 12 per cent. The Union Budget of 2009-10 reduced it to 10 per cent. "Negative List" approach to Service Taxation was introduced in the Union Budget of 2012-13. This budget also reverted the service tax rate to 12 per cent. The Union Budget of 2015-16 hiked the service tax rate to 14 per cent.

cent in 2010-11, mainly due to the modest hike in the number of services under the tax net. Service tax revenue collection exhibited an even higher annual growth rate of 37 per cent in 2011-12, due to the significant increase in the growth rate of the number of tax assessees to the extent of 12 % that particular year.

Table 2: Trends in Service Tax Contribution (1994-95 to 2011-12)

Year	Service sector share in India's GDP (in %)	Service tax as percentage of Centre's total tax revenue	Service tax-GDP ratio (in %)
1994-95	44.7	0.44	0.04
1995-96	45.7	0.76	0.08
1996-97	45.6	0.79	0.08
1997-98	47.1	1.09	0.11
1998-99	47.9	1.24	0.11
1999-00	49.7	1.21	0.12
2000-01	50.5	1.35	0.13
2001-02	51.5	1.77	0.16
2002-03	52.7	1.91	0.18
2003-04	52.8	3.10	0.31
2004-05	52.6	4.66	0.49
2005-06	52.1	6.30	0.70
2006-07	51.6	7.92	0.98
2007-08	50.9	8.62	1.15
2008-09	51.7	10.03	1.18
2009-10	53.4	9.21	0.98
2010-11	52.9	9.02	1.00
2011-12	55.2	10.97	1.2

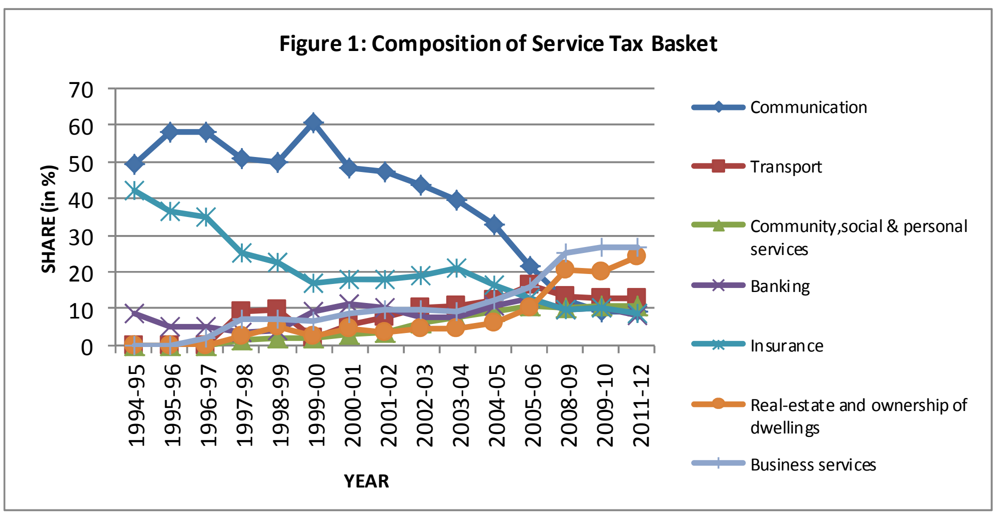
Source: Author's calculations based on data from National Account Statistics, CSO and Indian Public Finance Statistics 2012-13, Government of India.

Note: GDP taken at factor cost (base year: 1999-2000), at current prices.

In the post-reform period, India's GDP growth has been quite remarkable, even managing to register a growth rate of 9 per cent during a few years. This growth is in fact a services-led growth, with the share of service sector in India's total GDP increasing from 44.7 per cent in 1994-95, to 55.2 per cent in 2011-12. Nevertheless, an analysis of the tax revenue contribution of this service sector growth reveals that the share of service tax in the total tax revenue collection of the Government of India is not commensurate with the rising share of services in India's GDP (Table 2). The power to levy service tax is with the Central Government in India and service tax revenue collection is reported at current prices by the DST. The share of service tax in Centre's total tax revenue collection increased from 0.44 per cent in 1994-95 to 10.97 per cent in 2011-12. This contribution of service tax towards the Centre's total tax revenues is quite meagre, given that more than half of the country's income-generating activities are currently originating from the service sector. An analysis of the trend in service tax-GDP ratio shows that service tax as a percentage of India's GDP has increased only marginally during the period under study, from 0.04 per cent in 1994-95 to 1.2 per cent in 2011-12, when it reached a peak. India's current service tax-GDP ratio of about 1 per cent is low even by the standards of other developing countries.

