Services Sector

09

CHAPTER

The services sector remains the key driver of India's economic growth, contributing almost 62 per cent of its gross value added growth in 2016-17. However, the growth of this sector has moderated to 7.7 per cent in 2016-17 compared to 9.7 per cent achieved in the previous year, though it continues to be higher than the other two sectors, agriculture and industry and nearly at the top among the 15 major economies. Services export growth decelerated sharply in the post crisis period, even turning negative in 2015-16 before returning to positive territory in 2016-17 with a tepid growth. The Government has initiated a number of schemes for different services like promoting digitalization, tourism and shipping related policies. These coupled with policies like GST and FDI liberalization have brightened the growth prospects for this sector.

International Comparison

World Services GVA

9.1 In 2015, among the World's 15 largest economies in terms of overall GDP, India's ranking improved to 7th from 9th position in 2014. However in terms of services gross value added (GVA), India's position slipped to 13th in 2015 from 10th position in 2014. In terms of both overall GDP and services GVA, the USA ranks first, while China is in 2nd and 6th positions. In the US$ 70.6 trillion world GVA in 2015, the share of services (at current prices), improved to 67.2 per cent compared to 66.2 per cent in 2014, though it is still lower than the 68.8 per cent achieved in 2001.

9.2 Among these top 15 nations, in the period 2001-15, the highest increase in services share to GVA was recorded by China (8.9 pp), followed by Spain (8.1 pp) India (7.6 pp) and Russia (7.6 pp). However, during the period 2010-15, the highest compound annual growth rate (CAGR) was achieved by India at 8.5 per cent, closely followed by China at 8.4 per cent. In 2015 as in 2014, services GVA growth rate (at constant prices), was 2.6 per cent for the world, while for India it was the highest both in 2014 and 2015 at 10.2 per cent and 9.0 per cent followed by China at 7.9 per cent and 8.3 per cent respectively (Table 1).

9.3 Latest GDP estimates available for some countries show moderation in the growth of services sector. In the US, the services sector growth decelerated to 1.9 per cent in 2016 from 2.8 per cent in 2015 mainly due to slowdown in sectors like real estate, professional and business services. In China also, there was slight deceleration in the growth rate of the services sector to 7.8 per cent in 2016 from 8.3 per cent in 2015. In India, following the general trend, the growth rate in the services sector decelerated

Table 1. Performance of Services Sector: International Comparison.

Country	Rank in		Services growth rate			Share of services in			Services export growth			
	Overall GDP	Services GVA	(per cent) Y-o-Y 2001	(per cent) Y-o-Y 2015	CAGR 2010-15	GVA 2015	employment 2016*	total exports 2016	(per cent) Y-o-Y 2001	(per cent) Y-o-Y 2016	CAGR 2001-08	CAGR 2010-16
USA	1	1	2.0	2.8	1.6	79.3	80.0	33.5	-3.6	0.3	9.5	5.1
China	2	6	10.3	8.3	8.4	49.7	42.4	9.0	9.1	-4.3	23.6	2.6
UK	5	4	3.4	2.4	2.2	79.9	80.0	44.6	-0.8	-4.9	14.5	3.3
India	7	13	7.2	9.0	8.5	53.2	28.6	37.9	4.8	3.6	30.0	5.6
Brazil	9	10	2.2	-2.7	1.3	72.0	68.9	14.9	-2.7	-1.3	18.6	1.8
S. Korea	11	12	4.9	2.9	3.0	59.7	70.2	15.6	-4.9	-5.0	17.4	1.8
Mexico	15	9	1.1	3.6	3.4	60.4	61.2	6.1	-7.5	5.3	5.3	7.9
World			**2.6**	**2.6**	**2.4**	**67.2**	**50.9**	**23.0**	**0.1**	**0.4**	**14.9**	**3.8**

Source: **Computed from UN National Accounts Statistics for GDP/GVA, ILO and World Bank database for employment and World Trade Organization (WTO) database for services trade.**

Note: **Rank and share are based on current prices (2015); growth rates are based on constant prices (US$); construction sector is excluded in services GDP; * For employment data in 2016 for China, India and World, the available data of nearest preceding year is used.**

from 9.7 per cent in 2015-16 to 7.7 per cent in 2016-17 a tad lower than China's, though compared to other countries it is still high.

World Services Employment

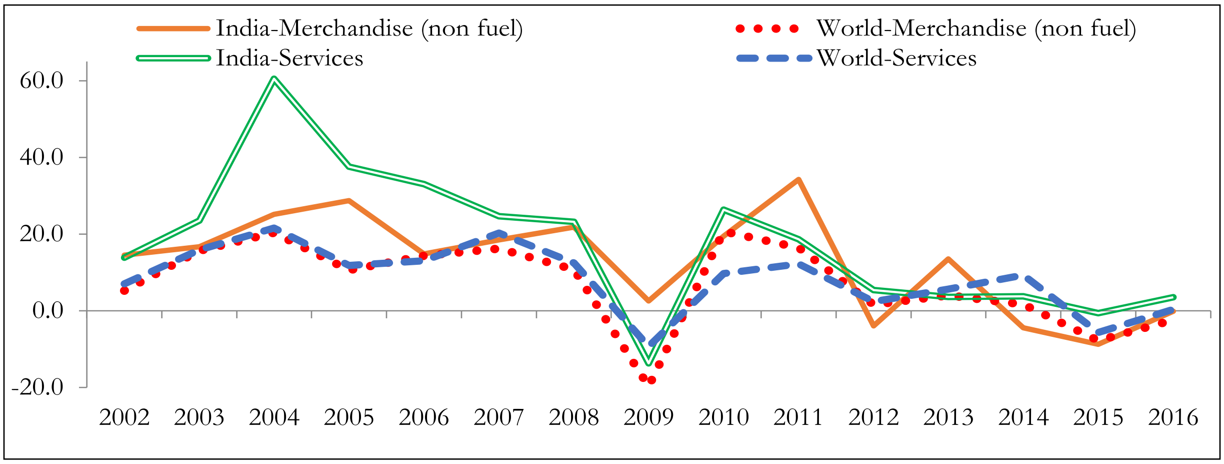
9.4 Among the top 15 services producer countries, the services sector accounts for more than two-thirds of total employment in 2016 in most of them except India, China, and Mexico where the shares are low. India has the lowest share of 28.6 per cent. Of the 15 countries, in the last 15-year period between 2001 and 2016, China had the highest increase in the share of services employment (14.7 pp) while for India, the increase was by only 4.6 pp (Table 1).

World Services Trade

9.5 The CAGR of world commercial services exports decelerated to 3.8 per cent during the post-crisis period (2010-2016) compared to the 14.9 per cent achieved during the pre-crisis period (2001-2008). In the pre-crisis period, among the top 15 services producer countries, the services exports CAGR of India was the fastest at 30 per cent, followed by Russia at 26 per cent and China at 23.6 per cent. However, during the post crisis period (2010-16), services exports CAGR decelerated in all economies, with Mexico registering the highest growth at 7.9 per cent, followed by India at 5.6 per cent. China was a distant 8th with at 2.6 per cent growth. In 2015, while growth of world merchandise exports (both excluding and including fuel), world services exports, India's merchandise exports (both excluding and including fuel) and India's services exports were all in negative territory, it was only marginally negative in the case of India's services exports growth at -0.6 per cent compared to the -5.7 negative growth in the case of the world services exports (Figure 1a). However, the deceleration in India's services export growth over the years is more marked. Splitting the time series into two sub-periods, i.e. post-crisis and pre-crisis shows that both India's and world's services exports trend growth were almost flat in the pre-crisis period, while in the post crisis period the deceleration in trend growth of India's services exports was sharper than world services export growth (Figure 1 b). While the deceleration was triggered by the general global environment including the 2008 global financial crisis, the rather subdued recovery of India's services exports in 2010 could not even be sustained with the tepid and even negative export growth in the following years of major services like computer and financial services.

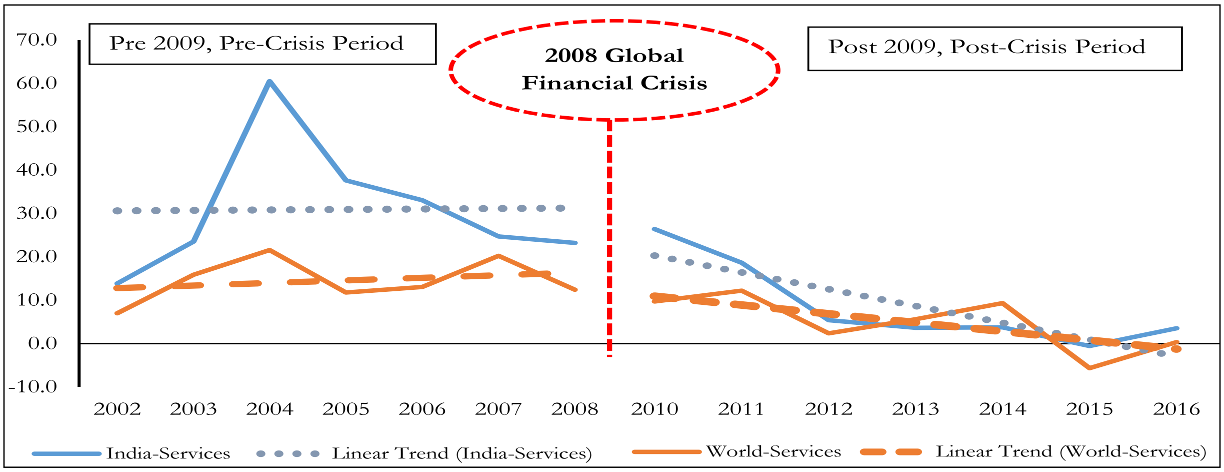
9.6 As per the latest World Trade Organization (WTO) data for 2016, services export growth is in negative territory for many economies, though for India it is positive at 3.6 per cent and higher than the 0.4 per cent global services export growth. While it is also positive and higher than that of India for countries like Japan, Australia, Spain and Mexico, it is negative for China at – 4.3 per cent.

