

*Survey on Computer Software & Information Technology Enabled Services Exports: 2014-15**

The annual survey on Computer Software and Information Technology Enabled Services (ITES) Exports collects information on various dimensions of exports of computer services and ITES exports, including Business Process Outsourcing (BPO). Details on export of software services are collected as per the type of activity/services (on-site/off-site) and country of destination along with the modes of supply. The results of the 2014-15 round of the survey, covering nearly three-fourths of the sector's export are presented here. The article analyses the trend in major aggregates based on the recent survey¹ rounds and also examines any changes in the characteristics of software services exports.

I. Introduction

The Reserve Bank conducts annual survey on 'Computer Software and Information Technology Enabled Services (ITES) Exports' for estimation of various aspects of export of Computer Services/ITES/Business Process Outsourcing (BPO). This survey is being conducted since 2002-03 as per the recommendations of the National Statistical Commission (2001) and subsequent guidance from the Technical Group on Computer Services Exports (TGCSE) (2008). The survey collects details of exports of computer services following the *Balance of Payments and International Investment Position Manual (BPM6)* of the International Monetary Fund (IMF) and the *Manual on Statistics of International Trade in Services (MSITS)*, which is joint effort of seven international agencies, as well as other select information on ITES/

* Prepared in the External Liabilities and Assets Statistics Division, Department of Statistics and Information Management, Reserve Bank of India, Mumbai. The previous article in the series with reference period 2013-14 was published in March 2015 issue of the Reserve Bank of India Bulletin.

¹ Detailed results relating to this survey are released on RBI website (www.rbi.org.in) on December 08, 2015 in form of a Data-Release, which also includes details of the computer software services exports covered under the survey.

BPO services exports. Data on exports as per the four modes of supply (*viz.*, cross-border supply, consumption abroad, commercial presence and presence of natural persons) as defined in MSITS are also collected. The previous round of this survey was conducted for the reference year 2013-14.

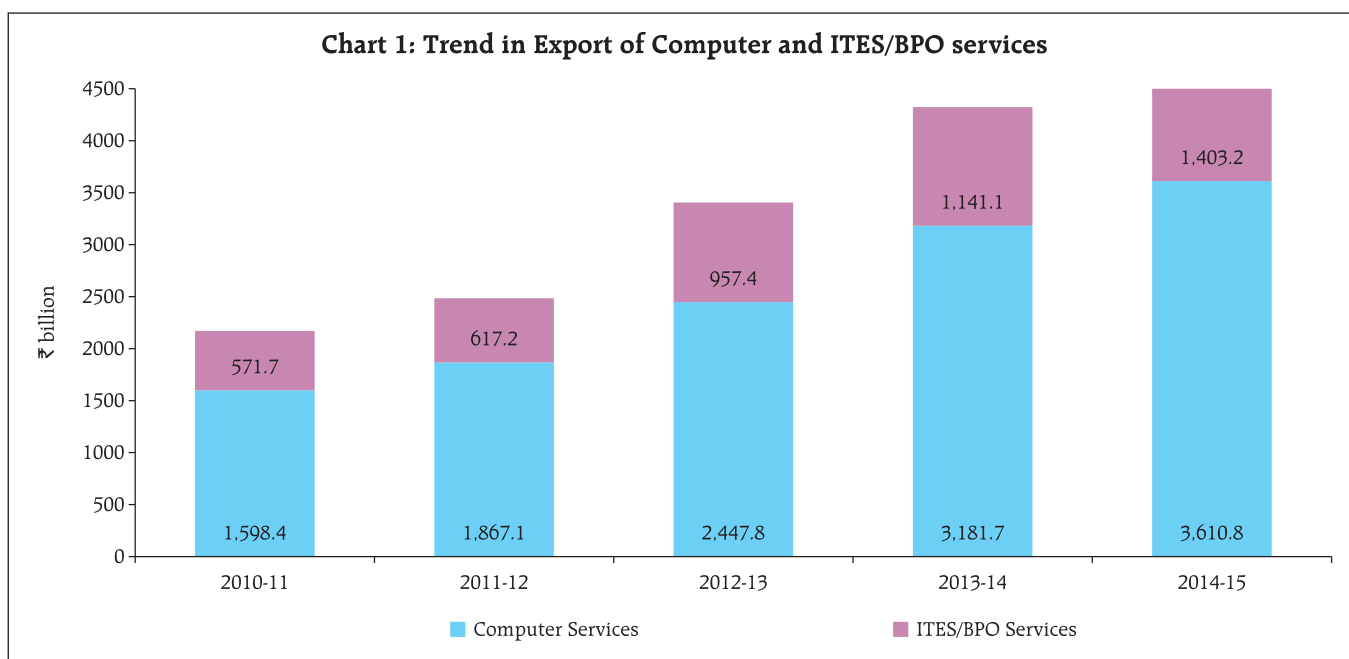
For the latest round of the survey, which was ninth in the series, the schedule was canvassed among around 7,000 companies. Responses were received from 1,095 companies, which included most of the large IT companies. Of these, 134 cases were for Nil-return or for closed companies and the remaining 961 companies together accounted for 76.7 per cent of the total software services exports during the year. The methodology for estimation of software exports of the non-responding companies is given in the Annex.