4.2. Composition of the Service Tax Revenue Basket

An in-depth examination of the composition of service tax basket is quite crucial for policy formulation, since it throws much light on which are the major service sub-sectors contributing to tax revenue collection. The different headings, under which the DST collects service tax revenue, are re-classified for the purpose of this analysis. All the services that are being currently taxed in India are grouped into seven major categories based on the sectoral GDP classification followed by CSO (Table A1, Appendix). These include (i) communication (ii) transport and storage (iii) community, social and personal services (iv) banking (v) insurance (vi) real-estate and ownership of dwellings and (vii) business services. For the period under study, it is not possible to arrive at meaningful estimates of income elasticity of tax revenue collection with respect to different services because time-series data on service tax revenue in India (at the disaggregated level) is available only for 15 years. Hence, a descriptive analysis is undertaken based on the percentage shares of different services in the service tax basket.



Source: Author's calculation and compilation based on data from DST, Government of India

Note: Disaggregated data on service-wise tax revenue collection in India is not published by DST for the years: 2006-07, 2007-08 and 2010-11.

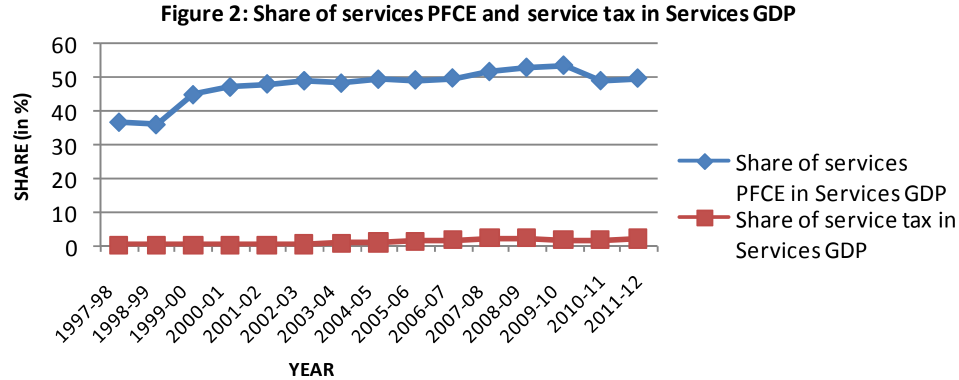
Figure 1 shows the changing share of different services in the service tax basket since the tax was first introduced in India in 1994-95. Communication, insurance and banking were the only services contributing to the service tax basket, during the initial years of imposition of the tax. Communication services formed 49 per cent and insurance services formed 42 per cent of the service-tax basket in 1994-95. Few of the business services such as advertising also became taxable from 1996-97. Rest of the services, i.e., transport, real estate and ownership of dwellings, community, social and personal services were brought under the service tax net in 1997-98. The share of communications in the service-tax basket reached its peak (61 per cent) in 1999-2000, after which it has been steadily declining. The share of "insurance" in total service tax revenue collection is also declining in recent years, and has become almost equal to the share of "banking" and "community, social and personal service s". The share of "transport and storage services" in India's service tax basket peaked 17 per cent in 2005-06, when it even exceeded the contribution of "insurance" to tax revenue collection. Communication and insurance service sectors continued to occupy the top slots, in terms of contribution to the service tax basket for about 11 years, upto 2004-05. However, "business services" and "real estate and ownership of dwellings" have emerged as the major service tax revenue earners in recent years. Their share in the service tax basket is rising steadily, and stood at 27 per cent and 24 per cent respectively, in 2011-12. The share of business services in total service tax revenue collection managed to grow from 25 per cent in 2008-09 to 27 per cent in 2009-10, despite the reduction in service tax rate as part of the government's fiscal relief package. This is mainly because of the increase in service tax revenue collection in 2009-10 from three taxable items falling within the ambit of business services, namely (i) IT software for use in the course of or furtherance of business or commerce (ii) supply of tangible goods including machinery, equipment and appliances and (iii) business support services. The share of "real-estate and ownership of dwellings" in service tax revenue basket rose from 20 per cent in 2009-10 to 24 per cent in 2011-12. This hike is mainly due to the inclusion of two new taxable items within the ambit of this sub-sector in 2011-12, when compared to 2009-10 (Table A1, Appendix). Revenue collection from communication services registered a decline in 2009-10, which can be mostly attributed to the fall in tax revenue collection from telecommunication services (which include telephone, telegraph, telex, facsimile, leased circuit and pagers). The share of "communications" in the service tax basket plunged to an all-time low of 9 per cent in 2009-10, and remained steady at that level even in 2011-12. The rise of "business services" and "real-estate and ownership of dwellings" as major contributors to service tax basket in recent years, is in consonance with their growing share in India's private services GDP.