Figure 1 a. Growth of Merchandise (Non-Fuel) and Services Exports: World and India (per cent)



Source: **Based on ITC Trade Map and WTO data.**

Figure 1 b. World and India Services Export Growth Rate: Pre & Post 2009 Comparison (per cent)



Source: **Based on WTO data.**

Foreign Direct Investment in World Services Sector

9.7 The services sector accounted for 65 per cent of global FDI stock in 2015, though a large part of this relates to affiliates of primary sector and manufacturing MNEs that perform services-like activities, and fall under services as a default category, thus overstating FDI in services by more than a third (World Investment Report 2017). As per the report, Executives' expectations for Global FDI activity in 2017-19 show that 65 per cent of the respondents expect an increase in services. With greater digitization, greater investment in services is expected. The overall sectoral patterns of inward investment are similar in developed and developing economies, but variations among developing regions are pronounced with developing Asia services accounting for a considerable share of services FDI, mainly owing to their predominance in Hong Kong (World Investment Report 2016).

9.8 According to the Global Investment Trend Monitor February 2017 Edition of the United Nations Conference on Trade and Development (UNCTAD), global foreign direct investment (FDI) flows fell by 13 per cent in 2016, reaching an estimated US$1.52 trillion, as global economic growth remained weak and world trade volumes posted anemic gains. In line with this trend, global FDI in services sector is likely to have fallen.

India's Services Sector

Services GVA and Gross Capital Formation

9.9 As per the provisional estimates (PE) of real gross value added (GVA) released by the Central Statistics Office (CSO) for the year 2016-17, services sector growth (i.e. GVA at constant (2011-12) basic prices), decelerated to 7.7 per cent from 9.7 per cent in the previous two years mainly due to deceleration in growth in two services categories- trade, hotels, transport, communication and services related to broadcasting (7.8 per cent), and financial, real estate & professional services (5.7 per cent). However, there is acceleration in growth rate of Public Administration and other services category to 11.3 per cent from 6.9 per cent in the previous year mainly due to implementation of the recommendations of the 7th Pay commission. The share of services sector in total gross capital formation (GCF), at current prices has increased consistently over the last four years from 53.3 per cent in 2011-12 to 60.3 per cent in 2015-16. But the growth rate of services GCF at constant (2011-12) prices at 7.6 per cent in 2015-16 has nearly halved compared to 2014-15, mainly due to the negative growth of -2.4 per cent in GCF of real estate, ownership of dwellings & professional services. However services GCF growth continues to be higher than the total GCF growth (Table 2).

State-wise Comparison of Services

9.10 Out of the 32 states and union territories(UTs) for which data are released for new base 2011-12 series by CSO, data for only 10 states/UTs are available for 2016-17, and 23 states/UTs for 2015-16. Among these 32 states/UTs, the services sector is the dominant sector contributing more than half of the gross state value added (GSVA) in 16 states and UTs and more than 40 per cent in all states except Arunachal Pradesh, Chhattisgarh, Gujarat, Madhya Pradesh, Uttarakhand and Sikkim. The major services in most of the states are trade, hotels and restaurants, followed by real estate, ownership of dwellings and business services. Out of the 23 states and UTs for which data are available for 2015-16, Chandigarh is at the top in terms of share of services GSVA at 88.4 per cent, while Jharkhand is at the top in terms of services GSVA growth at 16.4 per cent (Figure 2).

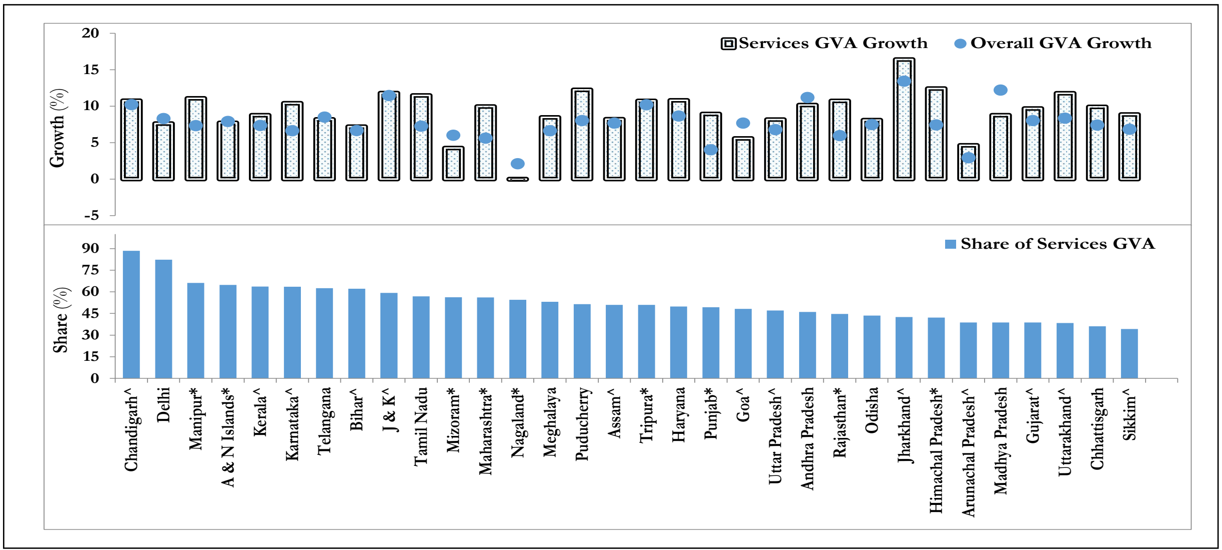
Table 2. Share and Growth of India's Services Sector (GVA at basic price)

	GVA(per cent)			GCF(per cent)	
	2014-15	2015-16	2016-17@	2014-15	2015-16
Total Services	**51.8(9.7)**	**52.9(9.7)**	**53.8(7.7)**	**59.8(14.0)**	**60.3(7.6)**
Trade, repair, hotels and restaurants	11.4(9.2)	11.4(11.2)	18.4(7.8)*	9.4(57.6)	10.1(16.1)
Trade & repair services	10.4(9.4)	10.4(10.9)	NA	8.4(51.4)	8.7(11.3)
Hotels & restaurants	1.0(6.3)	1.0(14.4)	NA	1.0(140.1)	1.5(56.8)
Transport, storage, communication & services related to broadcasting	6.8(8.8)	7.0(9.3)	NA	6.1(-28.1)	6.4(9.9)
Railways	0.8(9.4)	0.8(7.0)	NA	1.7(43.1)	1.9(14.7)
Road transport	3.2(6.5)	3.2(6.7)	NA	2.0(43.1)	2.0(5.5)
Air transport	0.1(14.0)	0.2(16.8)	NA	0.2(21.6)	0.0(-92.3)
Financial services	5.7(9.0)	5.8(6.8)	21.1(5.7)^	1.6(67.4)	1.8(16.8)
Real estate, ownership of dwelling & professional services	14.8(12.1)	15.3(12.5)	NA	28.8(18.9)	26.7(-2.4)
Public Administration and defence & Others	13.0(8.1)	13.4(6.9)	14.2(11.3)	13.8(9.1)	15.4(20.2)
Construction	8.6(4.7)	8.1(5.0)	7.6(1.7)	5.5(25.0)	5.0(-2.4)
Total Services (plus Construction)	**60.4(8.9)**	**61.0(9.1)**	**61.4(6.9)**	**65.3(14.9)**	**65.3(6.7)**
TOTAL GVA/GCF at basic prices	**100.0(7.2)**	**100.0(7.9)**	**100.0(6.6)**	**100.0(7.5)**	**100.0(6.2)**
GDP market Prices (Constant Prices) Y-o-Y	**(7.5)**	**(8.0)**	**(7.1)**		

Source: **Computed from CSO data.**

Note: **Shares are in current prices and growth in constant 2011-12 prices; Figures in parentheses indicate growth rate; @ Provisional Estimate for 2016-17; * Also includes transport, storage, communication & services related to broadcasting; ^ Also includes Real estate, ownership of dwelling & professional services.**

Figure 2. Share and Growth of Services in States (2016-17)



Source: **Computed from CSO data.**

Note: *** 2014-15, ^-2015-16, Share in current prices and growth at constant prices (2011-12).**

FDI in India's Services Sector

9.11 Though there is ambiguity in the classification of FDI in services, the combined FDI share of the top 10 service sectors such as financial and non-financial services falling under the Department of Industrial Policy & Promotion (DIPP)'s services sector definition; telecommunications; trading; computer hardware & software; construction; hotel & tourism; hospital & diagnostic centres; consultancy services; sea transport; and information & broadcasting can be taken as the best estimate of services FDI, though these could include some non-service elements. This share of these services is 55.3 per cent of the cumulative FDI equity inflows during the period April 2000-March 2017 and 60.7 per cent of FDI equity inflows during 2016-17. If the shares of another 5 services or service-related sectors like retail trading, agriculture services, education, ports and air transport are included, then the total share of FDI equity inflows to the services sector would increase to 57.4 per cent and 62.4 per cent respectively for the above two periods.