II. Software Services Export from India – Recent Trends

Computer Software and IT-enabled services are important activity in the Indian economy, which also have significant net exports. Growth of export of Software services from India witnessed some moderation around the global financial crisis in 2008-09 but recovered in the subsequent period. As per balance of payments (BoP) statistics, India's software services exports (other than on-site exports), stood at ₹4,472.8 billion in 2014-15, which constituted nearly 47 per cent of total services exports of India and stood at around 3.6 per cent of GDP.

Export of Software services are divided into two major categories in this survey: (i) Computer Services exports which include IT services as well as Software Product Development and (ii) ITES/BPO services (including engineering services). During 2014-15, export of computer software services and ITES/BPO services are estimated at ₹3,610.8 billion (US\$ 59.1 billion) and ₹1,403.2 billion (US\$ 22.9 billion), respectively. In addition, there was substantial export through overseas commercial presence.

As per the MSITS, international trade in services can be conducted through four different modes, *viz.* (i) transactions between resident and non-resident



covering cross-border supply (Mode-1), consumption abroad (Mode-2) and presence of natural person (Mode-4) and (ii) services provided locally by the affiliates established abroad, *i.e.*, commercial presence (Mode-3). However, as per the BoP manual, foreign affiliates established abroad are treated as the domestic units in the host economy and hence the services delivered by them are not considered as the exports of the home country. To this extent, data on services exports in BoP

differs from those in the Foreign Affiliates Trade in Services (FATS) statistics.

India's total export of computer services and ITES/BPO services by Mode-1, Mode-2 and Mode-4 (*i.e.*, excluding commercial presence) is estimated at ₹5,014 billion (US\$ 82 billion), showing 14.9 per cent annual growth in US \$ terms. Computer services continue to be the dominant component of India's software services exports during 2014-15 (around 72

Table 1: Components of Software Services Exports from India

(₹ billion)

Activity	Software Services Exports					Share in Total (%)		
	2010-11	2011-12	2012-13	2013-14	2014-15	2010-11	2013-14	2014-15
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
A) Computer Services	1,598.4	1,867.1	2,447.8	3,181.7	3,610.8	73.7	73.6	72.0
<i>Of which:</i> i) IT services	1,492.2	1,661.8	2,256.7	2,936.7	3,399.7	68.8	67.9	67.8
ii) Software Product Development	106.2	205.3	191.1	245.0	211.1	4.9	5.7	4.2
B) ITES/BPO Services	571.7	617.2	957.4	1,141.1	1,403.2	26.3	26.4	28.0
<i>Of which:</i> i) BPO Services	468.7	523.0	789.6	934.1	1,089.2	21.6	21.6	21.7
ii) Engineering Services	103.0	94.2	167.8	206.9	314.0	4.7	4.8	6.3
Total Export of Software Services (A+B)								
in ₹ billion (A+B)	2,170.1	2,484.3	3,405.2	4,322.8	5,014.0	100.0	100.0	100.0
in US \$ billion *	47.6	51.8	62.6	71.4	82.0			
Annual Growth (in US \$ terms)		8.9	20.7	14.1	14.9			