Most of the publicly-provisioned services currently fall outside the service tax net in India. Publicly-provisioned services are usually exempt from taxation on administrative considerations. Privately-owned services have come to occupy a high share in the country's services GDP. The share of privately-owned services in India's total service sector GDP averaged at 68 per cent during the time-span from 1994-95 to 2011-12. Figure A1 (Appendix) reveals the percentage share of different components of India's private services GDP, during the study period from 1994-95 to 2011-12. "Trade, hotels and restaurants" is found to be the biggest contributor to India's private services GDP (about 40 per cent) during this time period, followed by the "finance, insurance, real-estate and business services" sector (about 28 per cent). Figure A2 (Appendix) further dis-aggregates the above-mentioned two categories of services, to identify the key sub-sectors contributing to private services GDP during the study-period. From Figure A2, it is clear that (1) domestic wholesale and retail trade and (2) real-estate, ownership of dwellings and business services are the two key sub-sectors that made the biggest contribution to India's private services GDP, during 1994-95 to 2011-12. The share of "domestic wholesale and retail trade" in private services GDP averaged 37 per cent, and the share of "real-estate, ownership of dwellings and business services" averaged 21 per cent, during the study-period. "Real-estate, ownership of dwellings and business services" is thus identified as a major contributor, both to India's service tax basket as well as to private services GDP. This implies that service tax revenue collection in India is moving in the right direction. However, "domestic wholesale and retail trade", which is the biggest contributor to India's private Services GDP since Independence, remains outside the purview of service taxation till date. "The "domestic wholesale and retail trade" sector comprises numerous small service providers whose turnover is below the taxable limit, which constrains the scope of revenue mobilisation from this sub-sector.

4.3. Service tax as a consumption-based tax

As Indian economy moves towards an increasingly services-dominant economy, consumption of services is also growing at a rapid pace (since consumption is basically a function of income). Private final consumption expenditure (PFCE) on services is found to grow at a Compound Annual Growth Rate (CAGR) of 17 per cent during 1997-98 to 2011-12. Service tax revenue collection, on the other hand, grew at a CAGR of 35 per cent during the same time period. In spite of these impressive growth rates, a huge and widening gap between services PFCE and service tax revenue collection is prevailing in the Indian economy, during this time-span. The share of Services PFCE in total service-sector GDP of the Indian economy has increased significantly within a span of 15 years, from 37 per cent in 1997-98, to 50 per cent in 2011-12. In 2009-10, share of services PFCE is found to be even higher, amounting to 54 per cent of services GDP. Rising incomes, an expanding middle class and rapid urbanisation are boosting consumption expenditure on services. Since service tax is a consumption-based tax, this should have opened up more avenues for taxation of services. However, the share of actual service tax revenue collection in total services GDP has increased only from 0.2 per cent in 1997-98 to 2.2 per cent in 2011-12. (Figure 2).

Figure 2: Share of services PFCE and service tax in Services GDP

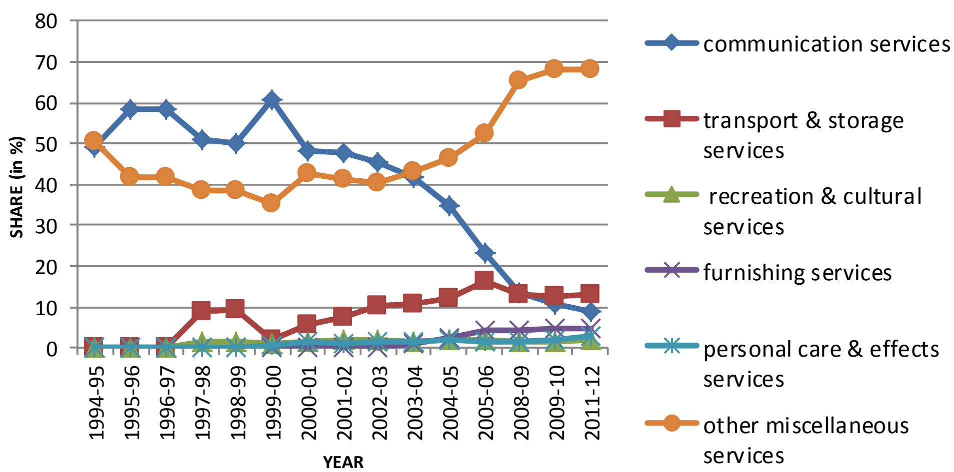


Source: Author's compilation based on data from DST and NAS, various years.

Note: PFCE data is classified under the heading "Services" in NAS only from 1997-98 onwards.