9.12 There has been a significant growth in FDI equity inflows in 2014-15 and 2015-16 in general (27.3 per cent and 29.3 per cent) and to the services sector in particular (67.3 per cent and 64.3 per cent for top 15 services). However, in 2016-17, the growth rate of FDI equity inflows moderated, growing by 8.7 per cent to US$43.5 billion and FDI equity inflows to the services sector (top 15 services) declining by 1.5 per cent to US$ 27.2 billion. This negative growth in services FDI equity inflows is mainly due to negative growth in computer software & hardware, construction, trading and hotels & tourism (Table 3).

Table 3. FDI Equity Inflows to the Services Sector

		Value (in US$ million)	Percentage to Total (%)	Growth Rate (%)	
Sr	**Sector**	**2016-17**	**2016-17**	**2015-16**	**2016-17**
1	Services Sector*	8684	20.0	55.1	26.0
2	Computer Software & Hardware	3652	8.4	157.2	-38.2
3	Construction #	1966	4.5	182.0	-57.5
4	Trading	2338	5.4	41.0	-39.2
5	Hotels & Tourism	916	2.1	71.5	-31.3
6	Telecommunications	5564	12.8	-54.3	320.1
7	Information & Broadcasting	1517	3.5	295.9	50.3
8	Hospital & Diagnostic Centres	747	1.7	30.7	0.7
9	Consultancy Services	261	0.6	13.0	-49.5
10	Sea Transport	735	1.7	28.8	71.2
	Top 10 service categories (1-10)	**26380**	**60.7**	**62.4**	**-0.9**
	Top 15 Services	**27151**	**62.4**	**64.3**	**-1.5**
	Total FDI Inflows	**43478**	**100.0**	**29.3**	**8.7**

Source: **Based on Department of Industrial Policy and Promotion (DIPP) data.**

Note: *** Financial, banking, insurance, non-financial business, outsourcing, R&D, courier, technology testing and analysis; #Combined with infrastructure activities and townships, housing, built-up infrastructure and construction-development projects.**

9.13 In the last three years, the Government has undertaken a number of reforms to ensure that India remains an increasingly attractive investment destination. The scale of reforms can be gauged from the fact that during this period, 21 sectors also including services activities and covering 87 areas of FDI policy have undergone reforms. FDI policy provisions were radically overhauled across sectors such as construction development, broadcasting, retail trading, air transport, insurance and pension. Besides, initiatives were taken such as the introduction of composite caps in the FDI policy permitting 100 per cent FDI in retail trading of food products with unqualified condition that such food products have to be manufactured and/or produced in India, 100 per cent FDI under automatic route for any financial sector activity which is regulated by any financial sector regulator and above all the recent measure of abolition of the Foreign Investment Promotion Board (FIPB).

India's Services Trade

9.14 India's services exports have been registering good growth for nearly a decade till the global financial crisis in 2008. Services export growth slowed down from 21.6 per cent CAGR during 1994-95 to 2004-05 to 11.9 per cent during 2005-06 to 2014-15. As a result of the uncertain global conditions and weak external demand, India's service export growth even turned negative at -2.4 per cent in 2015-16 after a span of five years. In 2016-17, services exports recorded a positive growth of 5.7 per cent with pick up in some major sectors like transportation, business services and financial services; and good growth in travel (Table 4). With a significant rise in foreign tourist arrivals, travel receipts, accounting for more than 14.2 per cent of

Table 4. Trade Performance of India's Major Services

	Value (US $ Billion)	Share (%)	Annual Growth (%)	
	2016-17	2016-17	2015-16	2016-17
Services Exports	**163.1**	**100.0**	**-2.4**	**5.7**
Travel	23.2	14.2	4.6	9.3
Transportation	15.9	9.7	-19.9	13.2
Miscellaneous	121.2	74.3	-0.9	4.1
Software Services	73.7	45.2	1.4	-0.7
Business Services	32.9	20.2	2.0	13.6
Financial Services	5.1	3.1	-12.7	3.1
Services Imports	**95.7**	**100.0**	**3.7**	**13.0**
Travel	16.4	17.2	-3.4	11.1
Transportation	14.1	14.8	-6.8	-6.3
Miscellaneous	63.0	65.9	9.8	19.5
Software Services	3.6	3.7	-0.3	32.9
Business Services	32.3	33.7	12.5	3.7
Financial Services	5.9	6.1	-12.4	86.7
Net Services Exports	**67.5**	**100.0**	**-9.0**	**-3.2**

Source: **Based on RBI's Balance of Payments (BoP) data (BPM-5).**

services exports, witnessed a growth of 9.3 per cent in 2016-17 compared to 4.6 per cent in the previous year. Transportation services exports increased by 13.2 per cent in 2016-17 as against a decline of 19.9 per cent in 2015-16 reflecting the improving merchandise trade activity. Business services exports recorded a higher growth of 13.6 per cent compared to 2 per cent in the previous year and financial services exports increased by 3.1 per cent as against a decline of 12.7 per cent in the previous year. However, software services exports, accounting for around 45.2 per cent of total services, declined though marginally by 0.7 per cent as domestic software companies faced pricing pressure on traditional services and a challenging global business environment.

9.15 India's services imports registered higher growth of 13.0 per cent in 2016-17 with higher payments for two major services, travel services and miscellaneous services category mainly financial services and software. The fall in services exports and the rise in services import growth led to a decline in net services receipts in 2015-16 by 9.0 per cent. In 2016-17, despite a growth of 5.7 per cent in services exports, relatively higher growth in services imports led to a decline in net services receipts by 3.2 per cent. Net services surplus financed around 60 per cent of India's merchandise trade deficit.

Some Recent Developments in Services Trade Policies and Services Negotiations

Multilateral and Bilateral

9.16 These include the following.

India's Submission on Trade Facilitation in Services (TFS) at WTO: India tabled a draft legal text on TFS at the WTO on 22nd February 2017. The objective behind India's TFS proposal is to initiate discussions at the WTO on how to comprehensively address the numerous border and behind-the-border barriers, across all modes of supply and address the key issues pertinent to facilitating trade in services, such as transparency, streamlining procedures and eliminating bottlenecks.

India's Submission on Mode 4 (trade through temporary movement of natural persons for supply of services) at the WTO: India submitted a paper on "Mode 4: Assessment of Barriers to Entry", in March 2016 at the WTO highlighting the increasingly complex nature of barriers to mode 4 entry. These include selective measures by our key trading partners' subjective definitions of sub-categories under the Intra-corporate transferees resulting in rejection of bonafide applications and undermining the commitments, and non-portability of social security contributions.

Trade in Services Agreement (TISA) and India's stand: At present there are 23 members participating in the plurilateral TISA discussion with none of the BRICS and ASEAN member states participating. India and some other like-minded developing countries have expressed concern from time to time on this plurilateral agreement as it will endanger the conclusion of the Doha Round by disturbing the delicate balance arrived at between Agriculture, NAMA and Services after years of intense negotiations at the WTO. With the withdrawal of the US from Trans-Pacific Partnership (TPP), the future of TISA, which is led by developed countries like the US has also become uncertain.

Bilateral/Plurilateral Agreements and India: India has signed comprehensive bilateral trade agreements, including Trade in Services, with the Governments of Singapore, South Korea, Japan, and Malaysia. A Free Trade Agreement (FTA) in services and investment was signed with the ASEAN in September, 2014 which came into effect from 1st July, 2015. India has since joined the Regional Comprehensive Economic Partnership (RCEP) plurilateral negotiations which is the only mega-regional FTA of which India is a part. India is also engaged in bilateral FTA negotiations including trade in services with different countries`.

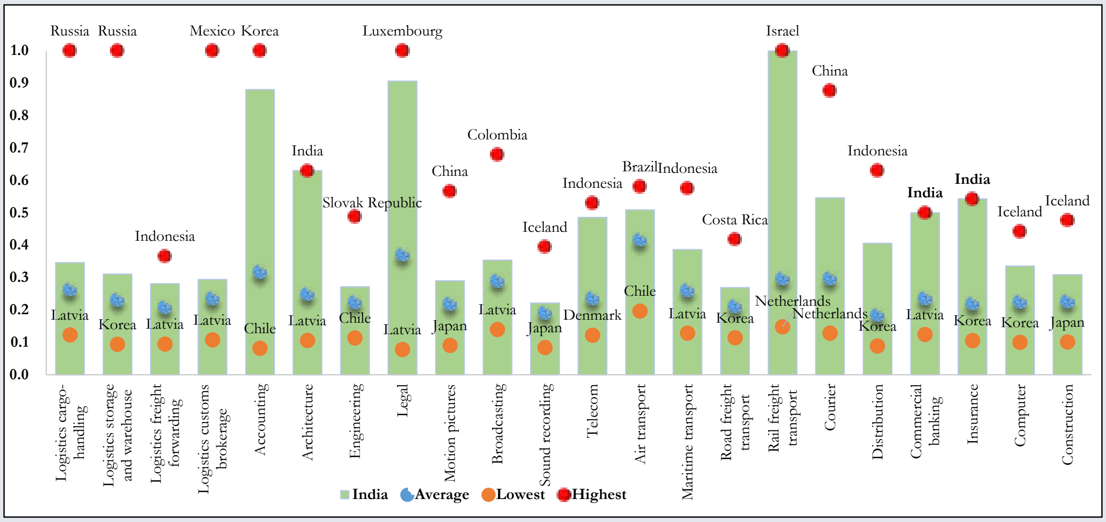
Developments in OECD: The OECD is preparing a Services Trade Restrictiveness Index (STRI) for different countries including India. While this is a new initiative, its suitability for trade negotiations and domestic policies needs to be examined as there are some concerns to be addressed. The STRI could also be modified to take note of concerns of India and other developing countries (Box 1).