* Using Average Exchange Rate for the year (applicable for all tables)

Table 2: Industry-wise Share of ITES/BPO Services Exports

(per cent)

Activity	2010-11	2011-12	2012-13	2013-14	2014-15
	(1)	(2)	(3)	(4)	(5)
BPO Services	82.0	84.7	82.5	81.9	77.6
Customer interaction services	12.2	14.4	10.9	8.4	4.6
Finance and Accounting, auditing, book keeping and tax consulting services	13.4	23.5	9.7	11.2	12.2
HR Administration	0.5	0.2	0.9	0.7	0.9
Procurements and logistics	0.5	0.0	0.4	0.3	0.5
Medical transcription	0.6	0.2	0.7	1.3	1.0
Document Management	0.6	0.4	0.5	0.9	0.7
Content development and management and publishing	0.8	0.7	1.4	0.9	0.9
Other BPO service	53.4	45.3	58.0	58.1	56.8
Engineering Services	18.0	15.3	17.5	18.1	22.4
Embedded Solutions	2.4	2.1	4.1	5.3	4.1
Product Design Engineering (mechanical, electronics excluding software)	8.6	7.0	5.9	5.5	5.9
Industrial automation and enterprise asset management	0.6	0.0	2.4	0.2	0.2
Other Engineering service	6.4	6.2	5.1	7.1	12.2
Total BPO Services	100.0	100.0	100.0	100.0	100.0

per cent share: Chart 1 and Table 1). The share of ITES/BPO services in the total Computer software and ITES/Services exports increased during the year. 'IT services' remained the major component in the 'Computer Services' category.

III. Industry-wise Distribution of ITES/BPO Services Exports

The industry classification given by the Department of Information Technology (DIT-2003), Government of India, was used for compilation of data on exports of *ITES/BPO services*. Among the *BPO services* exports, '*Finance and Accounting, auditing, book-keeping and tax consulting services*' and '*Customer interaction services*' were the major components.

During 2014-15, export of *Engineering services* recorded robust increase of ₹107.1 billion as compared to an increase of ₹39.1 billion in the previous year. On the other hand, exports in *BPO services* increased by ₹155.1 billion (₹144.5 billion in the previous year) (Table 1). Among *BPO services*, the share of '*Customer interaction services*' declined (Table 2) whereas the share of '*Finance and Accounting, auditing, book-keeping and tax consulting services*' increased. The share of '*Embedded Solutions*' among *Engineering*

services declined during the year. However, '*other BPO services*' (*i.e.*, Legal services, Animation, Gaming, Pharmaceuticals and biotechnology services, *etc.*, as well as combination of services) constituted more than half of the ITES/BPO services, which recorded an increase of ₹133.9 billion in 2014-15 (Table 2).