Being a consumption-based tax, service tax revenue collection is found to exhibit a higher degree of positive correlation with Services PFCE, in comparison with private Services GDP. The correlation coefficient between services PFCE and service tax collection is computed to be 0.98, for the 15 year time-span from 1997-98 to 2011-12. On the other hand, the correlation coefficient between service tax collection and GDP accruing from privately owned services is computed to be 0.94 for the same period. Both the correlation coefficients are found to be statistically significant and close to 1, implying the existence of a strong positive relationship between the variables. Since service tax collection is found to have a higher degree of correlation with services PFCE, it is intuitive to study the pattern of service taxation in India, based on private final consumption expenditure incurred on services.

Figure 3: Pattern of Service Taxation in India based on PFCE classification



Source: Author's calculation and compilation based on data from DST, Government of India

Figure 3 gives the pattern of Service Taxation for the Indian economy based on the PFCE incurred on services. Different heads under which service tax is collected by the DST are re-classified under 6 cross-section units based on the PFCE classification given by CSO (Table A2, Appendix). These include (i) communications (ii) transport and storage (iii) recreation and cultural services (iv) furnishing services (v) personal care and effects and (vi) other miscellaneous services. From Figure 3, it is quite clear that "communications" and "other miscellaneous services" are the only items that came under the service tax net, when this indirect tax was first introduced in 1994-95. Both the items contributed almost equally to service tax revenue collection in 1994-95. However, in the years that followed upto 2002-03, "communications" was the major contributor to service tax revenue collection in India. Subsequently, "other miscellaneous services" emerged as the major contributor to service tax collection in India. The PFCE on "transport and storage" and "recreation and cultural services" came under the service tax net in 1997-98, whereas PFCE on "personal care and effects" became taxable only from 1999-2000. PFCE on "furnishing services" came under the service tax net only in 2003-04. The share of "furnishing services" in service tax collection has been growing at a slow pace since 2003-04, and has contributed only 5 per cent to service tax revenue in 2011-12. The contribution of "recreation and cultural services" and "personal care and effects" to service tax revenue collection in India is found to be quite negligible throughout the study-period, in the range of 1 to 2 per cent. The contribution of "transport and storage" to service tax revenue collection is found to be moderate during the study period. The share of "transport and storage" in service tax revenue collection reached a peak of 17 per cent in 2005-06, after which it declined to 13 per cent.

Share of "communications" in service tax revenue collection reached a peak of 61 per cent in 1999-2000, after which it declined drastically and stood at 9 per cent in 2011-12. It is found that the drastic decline in the contribution of "communications" to service tax revenue collection since mid-2000s is matched by a proportionate increase in the contribution of "other miscellaneous services" to service tax revenue collection. The share of "other miscellaneous services" in service tax revenue collection stood at 68 per cent in 2011-12. The findings that emerge from this PFCE classification of service taxation substantiate the earlier findings that emerged from the GDP classification of service tax basket (Figure 1). For instance, "other miscellaneous services" defined as per PFCE classification, comprises services such as "business services", "real estate and ownership of dwellings", "banking" and "insurance" defined as per GDP classification of the service tax basket. Hence, it explains the rapid growth in service tax revenue from "other miscellaneous services" in recent years.

4.4. Income elasticity of service tax revenue collection and India's low tax-GDP ratio

Income elasticity of service tax revenue collection is estimated, utilising panel data on service taxation. Since service tax was introduced in India in 1994-95, annual data on service tax revenue collection is available only for 18 years. A time-series data analysis with less than 20 observations will not provide any meaningful results. None of the stationarity tests will hold good for such a small data-set. Therefore, a panel data-set of 84 observations is constructed to study the relationship between service tax collection and services GDP. Different heads, under which data on service tax revenue collection is published by the DST, are re-classified under 7 cross-sectional units, based on the GDP sectoral classification given by CSO (Table A1, Appendix). These include (i) communications, (ii) transport and storage, (iii) banking, (iv) insurance, (v) real-estate and ownership of dwellings, (vi) business services, and (vii) community, social and personal services. Data-points for the years 1994-95, 1995-96 and 1996-97 are not considered while setting up the panel, since all the seven service sub-sectors were not under the purview of service taxation in the initial years. Disaggregated data on service-wise tax revenue collection in India is not published by DST for the years 2006-07, 2007-08 and 2010-11. Therefore, a balanced panel with 12 time-series observations (years T= 12) and 7 cross-sectional units (service sub-sectors N= 7) is constructed for the econometric analysis. GDP data on these 7 service sub-sectors is collected from the National Account Statistics of CSO.