Box 1. STRI and India

OECD's STRI helps to identify policy measures restricting trade, provide policy makers and negotiators with information and measurement tools to open up international trade in services and negotiate international trade agreements and also help governments identify best practices and then focus their domestic reform efforts on priority sectors and measures. It is intended to provide a quantitative measure of the level of trade restrictiveness in 22 services sectors and has been computed for 44 countries. The STRI scores are broken down on five policy areas: restrictions on market entry conditions, restrictions on the movement of people, other discriminatory measures, barriers to competition and regulatory transparency.

Among the 44 counties, India has a STRI score above average in all sectors and the highest in 3 services out of a total 22 (Figure 3). Sound recording, engineering and broadcasting are the three sectors with the lowest score relative to the average. All these three sectors follow the automatic route upto 100 per cent equity share. Accounting services, legal services and rail freight transport, are the three sectors with the highest scores relative to the average as accounting and auditing are reserved for licensed accountants and auditors and a license is required to own and manage an accounting or an auditing firm and only Indian nationals may obtain a license; legal services, both national and international law, are reserved for licensed Indian lawyers; and railway operations which are on the list of prohibited sectors and reserved for Indian Railways, a state-owned enterprise. These scores however have not considered some of the recent reforms in India like abolition of FIPB.

Figure 3. India's STRI compared with Highest, Lowest and Average STRIs (2016)



India has high STRI in many sectors. In the case of China, some sectors like motion pictures, broadcasting, and courier services have higher STRI than India.

STRI is a new initiative for services by OECD. However, there are some inherent weaknesses related to STRI and its use. Weightage and quality of regulations are important as domestic regulations are not uniform across countries and there is a need to distinguish between regulations that are needed and those that act as trade barriers. Since trade barriers even for same services are not the same in different countries, giving weightage to them even by experts becomes subjective.

While some restrictions in the STRI are not really restrictions and are just due to lack of development of infrastructure as in the case of non-availability of broadband, some may be due to government's policy of social and economic inclusion like banks requiring to allocate 40 per cent of their net credit to priority sectors like agriculture and SMEs, education and renewable energy in India. STRI cannot be extended for computing tax and tariff equivalents of regulations in services as indicated by OECD particularly when the data is imperfect and regulations are not uniform.

Thus, STRI at best could only be indicative and cannot be given numerical value particularly when the services data is at a rudimentary stage for many countries and the methodology is less perfect. TFS and Market Access are as important as removing domestic trade barriers. Infact there is a certain amount of overlapping between all the above three.

***Source:* Based on OECD STRI Reports and Internal Analysis.**

Domestic

9.17 Recent domestic policies and measures taken by India for services sector include the following.

Trade policy measures: These include the Services Exports from India Scheme (SEIS), replacing the Served from India Scheme (SFIS) wherein reward of 3 per cent or 5 per cent of net foreign exchange earned is given for Mode 1 and Mode 2 services, schemes introduced for sectors like tourism and shipping and general measures like digitization and FDI liberalization including for services sectors.

Goods and Services Tax (GST): Under GST, exports would be zero rated. Some major highlights related to GST for services are the following. The GST rates are NIL for education and health services; 5 per cent for transport of passengers by air in economy class, transport of goods by rail and vessel, supply of tour operators services (without ITC); 12 per cent for supply of foods/drinks in restaurants not having A.C. or central heating and not having license to serve liquor (while it is 18 per cent for those having them), accommodation in hotels, inns, etc., for residential or lodging having room tariff between ₹1000 to ₹2500 per day per room (while it is 18 per cent for those between ₹2500 to ₹7500 per day per room), transport of passengers by air in other than economy class and construction of a complex, building, civil structure with no refund of accumulated ITC. Only 4 services items are in the highest slab of 28 per cent which include among others entertainment events or access to amusement facilities including exhibition of cinematograph films, theme parks, water parks, joy rides, etc; and hotels, inns, for residential or lodging having room tariff above ₹7500 per day per room.

Promotional measures: Some promotional measures taken by the Government of India include organizing the third edition of multi-sectoral Global Exhibition on Services (GES) in April 2017 with participation from 73 countries and the second edition of Advantage Health Care India 2016, an international summit on Medical Value Travel, in October 2016 to promote India as a premier global healthcare destination.

Major Services: Overall Performance

9.18 The performance of India's Services Sector has been subdued in 2016-17 in line with the global trend. However, some services continue to be key drivers of India's economic growth. Some available indicators of the different services sub sectors in India for 2016-17 (Table 5) along with the CMIE data (Table 7) show reasonably good performance in telecom with increase in telecom connections reflecting the Jio effect, aviation particularly domestic travel, tourism related services particularly in terms of foreign exchange earnings, and even information technology-business process

Table 5. Performance of India's Services Sector: Some Indicators

Sector	Indicators	Unit	Period				
			2009-10	2013-14	2014-15	2015-16	2016-17
IT – BPM**	IT-BPM service revenues	US $ billion	64	106	119	143	154
	Exports	US $ billion	50	87	98	108	117
	Domestic	US $ billion	14	19	21	35	38
Aviation*	Airline passengers (Total)	Million	77.4	103.8	115.8	135.0	158.4
	Domestic	Million	45.3	60.7	70.1	85.2	103.7
	International	Million	32.1	43.1	45.7	49.8	54.7
Telecom	Telecom connections (wireline and wireless)[b]	Million	621.3	933.0	996.1	1058.9	1194.6
Tourism	Foreign tourist arrivals[a]	Million	5.2	7.0	7.7	8.0	8.8
	Foreign exchange earnings from tourism[a]	US $ billion	11.1	18.4	20.2	21.1	22.9
Shipping	Gross tonnage of Indian shipping[b]	Million GT	9.7	10.5	10.5	10.5	12.0[@]
	No. of ships[b]	Numbers	998	1209	1210	1251	1338[@]
Ports	Port traffic	Million tonnes	850.0	972.5	1052.5	1072.5	1135.6

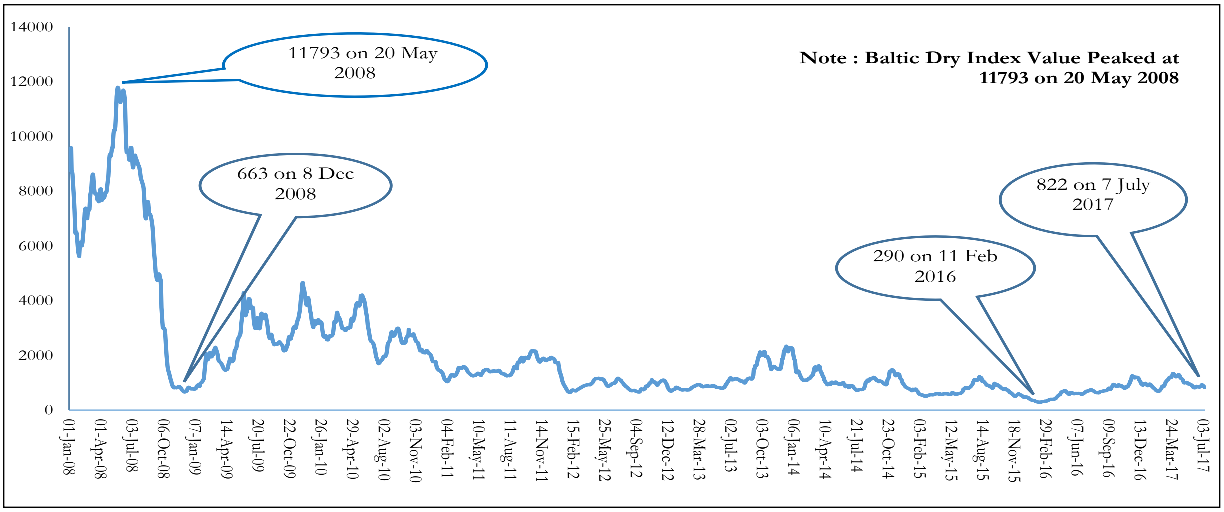
Source: **Compiled from Telecom Regulatory Authority of India (TRAI), Ministry of Tourism, Ministry of Shipping, Directorate General of Civil Aviation, NASSCOM.**

Note: **[a] calendar years, for example 2009-10 for 2009; [b] As on 31 March of ensuing financial year; @ data is as on 30 June 2017. GT=gross tonnage; MT=metric tonnes; ** excluding hardware. *Domestic Passengers carried by scheduled Indian carriers on scheduled domestic services only and International Passengers carried by scheduled Indian as well as foreign carriers to and from the Indian territory.**

management (IT-BPM) despite fall in growth in computer software.