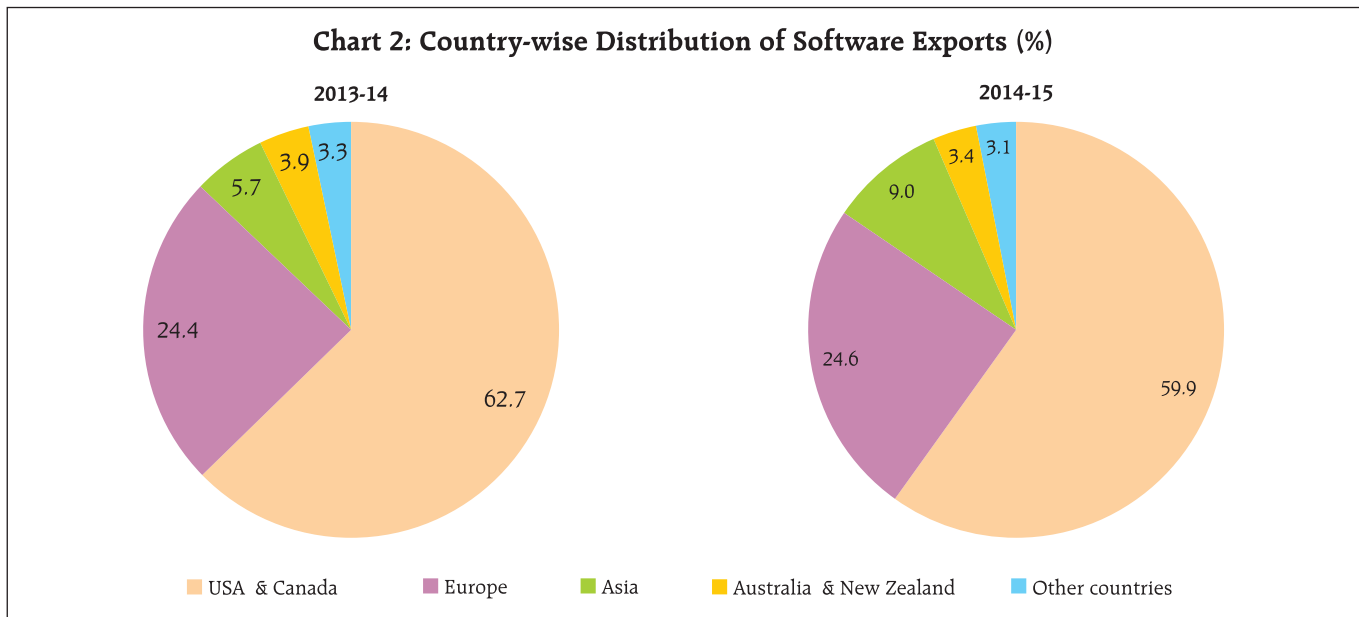
IV. Organisation-wise Distribution of Software Exports

The increased presence of foreign subsidiaries of Indian companies resulted in higher share of Private Limited Companies in total software exports. Public limited companies, however, continued to have the dominant share of the total software services exports but their share declined to 55.6 per cent in 2014-15 from 63.6 per cent in the previous year (Table 3).

Table 3: Organisation-wise Share of Software Services Exports

(per cent)

Organisation	2010-11	2011-12	2012-13	2013-14	2014-15
	(1)	(2)	(3)	(4)	(5)
Private Limited Companies	38.5	41.2	35.3	36.0	43.1
Public Limited Companies	61.3	58.7	64.6	63.6	55.6
Others	0.2	0.1	0.1	0.4	1.3
Total	100.0	100.0	100.0	100.0	100.0



V. Country-wise Distribution of Software Services Exports

The share of Asia in software export increased significantly to 9.0 per cent during 2014-15 from 5.7 per cent in the previous year whereas the share of United States & Canada came down. Nevertheless, United States & Canada remained the top destination (with combined share of 59.9 per cent) for software services exports from India, followed by Europe, which had nearly one-fourth share (Chart 2).

VI. Currency Composition of Software Services Exports

US Dollar continued to remain the dominant currency of invoicing software export. During 2014-15, nearly three-fourth of total invoicing was US dollar-denominated. Software exports invoicing in Indian Rupee has increased to 3.4 per cent in 2014-15 from 2.5 per cent in the previous year. The shares of other currencies also remained around the previous year's level (Chart 3).