The following Regression Model is estimated using Pooled Feasible Generalised Least Squares (FGLS) –

$$(\mathit{ln}\ \text{ServiceTax})_{it} = \alpha + \beta\ (\mathit{ln}\ \text{ServiceGDP})_{it} + u_{it} \qquad \text{---------------} \ (1)$$

where i=1,2,…,N and t=1,2,..,T

In equation 1, β gives the income elasticity of service tax revenue collection in India. Table 3 provides the FGLS estimates of the causal relationship between service tax revenue collection and services GDP for Indian economy. Pooled FGLS is preferred over pooled OLS for this estimation due to the assumption of homoscedasticity. Assumption of group-wise homoscedasticity implies that error variance is equal across groups. When this assumption holds, pooled FGLS estimates are more efficient than pooled OLS estimates. An efficient estimator is one that has the smallest dispersion, i.e., one whose sampling distribution has the smallest variance (Kmenta 1986). Using modified Wald test for group-wise heteroscedasticity, it is found that the pooled FGLS regression estimated in Table 3 does not suffer from group-wise heteroscedasticity. The modified Wald test statistic is found to be statistically insignificant, which implies that the null hypothesis of homoscedasticity is not rejected. Hence, the pooled FGLS estimation is more efficient.

Table 3: Income elasticity of service tax collection: Estimates of Pooled FGLS regression

Dependent variable	Log (Service Tax revenue collection of Government of India)	
Independent variable	Log (India's Services GDP)	
No. of observations	Panel of 84 observations (T= 12, N= 7)	
		z values (p values)
Constant α	0.68*	1.04 (0.091)
Slope coefficient β	0.52***	2.62 (0.009)
Wald chi2	6.84***	(0.0089)
Residual Diagnostics Modified Wald Test for Group Wise Heteroskedasticity in the estimated FGLS regression Model – chi2 (7) = 8.36 (0.3017)		

Source: Author's calculations

Note: ***,** and * denotes 1%, 5% and 10% level of statistical significance, respectively.

From Table 3, income elasticity of service tax revenue collection is found to be 0.52 for the Indian economy. This implies that ceteris paribus, a 1 per cent increase in services GDP leads to an increase of 0.52 per cent in service tax revenue collection. It is desirable to have a tax system with elasticity coefficient greater than 1, since it indicates that during times of economic growth, tax revenues would be increasing at a faster rate than GDP. Conversely, an elasticity coefficient less than 1 may point towards issues relating to the tax structure, administration or compliance. Low but statistically significant income elasticity of service tax revenue collection for the Indian economy implies the existence of untapped potential for service taxation in this country, given the sizeable contribution of services to India's total GDP.

The major sources of revenue of any government include tax revenue, non-tax revenue and foreign borrowing. Among these, tax revenue is the best possible source of financing government expenditures in an equitable, sustainable and non-inflationary manner. India's low level of tax-GDP ratio has been a concern for policy-makers for long. After liberalisation of the Indian economy in 1990-91, there was a slump in the gross central taxes due to reduction in the rates of customs duties and excise. This was specifically done to open the economy to worldwide competition and enable foreign countries to utilise the advantages of terms of trade. However, the net result was a sharp decline in the tax-GDP ratio of the Indian economy. Gross Tax Revenues of the Centre stood at 10.6 per cent of GDP in 1990-91. Gross tax revenue of the Centre rose again after 2001-02, reaching a peak of 11.9 per cent of GDP in 2007-08. The tax-GDP ratio declined afterwards to 9.5 per cent in 2009-10, due to the tax cut introduced as a part of the fiscal-relief package to counter the global economic recession of 2008-09. However, the trend has reversed again, and the gross tax-GDP ratio of the Centre stood at 10.33 per cent in 2010-11 and 10.18 per cent in 2011-12. This positive trend is expected to continue during the Twelfth Five Year Plan period (2012-2017).

The Twelfth Five Year Plan document has projected the gross tax revenue of the Centre to average more than 12 per cent of GDP during the plan period (Government of India 2011). Nevertheless, even at 12 per cent of GDP, India's tax-GDP ratio will remain abysmally low. Among G20 countries, India has the third-lowest tax base, leaving behind only Mexico and Indonesia. Tax revenue formed 24 per cent of GDP in the United States of America in 2011. For the developed country grouping of OECD countries, tax revenue as a percentage of GDP averaged 34.1 per cent in 2011. Even way back in 1965, the tax-GDP ratio of OECD countries stood at 25.4 per cent (OECD 2012). When the low income elasticity of service tax revenue collection (estimated using FGLS in Table 3) is juxtaposed with the current scenario of low tax-GDP ratio of the Indian economy, it is quite clear that there is further scope for service taxation in the country. Service tax contributed only 10.97 per cent towards Centre's total tax revenue collection in 2011-12, despite the fact that the service sector contributed 55.2 per cent to India's GDP in 2011-12 (Table 2). Moreover, if the services performance of the top 15 countries for the 11 year period from 2000 to 2011 is compared, it is found that India registered the highest increase in share of services in GDP, to the extent of 8.1 percentage points (Government of India 2013a). Hence, it can be inferred conclusively that there exists untapped revenue potential for service taxation in India.