9.19 The aviation industry performed well during the year 2016-17, with the aggregate number of passengers (including international and domestic) registering a growth of 17.3 per cent over the previous year. Increase in capacities of airlines with the addition of new domestic and international routes and the launching of the UDAN (Ude Desh Ka Aam Naagrik) scheme a regional air connectivity scheme (RCS) that seeks to make flying affordable by connecting unserved and under-served airports where 50 per cent of the seats have a fare cap of ₹2500 per seat/hour, coupled with rise in disposable income of consumers and decline in air fares are likely to give further fillip to this sector. In the case of transport logistics services, the performance has been good with increased focus of the Government on logistics. The impact of the GST is also anticipated to be positive with VAT related check posts disappearing which will result in reduction in turnaround time. Furthermore, the additional 2 per cent central sales tax levied on inter-state sales of goods would now cease to exist, having a favourable effect. However shipping services sector was adversely affected by the global slowdown as indicated by the sales & PAT figures for 2016-17. The Baltic Dry Index, a freight index and a good proxy for the robustness of trade and shipping services had fallen from a peak of 11,793 on 20 May 2008 to a low of 663 on 8 December 2008. Though it picked up slightly in the following years, it has been in the lower range since then and was in the red at 290 as on 11 February

Figure 4. Baltic Dry Index



Source: **Based on data from https://in.investing.com/indices/baltic-dry-historical-data.**

2016, which is even lower than the lows of 2008. It has improved slightly to 822 on 7 July 2017 (Figure 4).

9.20 The traffic handled by Ports has gone up from 606.5 MMT in 2015-16 to 647.7 MMT in 2016-17. The port related performance indicators of major ports also show substantial improvement with the ship berth day output increasing from 13156 tonnes in 2015-16 to 14576 tonnes during 2016-17, the average turnaround time and the average pre-berthing time falling to 2.05 days and 5.75 hrs during 2016-17 from more than 2.55 days and 12.17 hrs respectively in 2012-13 and operating surplus in the major Ports registering an increase of 14 per cent during 2016-17 over 2015-16 (Table 6).

9.21 An analysis of the results of services sector firms in the fourth quarter of 2016-17, the quarter immediately following the demonetization period reveals that the only sector which showed signs of stress was the Construction and Real Estate sector, witnessing a year-on-year decline in both net sales (-5.1 per cent) and net profit (-34.9 per cent) during Q4. Even here, the stress cannot be attributed strictly to the impact of demonetization, given that the growth of this sector had already been in the negative domain even for the earlier two quarters.

Major Services: Sector-Wise Performance and Some Recent Policies

9.22 This section covers some of the important services for India based on their significance in terms of GDP/GVA,

Table 6. Some Performance Indicators of Major Ports in India

Indicators	2014-15	2015-16	2016-17
Traffic Handled (in MMT)	581.3	606.5	647.7
Average Output per-ship per berth day (in tonnes)	12458	13156	14576
Operating surplus (Rs. in Cr.)	3599.4	4309.1	4919.4

Source: **Based on inputs from Ministry of Shipping.**

Table 7. Growth in Sales & Profits of select services: company based data

Services	Net Sales						Profit after Tax (PAT)					
	2015-16	2016-17	2016-17				2015-16	2016-17	2016-17			
			Q1	Q2	Q3	Q4			Q1	Q2	Q3	Q4
Transport Logistics	2.7	2.8	0.5	0.6	4.1	5.6	4.3	-3.9	-15.9	-13.0	-13.3	21.4
Shipping	2.5	-10.9	-17.4	-22.0	-1.4	0.6	37.2	-8.7	-29.4	-48.5	-29.8	434.1
Aviation	39.3	33.1	75.9	73.5	8.3	9.9	--	-12.8	178.9	168.3	-40.5	-51.0
Retail trading	22.3	61.9	38.2	35.9	34.4	178.1	2472.8	102.1	--	14.5	-45.0	--
Health services	35.0	33.9	50.9	58.2	21.3	15.9	39.1	17.3	73.4	129.8	-49.6	-3.6
Hotels & Restaurants	6.5	2.8	0.8	6.0	3.9	1.0	--	103.3	--	--	-12.1	2543.7
ITES	12.7	10.5	18.7	7.9	6.4	10.1	22.5	6.3	34.9	18.9	20.1	-28.3
Software	10.7	9.7	13.3	9.1	9.8	6.8	11.6	8.6	7.7	6.2	12.7	7.9
Construction & Real Estate	8.3	-1.8	7.7	-6.5	-0.9	-5.1	-11.6	0.4	--	18.5	--	-34.9

Source: **Exim Bank Research (Data derived from CMIE).**

employment, exports and future prospects. Some important services covered in other chapters have been excluded to avoid duplication.

Tourism

9.23 Tourism has great capacity to create large scale employment of diverse kind – from the most specialized to the unskilled; propel economic growth; and earn foreign exchange for the country. According to the World Travel and Tourism Council (WTTC), Travel & Tourism continued its resilience in 2016, generating US$7.6 trillion (10.2 per cent of global GDP) and 292 million jobs, equivalent to 1 in 10 jobs in the global economy. The sector accounted for 6.6 per cent of total global exports and almost 30 per cent of total global service exports. The latest World Tourism Barometer of the United Nation's World Tourism Organization (UNWTO) (March, 2017 edition) also shows that international tourist arrivals reached a total of 1.2 billion in 2016, 47 million more than in the previous year, though the growth rate of 3.9 per cent was slightly lower than in 2015 (4.5 per cent).

9.24 As per the UNWTO, International Tourist Arrivals to India (including NRI arrivals) was 13.3 million in 2015 with a growth of 1.4 per cent, while as per the Ministry of Tourism data Foreign Tourist Arrivals (FTAs)(excluding NRIs) during 2015 and 2016 were 8.0 million and 8.8 million with growth of 4.5 per cent in 2015 and 9.7 per cent in 2016. Foreign Exchange Earnings (FEEs) through Tourism, in US$ terms during 2016 were US$ 22.9 billion with a growth of 8.8 per cent over 2015. International Tourism Receipts (ITRs) as per UNWTO are almost similar to this (Table 8).

India's Untapped Tourism Potential: A Comparison

9.25 A comparison with other countries shows that India's share in international tourist arrivals (ITA) is a paltry 1.1 per cent with a rank of 24 compared to the 7.1 per cent of France which ranks 1st in 2015. China ranks 4th with a share of 4.8 per cent. In terms of International tourism receipts (ITR), India has a slightly higher share at 1.8 per cent and a better ranking of 14. But it is nowhere near the 17.1 per cent share of USA which ranks 1st and around half the share of China at 3.8 per cent with 4th rank (See Table 8).

9.26 Domestic tourism continues to be an important contributor to the sector with the CAGR of domestic tourist visits of 13.6 per cent from 1991 to 2016 and a growth of 12.7 per cent in 2016. The top 5 states in domestic tourist visits in 2016 were Tamil Nadu, Uttar Pradesh, Andhra Pradesh, Madhya Pradesh and Karnataka. As per industry estimates, the total market size of Indian tourism and hospitality sector stood at US$ 117.7 billion in 2014 and is expected to touch US$ 418.9 billion by 2022. Thus a goldmine of an opportunity awaits to be tapped.

9.27 In the Travel and Tourism Competitiveness Index 2017 (WEF, 2017) India has improved its ranking 12 places to reach the 40th position globally among 136 countries. India continues to charm international tourists with its vast cultural and natural resources (9th and 24th position respectively), and its price competitiveness advantage (10th) and its international openness (55th) which is up by 14 places reflecting the implementation of both visas on arrival and e-visa. But it is way behind others in health and hygiene (104th), ICT readiness (112th), security concerns (114th), human resources (87th), tourist service infrastructure (110th) and in prioritization of travel and tourism (104th).

9.28 A comparison of the number of UNESCO World Heritage sites and the total foreign tourist arrivals of different countries

Table 8. Tourism Performance: International Comparison 2015 and 2016

	International Tourist Arrivals					International Tourism Receipts				
	Rank	Number (In Mn)	Share (%)	Growth Rate (%)		Rank	Value (US $ Bn)	Share (%)	Growth Rate (%)	
	2015	2016	2015	2015	2016	2015	2016	2015	2015	2016
World		1235	100	4.5	3.9		1,194*	100.0	-4.5	--
France	1	84.5*	7.1	0.9	--	3	43.1	3.8	-21.0	-6.1
USA	2	77.5*	6.5	3.3	--	1	206.8	17.1	6.9	1.1
Spain	3	75.6	5.8	5.5	10.4	2	60.3	4.7	-13.2	6.7
China	4	59.3	4.8	2.3	4.2	5	44.4	3.8	2.3	-1.3
Turkey	6	39.5*	3.3	-0.8	--	12	18.7	2.2	-10.1	-29.7
Thailand	10	32.6	2.5	20.6	9.0	6	49.9	3.8	16.9	11.1
Malaysia	14	26.8	2.2	-6.3	4.3	17	16.9	1.5	-22.6	-3.4
India	24	13.3*	1.1	1.4	--	14	22.4	1.8	6.6	6.7
Singapore	28	12.9	1.0	1.6	6.6	19	18.4	1.4	-13.1	10.8