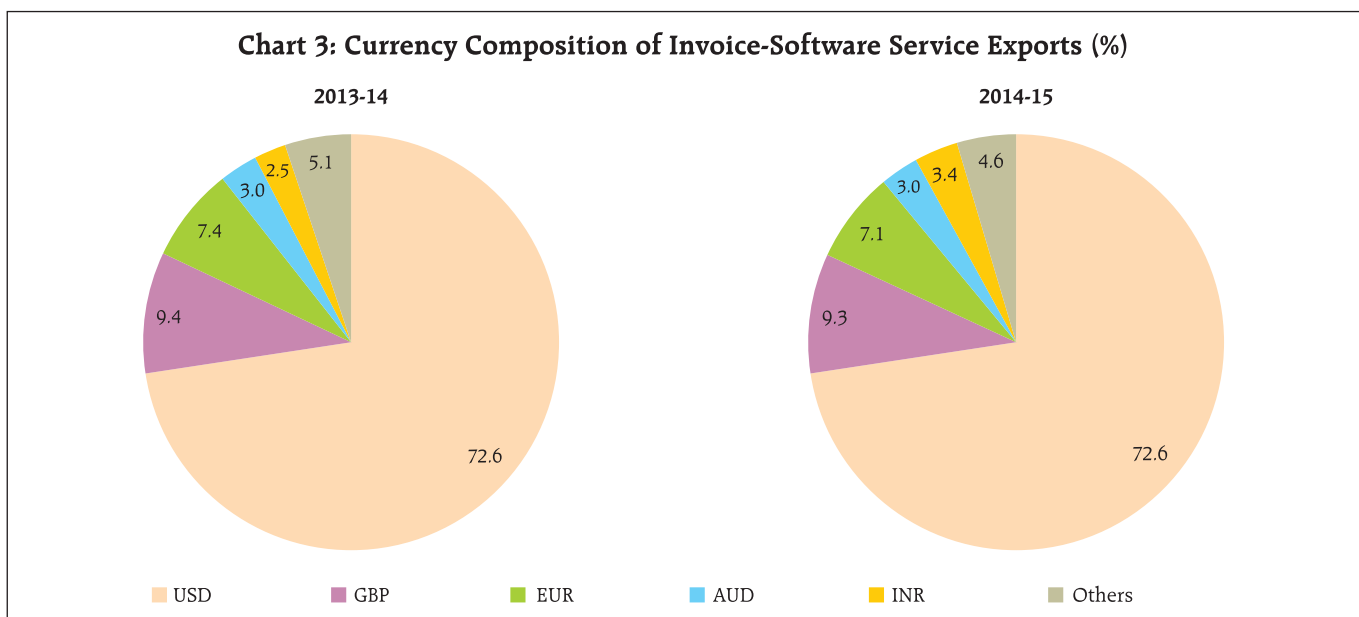


Table 4: Share of On-site and Off-site Exports

Type of Services	(per cent)				
	2010-11	2011-12	2012-13	2013-14	2014-15
	(1)	(2)	(3)	(4)	(5)
On-site (Mode-4)	20.7	17.8	15.8	19.8	20.0
Off-site (Mode-1 & Mode-2)	79.3	82.2	84.2	80.2	80.0
Total	100.0	100.0	100.0	100.0	100.0

VII. Modes of Software Service Exports

India's export of Software services are through both on-site and off-site routes. The share of export of software service through on-site mode and off-site mode in 2014-15 remained close to 2013-14 position (Table 4). The survey collected the software services trade data on all four modes of supply. The total international trade in computer services by India of all four modes of supply together stood at ₹5,855.7 billion (US\$ 95.8 billion) in 2014-15. The share of software services exports by India through Mode-3 (commercial presence) increased in 2014-15 while that through Mode-1 (cross-border supply: which has highest share among all modes) declined marginally (Table 5).

VIII. Software Business of Subsidiaries/Associates

The survey also collects information on the software business of foreign subsidiaries/associates of Indian companies (foreign affiliates), under the heads

Table 5: Software Exports by Different Modes

Type of Mode	(per cent)				
	2010-11	2011-12	2012-13	2013-14	2014-15
	(1)	(2)	(3)	(4)	(5)
Mode 1 (cross-border supply)	67.4	69.0	74.7	69.0	68.4
Mode 2 (consumption abroad)	0.1	0.5	1.6	0.1	0.1
Mode 3 (commercial presence)	14.8	15.4	9.4	13.7	14.4
Mode 4 (presence of natural person)	17.7	15.1	14.3	17.1	17.1

of software business done in the host country, *i.e.*, locally, to India and to other countries, for the purpose of Foreign Affiliates Trade Statistics (FATS). The total software business of the Indian-owned foreign affiliates (excluding the services provided to India), which had moderated following the global financial crisis in 2008, was increased to ₹998.6 billion (US\$ 16.6 billion) as compared with ₹825.2 billion (US\$ 13.7 billion) in the previous year. Their business of these subsidiaries to India increased to ₹335.7 billion (US\$ 5.5 billion) in 2014-15 as compared with ₹276.7 billion (US\$ 4.6 billion) in the previous year.