India's prevailing regime of taxation of services has resulted in low revenue mobilisation. The scope for expanding the service tax net to include more services gets narrower, as the net is widened. Hence, the contribution of expanding tax net will reduce overtime (Government of India 2013c). The Government of India depends heavily on voluntary compliance of the service providers for collecting service tax revenue. If one is to probe into the reasons behind the slow growth in tax revenue collection in India, tax preferences is a major culprit. Tax preferences are equivalent to subsidy payments, but non-transparent. Generous schemes of tax incentives, such as tax exemption and tax deferment, are the major causes for the slow growth in tax revenue collection. Revenue foregone by the Government of India due to tax incentives was estimated to be Rs 5,29,432 crores in 2011-12, which amounted to 5.9 per cent of GDP (Government of India 2013b). Secondly, frivolous litigations and indiscriminate appealing is also a major reason behind missing tax collection targets of Revenue Department. The amount locked up in indirect tax litigation at the end of March 2012 was a staggering Rs 86,034 crores across 1,00,000 cases (Patel 2012). Thirdly, government-provisioned services are exempt from taxation on administrative considerations. This is because the same amount can often be collected through user-charges. However, with increasing privatisation and outsourcing, the dividing line between publicly and privately provisioned services is rapidly diminishing. However, analysing the efficacy of service taxation versus user-charges, as a better source of government revenue for rendering services, is not within the scope of this study. As per *Budget Documents 2011-12* of Government of India, the contribution of service tax towards the pool of resources for the proposed Goods and Services Tax is 9 per cent based upon the accounts for 2009-10. Micro-economic aspects of tax policy such as tax design and administration issues relating to the introduction of Goods and Services Tax (GST) in India is also beyond the scope of this study.

5. Conclusion

Fiscal policy deals with the taxation and expenditure decisions of the government. When it comes to mobilising government revenue from taxes, there are different options before the policy maker. Tax revenue can go up because of an increase in the number of items brought under the tax net, a rise in the number of tax assessees or a hike in the tax rate. Given the tax rate, number of tax assessees and taxable items, tax revenue collection can also go up due to an increase in GDP. GDP is a useful comparison for tax because most tax bases are related to economic activity, and an increase in economic activity will generally result in an increase in tax. Tax-GDP ratio is often used as a measure of tax paid which can be compared across years. Under the Fiscal Responsibility and Budget Management (FRBM) Act of 2003, the Government of India targeted for elimination of revenue deficit and reduction of fiscal deficit to 3 per cent of GDP by 2008-09. However, the fiscal consolidation efforts of the government were de-railed as an aftermath of the 2007-08 global financial crisis. Given the growing importance of service sector in India's GDP, this study analysed the empirics of service taxation in India and its potential for revenue mobilisation.

Service tax revenue collection, in absolute terms, has increased significantly from Rs 410 crores in 1994-95 when the tax was first introduced in India, to more than Rs 97,509 crores in 2011-12. This can be mostly attributed to the quantum jump both in the number of services taxed as well as the number of tax assessees. However, when the underlying dynamics of service tax collection over the past 18 years is analysed, it is found that the contribution of service tax to the Central Government's total tax revenue collection (10.97 per cent in 2011-12) is not commensurate with the towering share of services in India's GDP (55.2 per cent in 2011-12). From a dis-aggregated analysis of the composition of India's service tax basket based on GDP classification of CSO, it is found that "business and real estate services" have replaced "communication and insurance services" as major tax revenue earners in recent years. The emergence of "business services and real estate and ownership of dwellings" as major contributors to service tax basket in recent years, is in consonance with the growing share of these sub-sectors in India's private services GDP. These findings are reinforced when the pattern of service taxation is analysed, based on PFCE classification of CSO. Despite the share of Services PFCE in Services GDP exceeding 50 per cent in recent years, it is found that the share of actual service tax revenue collection in total services GDP has increased only marginally. Since service tax is a consumption-based tax, a rise in private final consumption expenditure on services in the Indian economy should have opened up more and more avenues for taxation of services, which has not happened. The degree of positive correlation between Services PFCE and service tax collection is found to be higher than that of private services GDP and service tax collection. When income elasticity of service tax revenue collection is estimated for the Indian economy using pooled FGLS, it is found to be only 0.52. An elasticity coefficient less than 1 implies that revenue collection from service taxation has not kept pace with the growth in service sector GDP. The above findings, when juxtaposed with India's low tax-GDP ratio, point to the existence of untapped revenue potential for service taxation in the country.