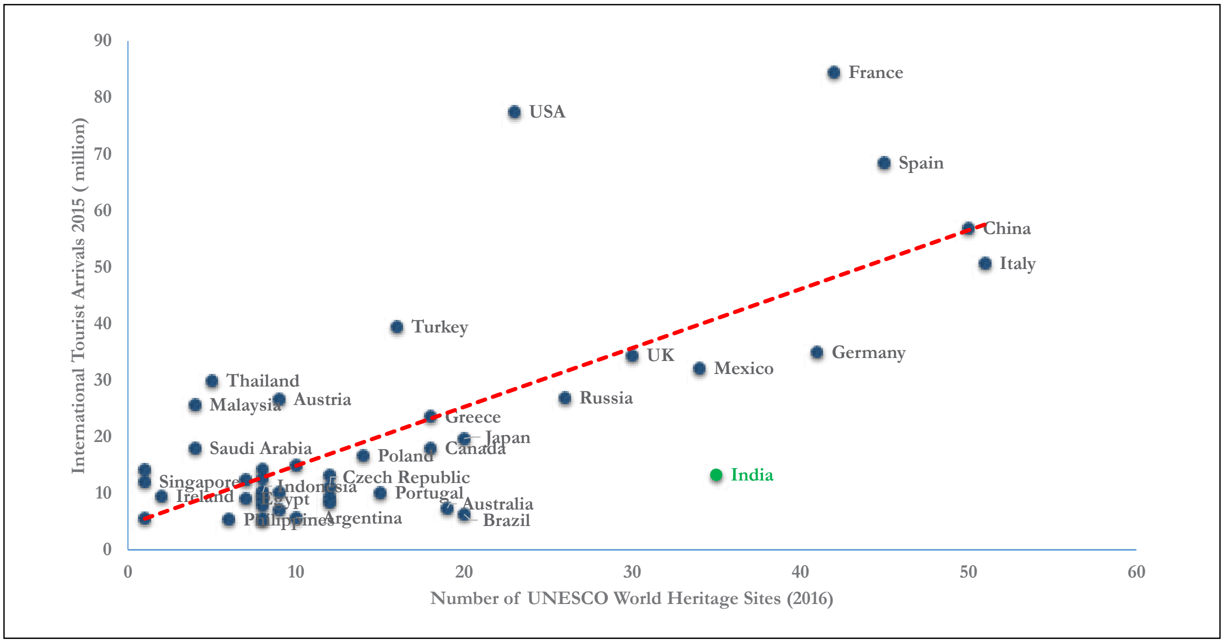
Source: **Based on data given in UNWTO World Tourism Barometer and Statistical Annex, March 2017.**

Note: ***= 2015 data.**

shows that despite having high number of UNESCO World Heritage sites (6th in position with 35 heritage sites), India attracts less foreign tourists compared to other countries and remains below the trend line (Figure 5).

9.29 As per many other indicators also like domestic tourism to population ratio, international conventions rankings, visitors to top heritage sites, foreign tourist arrivals in top cities, India is far behind USA and China (Table 9).

Figure 5. Number of World Heritage sites and International Tourist Arrivals 2015



Source: **Based on UNWTO and UNESCO data.**

Table 9. Comparative Tourism Performance Indicators

Indicators	China	India	USA
Foreign Visitors to Heritage sites (Numbers)	Great Wall* (Total 10 million, 3 million Foreign)	Taj Mahal (Total 4.6 million, 0.5 million foreign)	Statue of Liberty* (Total 5 million, 2 million foreign)
Domestic Tourism (Numbers)	3.6 billion	1.7 billion	2.2 billion
Ratio of Domestic Tourism to Population	2.6	1.3	6.6
Foreign Tourist arrivals in major cities	Beijing* (4.5 million foreign, 250 million domestic)	New Delhi* (2.4 million foreign and 25 million domestic)	New York* (10.1 million foreign, 50 million domestic)
International Conventions Rating	Rank 9 with 333 meetings	Rank 31 with 132 meetings	Rank 1 with 925 meetings

Source: **Compiled from various data sources like UNWTO, Ministry of Tourism, Report of International Congress and Convention Association's (ICCA).**

Note: ***= inputs from FAITH.**

9.30 The above analysis and the indicators, though some are less perfect, show that India has a huge untapped tourism potential and a lot more needs to be done to make India a major tourist destination and major earner from tourism.

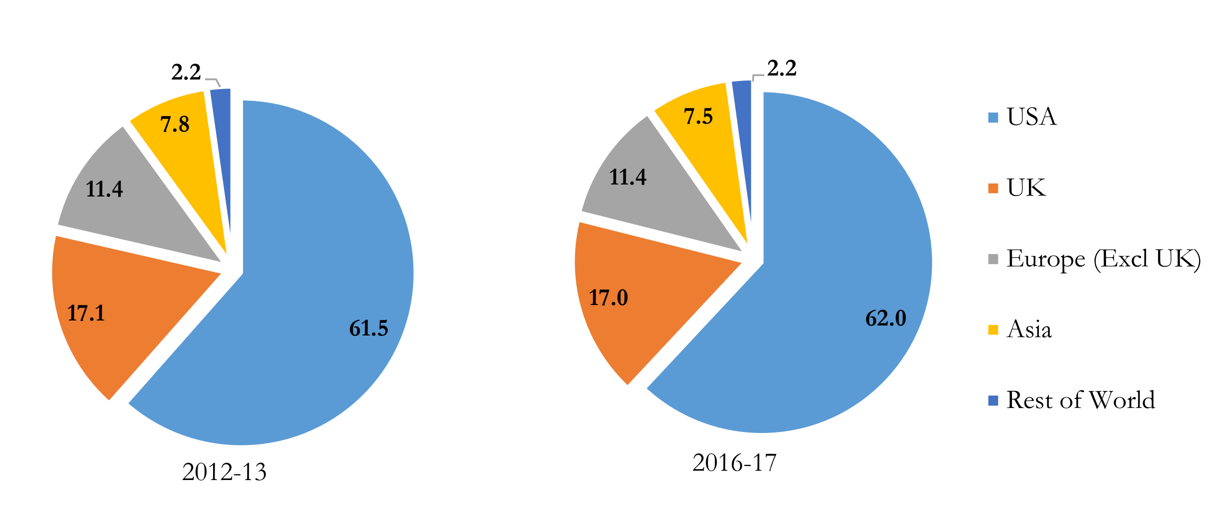
9.31 Various initiatives have been taken by the Government to promote tourism sector of the country that include e-Visa for the citizens of 161 countries, promotion of India as a 365 days destination, Swachhta Action Plan (SAP), Skill Development Initiative, launching of Multilingual Tourist Infoline, and Swachh Paryatan Mobile App. During January to December, 2016 a total of 10,79,696 e-Visa holders visited India registering a growth of 142.5 per cent over 2015. E- visa is allowed under three sub-categories − e-Tourist Visa, e-Business Visa, and e-Medical Visa. The window for application under e-Visa has been increased from 30 days to 120 days and the duration of stay in India under e-Visa has also been increased from 30 days to 60 days. Globally, the medical value travel (MVT) market is expected to cross US$ 100 billion in 2019, growing at a CAGR of 19.4 percent and India accounted for 3.8 per cent of the global medical tourists and 5.5 per cent of the global revenue from medical tourism in 2014. The Government has initiated many policies to make India a Medical Value Travel destination which include constituting the National Medical and Wellness Tourism Promotion Board in 2015 and launching e-tourist visa and m-visa facilities.

IT –BPM Services

9.32 Global IT-BPM market including and excluding hardware stood at US$ 2.2 trillion and US$ 1.2 trillion respectively in 2016. Hardware segment was the largest with a share of around 44 per cent, followed by IT services (more than 29 per cent), packaged software (around 19 per cent) and BPM (more than 8 per cent). While these remain the traditional segments, this industry is being disrupted by digital technologies that is leading to a wave of automation of processes, automation in manufacturing, and artificial intelligence that is replacing humans with robots.

9.33 The Indian IT-BPM industry is a global powerhouse today and its impact on India and the world has been unprecedented. India pioneered the offshoring model and is today seen as the partner of choice for technology and business solutions. This industry has evolved from a less than US$ 1 billion industry in the 1980s to an over US$ 154 billion behemoth. In the last decade, the industry has grown over six-fold in revenue terms. Providing employment for over 3.9 million people in 2016-17, this sector has also created employment in supporting sectors like transportation, hotels, infrastructure, security services. The Indian IT-BPM industry comprises of over 16,000 firms ranging from multi-billion dollar firms to start-ups, many MNCs including over 1,000 global in-house centres and around 4,750+ start-ups making India the world's 3rd largest start-up ecosystem. The start-up ecosystem comprises of firms catering to mature verticals (e-commerce, aggregators), emerging verticals (fin-tech, edu-tech, health-tech, etc.) and technology specialists around cloud, Internet of Things (IoT), machine learning, artificial intelligence, robotics, 3D printing, etc. USA is the major market of India for IT-BPM services followed by UK, Europe (excl UK) and Asia. These shares have not changed much in 2016-17 compared to 2012-13 (Figure 6).