Indian companies providing the combination of the four broad group of services (*viz.*, IT services, Software product development, BPO services and Engineering services) were classified under 'Other

Table 6: Software Business by Foreign Affiliates of Indian Companies

Activity	(₹ billion)														
	2010-11			2011-12			2012-13			2013-14			2014-15		
	Locally	To India	Other Countries	Locally	To India	Other Countries	Locally	To India	Other Countries	Locally	To India	Other Countries	Locally	To India	Other Countries
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
IT services	17.9	0.2	1.6	27.5	10.7	5.4	23.9	1.8	0.4	37.4	2.0	3.0	28.5	2.2	3.1
Software Product Development	4.7	0.0	0.6	1.6	0.7	8.0	5.0	2.3	11.2	0.0	0.0	14.1	7.4	0.6	16.4
BPO Services	15.2	0.6	9.1	31.0	4.4	12.3	15.9	0.4	3.6	7.1	0.1	0.2	17.4	2.3	6.2
Engineering Services	1.7	0.3	0.0	1.5	0.3	20.6	1.6	0.5	0.0	0.1	0.0	0.0	4.5	0.0	0.1
Other services	338.2	4.4	26.7	391.8	0.4	20.8	307.4	184.6	28.9	644.3	274.6	118.9	783.9	330.6	131.1
Total (₹ billion)	377.7	5.4	38.1	453.4	16.4	67.0	353.8	189.6	44.1	689.0	276.7	136.2	841.7	335.7	156.9
Total (USD billion)	8.3	0.1	0.8	9.5	0.3	1.4	6.5	3.5	0.8	11.4	4.6	2.3	13.8	5.5	2.6

services' category. Under 'Other Services' category, foreign affiliates were the major source for generating the software business outside India. Software services provided by foreign affiliates in all countries decreased for '*IT services*', whereas it increased for '*BPO services*', '*Engineering services*' and '*Software product development*'.

USA accounted for nearly two-third share of total software business by foreign affiliates in 2014-15, followed by UK which had nearly eight per cent share. Among other major countries, the share of Canada, Germany and Netherlands in the total software

business of foreign affiliates declined during the year (Table 7).

IX. Conclusion

During 2014-15, India's export of computer software services moderated, however, ITES/BPO services showed good growth. Total international trade in software services by India, including the services delivered by foreign affiliates established abroad, is estimated at ₹5,855.7 billion (US\$ 95.8 billion) in 2014-15. Software exports by foreign affiliates of Indian companies stood at ₹1334.3 billion (US\$ 21.9 billion) in 2014-15. US dollar remained the invoice currency for nearly three-fourths of the software exports during the year.

Despite the moderate pace of global growth, the Indian software industry has maintained its export growth momentum in the recent years including through overseas presence. Mode-1 (cross-border supply) continued to be the major mode of software services exports and on-site exports accounted for another one-fifth of total software exports in 2014-15. USA continued to remain the major destination for software exports as well as software business by foreign affiliates of Indian companies, though there was some diversification in recent years.

Table 7: Software Business by Foreign Affiliates of Indian Companies - Country-wise Distribution

Country	(per cent)				
	2010-11	2011-12	2012-13	2013-14	2014-15
	(1)	(2)	(3)	(4)	(5)
USA	67.5	65.0	71.3	65.4	66.7
United Kingdom	6.8	5.3	6.6	7.9	8.0
Canada	2.7	3.6	4.1	4.1	3.3
Germany	2.5	2.9	3.0	3.5	2.4
Singapore	3.4	4.4	2.7	3.3	3.3
Netherlands	3.6	4.3	2.1	3.2	2.3
Other Countries	13.5	14.5	10.2	12.5	14.0
Total	100.0	100.0	100.0	100.0	100.0

Box: Comparison of survey results with NASSCOM and BoP data

The Reserve Bank publishes the software exports data in BoP using data reporting by Authorised Dealers (ADs), STPI and also the software exports data released by the NASSCOM. This accounts for only non-physical offsite software exports. As per the BoP data released by the RBI, non-physical (off-site) software exports stood at ₹4,472.8 billion in 2014-15 which does not include on-site software exports. Adding the on-site software exports of ₹1001.5 billion (US\$ 16.4 billion), as reported in the survey, the total software services exports in 2014-15 worked out to ₹5,474.3 billion (US\$ 89.5 billion).