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Appendix

Table A1: Service GDP-Tax Classification

Services GDP categories (CSO classification)	Service Tax Revenue Collection categories (DST classification)
Communication	Telecommunication Services, Pager, Courier, Online information, Video-tape production, Sound-recording, Cable-operator, Internet Cafe, Opinion Polls Services, TV/Radio Program Production, Internet Telephony Service, Public-relations services, Transferring temporarily or permitting use of copy right in respect of cinematographic films and sound recording.
Transport and Storage	Air-travel Agent, Tour-operators, Goods Transport Operators, Custom House Agent, Steamer Agent, C and F Agent, Rent-a-Cab, Port Services, Authorised Service Station, GTO/GTA, cargo-handling, storage and ware-housing, rail travel agent, airport services, transfer of goods by air, travel agents(other than air/rail), transport of goods through pipeline, transport of goods in containers by rail, transport of passengers embarking on international journey by air other than economy class, ship-management service, transport of persons by cruise ship, transport of coastal goods and goods through national waterways or goods through inland water.
Community, Social and Personal services	Mandap keeper, outdoor caterer, pandal/ shamiana, photography, convention service, event management, packaging service, Interior decorator, dry-cleaning, maintenance and repairs, cleaning services, beauty parlours, health and fitness, cosmetic surgery or plastic surgery services, security agency, fashion designing, mech. slaughter, broadcasting, commercial training and coaching, Health services like health check-up undertaken by hospitals or medical establishments for employees, Services of permitting commercial use or exploitation of any event organised by a person or organisation, Services provided by electricity exchange, Services of Air-conditioned restaurants having license to serve alcoholic beverages in relation to service of food or beverages.
Banking/ Finance	Banking and other, credit card, debit card, charge card or other payment card related service, ATM operations, market research agency, credit-rating agency, Stock broker, share transfer agent, auctioneers service, registrar to an issue, stock exchange services.
Insurance	Insurance, ins. aux. services, aux. ser. life insurance, recovery agent, on life-insurance business (under ULIP scheme).
Business services	Advertising, CHAs, CA, cost accountant, company secretary, underwriter, management consultant, scientific or technical consultancy service, , business aux. service, franchise services, technical testing and certification, business exhibition, IPRs, forward contract, mailing list compilation, maintenance or management, sale of space or time for advertising, sponsorship service, business support service, development and supply of content, asset management, design services, IT software for use in course or furtherance of business or commerce, recognised regd. associations in relation to assisting, regulating business of sale/purchase of goods or onward contracts, processing of goods or forward contracts, supply of tangible goods including machinery, equipment and appliances, legal consultancy services, manpower recruitment agency, other miscellaneous receipts, Services promoting marketing or organising of games of chance including lottery, bingo or lotto, Services relating to maintenance of medical records of employees business entity, Services of promoting a brand of goods, services, events, business entity etc.
Real-estate and ownership of dwellings	Const. engineer, architect, commissioning and installation, real-estate agent, sur. and exp. of minerals, commercial or industrial construction services, construction of residential complex, dredging service, renting of immovable property, works contract, mining of mineral, oil or gas, survey and map-making, site preparation, Special service provided by a builder to the prospective buyers such as providing preferential location or development of residential complex or commercial complex, Services of providing of accommodation in hotels/inns/clubs/guest houses/campsite for a continuous period of less than three months.

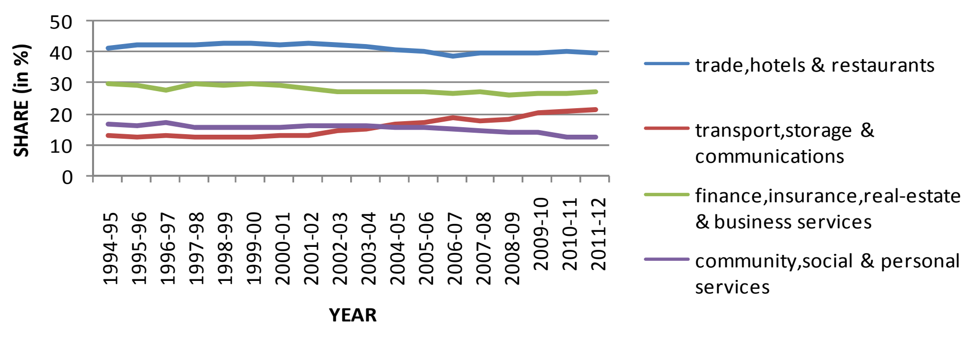
Source: Author's compilation based on information from Directorate of Service Tax, Ministry of Finance and National Accounts Statistics, Central Statistical Organisation, Government of India