Figure 6. India's IT-BPM Exports - Region Wise Share 2016-17(per cent)



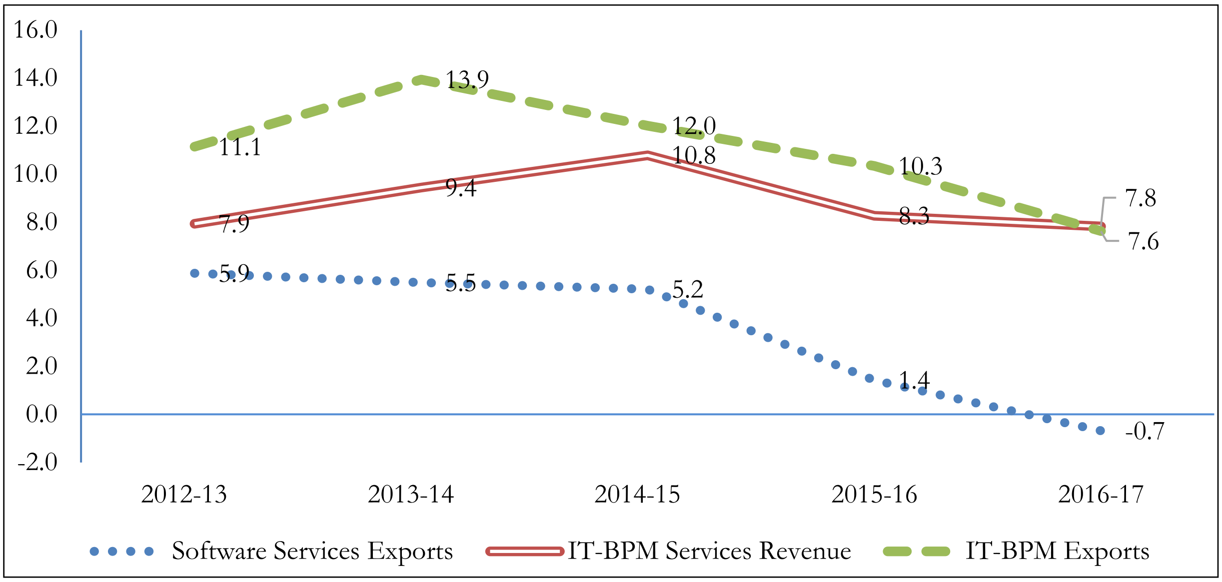
Source: **NASSCOM.**

9.34 As per NASSCOM in 2016-17 India's total revenue (exports plus domestic) of the IT-BPM sector including and excluding hardware is expected to touch US$154 billion and US $140 billion, with growths of 7.8 per cent and 8.1 per cent respectively. Exports including and excluding hardware are both likely to record 7.6 per cent growth to reach US$117 billion and US$116 billion respectively. The domestic market including hardware and excluding e-commerce is set to grow at 8.5 per cent to reach US$38 billion, and excluding hardware and e-commerce, it is set to grow at 10.4 per cent to reach US$ 24 billion. Software products, though, only one-third the size of IT services segment are estimated to grow at 10.4 per cent to US$ 4.8 billion due to the ever growing demand for cloud-based solutions, particularly from Server Message Block (SMBs). E-commerce is expected to grow at 19.1 per cent to reach US$33 billion.

9.35 India's software exports which were growing robustly at 27 to 38 per cent during 2002-03 to 2007-08 have slowed down in recent years with exports even falling. In 2016-17 software exports fell by 0.7 per cent to US $ 73.7 billion compared to US 74.2 billion in 2015-16 as per RBI's BoP data, while IT-BPM exports are expected to reach USD 117 billion, with a growth of 7.6 per cent as per NASSCOM. IT-BPM export growth for 2017-18 has been pegged to 7-8 per cent by NASSCOM (Figure 7).

9.36 The fall in exports of India's computer services exports by 0.2 per cent in 2016 (as per WTO data) is happening even when the World computer services exports is growing at 5.8 per cent in 2016 and some advanced countries like USA, Israel and competing countries of South East Asia, Latin America and East Europe like Philippines, Brazil, Chile, Russia and Ukraine are having modest to robust growth (Table 10). India's computer services imports is also growing at 30.4 per cent resulting in negative net computer services export growth of (-) 1.7 per cent in 2016. This indicates that the IT-BPM sector is affected not just by the global slowdown and challenging market access situation, but other challenges as well (Box 2).

Figure 7. Growth of Software Services Exports and IT-BPM Revenue and Exports



Source: **Software Services: RBI data and IT-BPM: NASSCOM data.**

Table 10. Computer Services Export Growth: Selected Countries

	Growth Rate (%)				
	2009	**2010**	**2014**	**2015**	**2016**
Australia	-13.1	12.2	7.1	16.5	3.1
Brazil	6.5	-8.7	140.6	15.6	14.8
Chile	12.3	36.7	4.8	1.2	10.4
India	-9.0	20.5	1.3	1.2	-0.2
Philippines	35.3	24.1	10.1	1.3	63.6
Russia	-21.8	5.0	5.7	-7.4	8.5
Ukraine	9.5	24.7	16.1	11.2	18.4
USA	3.8	1.9	7.4	12.7	8.1
Israel	1.3	-43.9	18.2	-2.0	26.9
World	NA	NA	NA	-3.6	5.8

Source: **Based on WTO data.**

9.37 Meanwhile, the Government of India's rapid adoption of technologies as a platform to delivery of government-to-government and government-to-citizen services is a tremendous push factor for the domestic IT-BPM market. The Government of India is also taking a lead in adopting digital technologies and is one of the most proactive users of social media as a means to communicate with the public. It has developed its own cloud platform – MeghRaj – that offers Platform-as-a-Service (PaaS), Infrastructure as a Service (IaaS), Software as a Service (SaaS) and Storage as a Service (STaaS). The focus of this initiative is to accelerate delivery of e-services in the country while optimizing Information Communication & Technology (ICT) spending of the Government. It also intends to make India a hub for cyber security solutions for the world. Through long-term initiatives like Digital India, Make in India, Smart Cities, e-Governance, push

Box 2. IT-BPM: Slowdown Challenges

The IT-BPM industry is also feeling the pinch of the global slowdown and global political uncertainties as clients go slow on their decision-making and investment processes. Some challenges faced by India's IT-BPM sector in the major markets are the following.

Market Access: Misconstruing mobility of skilled people as an immigration issue is a deterrent to the growth of this global business resulting in many barriers to free movement of skill and data in the major markets.

In the USA, "Buy American, Hire American" Presidential executive order called for the collection of data, increased oversight and enforcement actions, and the development of administration plans to reform and curtail the high skill visa programs. Departments of Justice, Homeland Security, State, and Labor all have issued memos, policy guidance aimed at imposing new restrictions on the visa programs, enhancing enforcement, increasing scrutiny of sponsors, and enhancing penalties for violations. U.S. Citizenship and Immigration Services introduced a policy memo on H-1B usage, wherein "computer programmers" do not automatically qualify as specialty occupations. Additional details from visa applicants are required by the Department of State as part of Government's extreme vetting process. Significantly more details on the Labor Condition Applications (LCA) which companies must file before submitting H-1B petitions are now required as per Department of Labor's plans. Various bills relating to H-1B visas have been tabled in the U.S. Congress, the latest being the House Judiciary Committee Chairman Bob Goodlatte's twin bills which have been passed in the US congress on 29 June 2017 and is now going to the senate. One of the two bills would strip federal dollars from self-proclaimed 'sanctuary' cities that shield residents from federal immigration authorities, while the second bill (also called as Kates's Law) would stiffen punishments for people who re-enter the US illegally.

The UK has introduced the Migration Advisory Committee's recommendations with effect from 6th April 2017, entailing the changes like closure of Tier 2 Intra-Company Transfer (ICT) Short Term visa route, imposing Immigration Skills Charge (ISC) of £1,000 per migrant hire per valid visa year and Immigration Health Surcharge and also increase in the minimum salary threshold for Tier 2 (ICT) visas. The EU has also introduced Data Protection and Privacy Rules that effectively prevent Indian companies from providing services from India, while US has been given safe harbour status. In Australia, the Federal Government has announced that it would eliminate the 457 visa category and replace it with two new visa streams to protect the interests of Australian workers.

Competition from new entrants: Indian service companies gained scale over the last decade as the disrupters, creating the modern offshoring industry, but they are now the incumbents, challenged by a slew of specialized and niche start-ups bred in this new environment. The niche players are creating highly specialized solutions that address very specific use cases or problems for their clients. The horizontal or enterprise platforms like Salesforce.com create entire ecosystems that handle horizontal problems simply with intuitive cloud-based technology. India is facing increasing competition from new digital only entrants from Eastern Europe and Latin American countries including newer companies like Globant, EPAM, and Luxoft.

Job loss Challenges: The growth in digital technologies like cloud-based services is happening at a much faster pace and the companies have to learn the new technologies and reskill. As per a report of the World Bank (2016), Automation threatens 69 per cent of the jobs in India, while it threatens 77 per cent in China and 85 per cent in Ethiopia. As per Executive search firm Head Hunters India, the job cuts in IT sector will be between 1.75 lakh and 2 lakh annually for next three years due to under-preparedness in adapting to newer technologies. As per the McKinsey & Company report, nearly half of the workforce in the IT services firms will be "irrelevant" over the next 3-4 years and the bigger challenge ahead for the industry will be to retrain 50-60 per cent of the workforce as there will be a significant shift in technologies. There are also Reports of mass layoffs in the IT sector. However, NASSCOM categorically rejects this. As per NASSCOM, this largest private sector employer has added over 6 lakh new employees in the last 3 years and is expected to add over 2.5 to 3 million new jobs by 2025. However, the skills profile is set to undergo a rapid change as demand for skills around digital technologies grows exponentially. Many firms have established dedicated programs to re-skill their existing employees. In 2016-17 around 1.7 lakh jobs were created and in Q4 of 2016-17 alone, there was gross hiring of over 50,000 by top 5 companies. However, Labour Bureau of India data indicate that changes in employment in IT-BPO sector during April to December 2016 was only 0.22 lakhs. Thus there is a gentle deceleration in net hiring growth rate as also indicated by NASSCOM.

Domestic challenges: There are also some domestic challenges like shortage of skilled digital talent, under-developed infrastructure in Tier 2 & 3 cities and some restrictive regulations for product startups.

Source: **Based on inputs from NASSCOM and Desk Research.**

for digital talent through Skill India, drive towards a cashless economy, efforts to kindle innovation through Start-up India, etc., uptake of technology is expected to grow substantially in the future.