NASSCOM publishes exports of IT-BPO industry which is based on the global software business of the Indian software companies, *i.e.*, software exports of Indian companies together with the software business of their overseas subsidiaries. Accordingly, in order to make the data generated through the RBI's survey on Software & ITES/BPO Services Exports comparable with NASSCOM data, the software business of

overseas subsidiaries of Indian companies have been added to the estimated software services exports of India, based on the survey.

Based on the survey, export of software services from India in 2014-15 was estimated at ₹5,014.0 billion (US\$ 82.0 billion) and the software business done by the Indian subsidiaries abroad in 2014-15 was estimated at ₹841.7 billion (US\$ 13.8 billion). Thus, the global software export of India based on the survey was ₹5,855.7 billion (US\$ 95.8 billion) as against ₹6,020.5 billion (US\$ 98.5 billion) published by the NASSCOM. The software business done by the overseas subsidiaries of Indian companies accounted for 14.4 per cent of the global software business, estimated through the survey.

The survey results are quite comparable with the software exports data released by NASSCOM and also with the software service exports data of BoP.

Reconciliation of Software Exports of India during 2014-15

(₹ billion)

Software exports as per NASSCOM (Global business)	Software Exports based on annual Survey			Software Exports based on Balance of Payment Statistics		
	Indian companies (Mode 1, Mode 2 & Mode 4)	Subsidiaries abroad (Mode 3 & export of Subsidiaries other than India)	Global Business	Software Exports based on BoP data	On-site software exports based on survey (Mode 4)	Total Software Exports of India
(1)	(2)	(3)	(4) = (2) + (3)	(5)	(6)	(7) = (5) + (6)
6,020.5	5,014.0	841.7	5,855.7	4,472.8	1,001.5	5,474.3

Annex

Methodology for estimation of Software Services Exports of Non-responding companies

Annual survey on Software and IT Services Exports for the period 2014-15 was launched among nearly 7,000 Software and ITES/BPO companies. Of these, 1,095 companies responded to the survey which included 134 NIL and closed companies. The non-respondent companies were generally the smaller companies, as the 961 active companies that supplied data included all major companies in the sector.

Using the observed proportion, number of companies with NIL exports was estimated from 5,905 non-respondent companies and software exports have been estimated for the remaining 5,182 non-responded companies, using the following method:

- I. Based on the ITES/BPO reported activity, companies have been classified in four groups, viz.: IT Services, ITES/BPO Services, Engineering Services and Software Product Development Services (having 100 per cent business under respective group).
- II. For classifying the other companies having combination of these as their business activity, reported proportions of their exports done in IT, BPO, Engineering and Software Product Development services have been used.

III. Based on the reported data, it was observed that 'On-site' software export was primarily reported by the major companies. Therefore, only offshore software exports component was used for estimating software export of non-responded companies.

IV. As the observed distribution of exports was highly positively skewed in each of these groups, median was used for estimating software exports in each group.

Estimated software exports for i^{th} group of non-responding companies

$$= \text{median of } i^{\text{th}} \text{ group} * \left[\frac{\# \text{ reported companies in } i^{\text{th}} \text{ group}}{\text{total no. of reported companies}} \right] * [\# \text{ non-responding companies}]$$

The total software export of India has been compiled as the sum of reported software exports and the estimated software export for non-responded companies in each of the four groups.

Using the methodology given above, the software services exports of non-respondent companies was estimated to the tune of ₹1167.5 billion (around 23.3 per cent of total software services exports).