Table A2: Service PFCE-Tax Classification

Services PFCE categories (CSO classification)	Service Tax Revenue Collection Categories (DST classification)
Communication	Telecommunication Services, Pager, Courier, Online information, Video-tape production, Sound-recording, Cable-operator, Internet Cafe, Opinion Polls Services, TV/Radio Program Production, Internet Telephony Service, public-relations services, Transferring temporarily or permitting use of copy right in respect of cinematographic films and sound recording.
Transport and Storage	Air-travel Agent, Tour-operators, Goods Transport Operators, Custom House Agent, Steamer Agent, C and F Agent, Rent-a-Cab, Port Services, Authorised Service Station, GTO/GTA, cargo-handling, storage and warehousing, rail travel agent, airport services, transfer of goods by air, travel agents(other than air/rail), transport of goods through pipeline, transport of goods in containers by rail, transport of passengers embarking on international journey by air other than economy class, ship-management service, transport of persons by cruise ship, transport of coastal goods and goods through national waterways or goods through inland water
Recreation and Cultural Services	Mandap keeper, outdoor caterer, pandal/shamiana, photography, convention service, event management, packaging service, Services of permitting commercial use or exploitation of any event organised by a person or organisation, Services of Air-conditioned restaurants having license to serve alcoholic beverages in relation to service of food or beverages.
Furnishing services	Interior decorator, dry-cleaning, maintenance and repairs, cleaning services
Personal care and effects	Beauty parlours, health and fitness, cosmetic surgery or plastic surgery services, Health services like health check-up undertaken by hospitals or medical establishments for employees.
Other Miscellaneous services	Stock broker, insurance, advertising, CHAs, const. engineer, architect, credit-rating agency, CA, cost accountant, market research agency, company secretary, real-estate agent, security agency, underwriter, management consultant, mech. slaughter, scientific or technical consultancy service, ins. aux. services, banking and other, aux. ser. life insurance, fashion designing, broadcasting, business aux. service, commissioning and installation, franchise services, tech. testing and certification, business exhibition, sur. and exp. of minerals, IPRs, forward contract, commercial or industrial construction services, construction of residential complex, dredging service, mailing list compilation, survey and map-making, site preparation, registrar to an issue, share transfer agent, ATM operations, maintenance or management, recovery agent, services provided by electricity exchange, sale of space or time for advertising, sponsorship service, business support service, auctioneers service, credit card, debit card, charge card or other payment card related service, mining of mineral, oil or gas, renting of immovable property, works contract, development and supply of content, asset management, design services, IT software for use in course or furtherance of business or commerce, on life-insurance business (under ULIP scheme), stock exchange services, recognised regd. associations in relation to assisting, regulating business of sale/purchase of goods or onward contracts, processing of goods or forward contracts, supply of tangible goods including machinery, equipment and appliances, legal consultancy services, manpower recruitment agency, commercial training and coaching, Other miscellaneous receipts, Services promoting marketing or organising of games of chance including lottery, bingo or lotto, Services relating to maintenance of medical records of employees business entity, Services of promoting a brand of goods, services, events, business entity etc., Special service provided by a builder to the prospective buyers such as providing preferential location or development of residential complex or commercial complex, Services of providing of accommodation in hotels/inns/clubs/guest houses/campsite for a continuous period of less than three months.

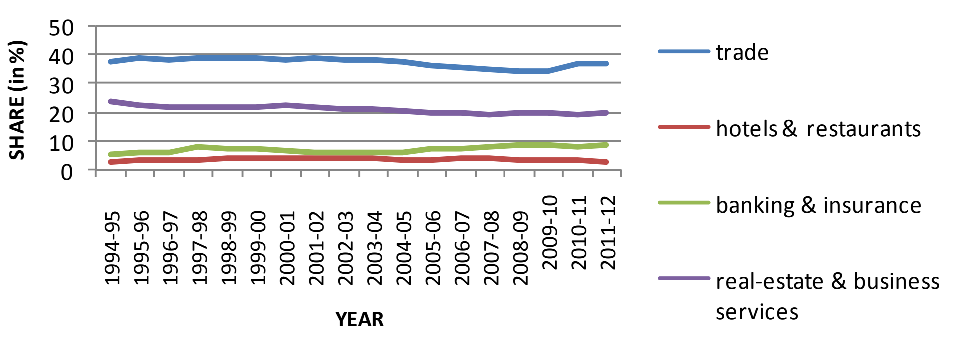
Source: Author's compilation based on information from Directorate of Service Tax, Ministry of Finance and National Accounts Statistics, Central Statistical Organisation, Government of India

Figure A1: Components of India's Private Services GDP (1994-95 to 2011-12)



Source: Author's compilation based on data from National Account Statistics, CSO

Figure A2: Share of sub-sectors in Private Services GDP (1994-95 to 2011-12)



Source: Author's compilation based on data from National Account Statistics, CSO

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