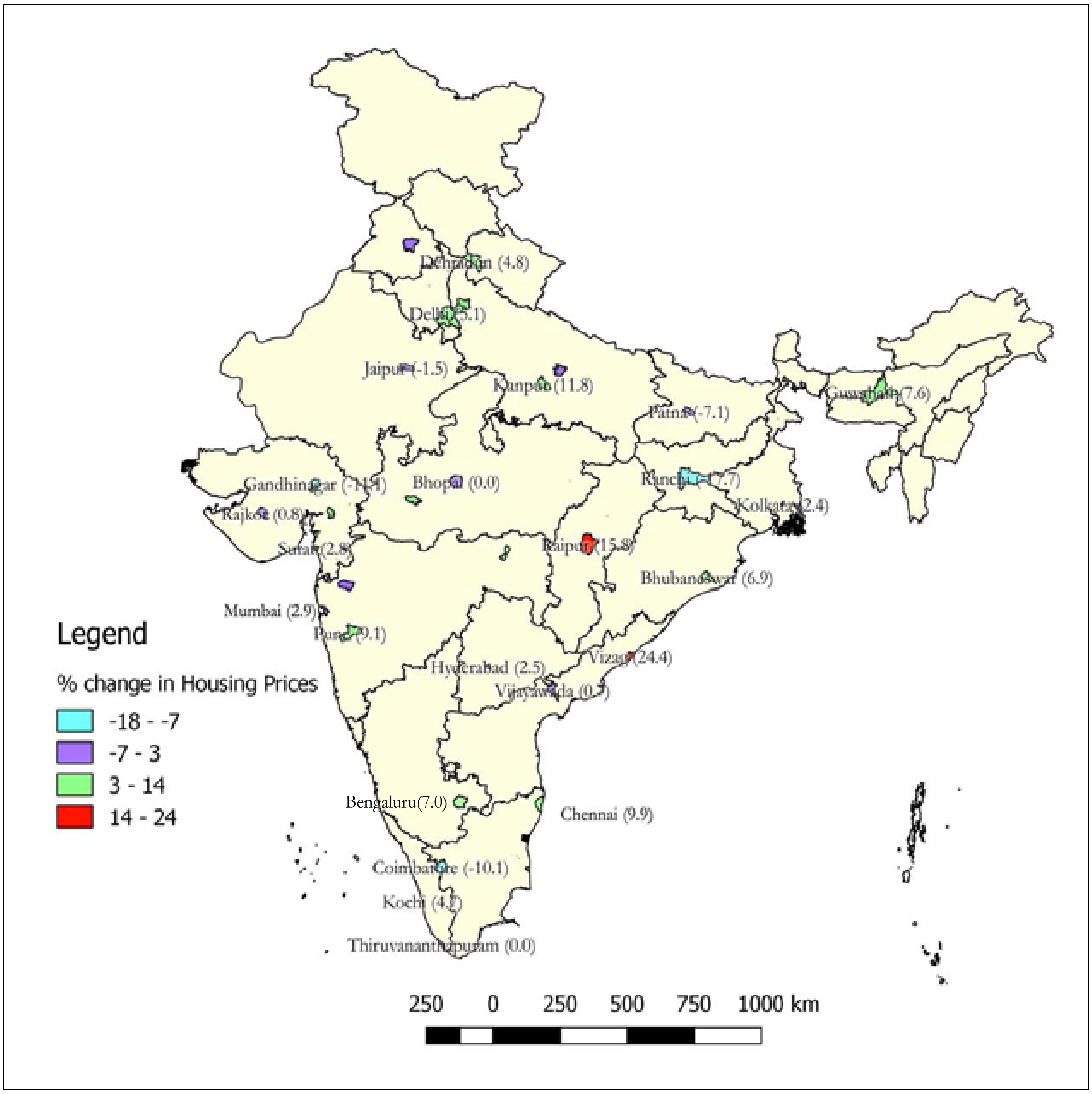
Real Estate and Housing

9.38 Real estate sector including ownership and dwellings accounted for 7.6 per cent share in India's overall GVA in 2015-16. The growth of this sector decelerated in the last three years from 7.5 per cent in 2013-14 to 6.7 per cent in 2014-15 and further to 4.5 per cent in 2015-16. This was mainly due to the ownership and dwelling segment having a share of 6.8 per cent in overall GVA decelerating from 7.1 per cent in 2013-14 to 3.2 per cent in 2015-16. The growth of the construction sector which includes buildings, dams, roads, bridges etc., has decelerated to 1.7 per cent in 2016-17 from 5.0 per cent in 2015-16.

9.39 Residential sales across top-eight cities in India in 2016 fell to a five-year low of about 2,45,000 units, due to subdued demand over the past three years. Similarly, new residential unit launches, too, fell to only 1,76,000 unit launches during 2016. The decline in unit launches was significant at 64 per cent, compared to the sales which was down by nearly one-third. This was primarily due to the prolonged slump and execution delays in project completion which resulted in inventory pile-up across all cities. Interestingly, amidst this prolonged slump, there was a positive development with real estate developers becoming more mature and limiting the new supply in the market, as a result of which residential sales outpaced the new supply consecutively for two years in 2015 and 2016. Demonetization in November 2016 possibly impacted the new launches and sales in the short term with several states recording drop in property registrations post-demonetization. Foreign Direct Investment (FDI) inflows to the construction sector have also declined to US$ 1.9 billion in 2016-17, as against US$ 4.6 billion in 2015-16 even though there was relaxation of FDI norms for the construction development sector undertaken over the past two to three years. Despite the subdued demand, residential prices did not fall with the NHB RESIDEX, showing increase in prices in 33 cities out of 50 cities in 2016-17 Q4 over 2015-16 Q4. The highest increase over the year was observed in Vizag (24 per cent) followed by Raipur (16 per cent) (Figure 8). The 2016-17 average RESIDEX index over 2015-16 average also shows similar results with prices increasing in 42 cities out of 50 cities. Only the RESIDEX for 2016-17 Q4 compared to 2016-17 Q2 (i.e the quarter preceding demonetisation) shows that housing prices have fallen in 32 cities out of 50 cities. But this could also be due to the reason that housing prices had suddenly picked up in both 2016-17 Q1 and Q2 over the previous quarters with rise in prices in 41 and 31 cities out of 50 cities respectively.

9.40 Some of the issues and challenges affecting growth in real estate and housing sector include approvals of permits, high land registration costs including stamp duty, rising debt levels and NPAs, lack of skilled workforce and delayed delivery of houses by builders. As per the World Bank's 'Ease of Doing Business 2017', India ranks 185 out of 190 countries in dealing with construction permits. With over 30–35 regulatory approvals required to be obtained by a developer to develop a real estate project in India, it takes anywhere between six to twelve months or even higher in obtaining various approvals. As a result, the whole process becomes cumbersome and also leads to delays, which inflates the project cost by 20–30 per cent. India ranks 138 out of 190 countries, in registering a property. Bye-laws have also not been updated as per global benchmarks and best practices. Rising

Figure 8. Housing Price Changes (2016-17 Q4 over 2015-16 Q4)



Source: **Based on NHB RESIDEX Index data.**

non-performing assets (NPA), higher risk provisioning assigned to real estate sector by the RBI and dwindling profits in the real estate sector have affected bank lending to the sector. Among the major funding sources to real estate sector, bank lending to the real estate sector has significantly dropped from over 57 per cent in 2010, to less than 24 per cent in 2016, while private equity investment have increased (NAREDCO and KPMG). The total housing credit outstanding of scheduled commercial banks (SCBs) in India as on March 31, 2017 was around ₹8.6 trillion, with growth (y-o-y) of 15.2 per cent while the total housing credit outstanding of housing finance companies (HFCs), was ₹5.0 trillion with a growth of 15.0 per cent during the same period. The real estate sector has also been grappling with liquidity issues and piling debt. The total outstanding debt of listed real estate developers in India has risen from ₹ 25,000 crore (US$ 3.7 billion) in 2006-

07 to over ₹83,000 crore (US$ 12 billion) in 2015-16 (NAREDCO and KPMG).

9.41 The Government has formulated many policies to help the real estate and housing sector. Some of the recent policy measures taken by the Government include Pradhan Mantri Awas Yojana (PMAY- Urban), Real Estate (Regulation & Development) Act, 2016, Smart Cities Mission, Real Estate Investment Trust (REITs) and Infrastructure Investment Trusts (InvITs), relaxation of conditions to claim tax incentive for affordable housing projects, and the Benami Transactions (Prohibition) Amendment Act, 2016.

Satellite Mapping and Launching Services

9.42 Indian Space Programme contributes to national development, through the application of space technology, comprising of communication, navigation and earth observation to address issues related to societal development and strategic requirements. Over the last three decades, space technology has matured from providing simple mapping applications to development of complex models, decision support and early warning systems, incorporating space and derived inputs. Many a times the benefits of space application are intangible in nature and are not quantifiable. However, in some cases, the economic benefits of certain space applications are quantifiable that indicate significant economic contribution from those applications, concurrent to its societal dimension. Satellite mapping and launching services are two areas in which India is making a mark and has huge potential for the future.

Satellite Mapping

9.43 Over the past decades, Earth Observation (EO) data, integrated with in-situ observations and tools, have been supporting a host of applications in the areas of land & water, ocean & atmosphere, environment & eco-system, urban & rural applications and disaster risk reduction. Some space applications & services generate revenue and earn foreign exchange reserves for India. These include establishment of International Ground Stations (IGS) by providing necessary hardware and software to directly receive and process data from IRS satellites when the satellite passes over their ground station; access fee, based on actual data acquisition time at their ground station; royalty for the data licensed by these IGS to their customers; licensing of IRS satellite data products to developing countries directly or through resellers to international customers; etc.

9.44 The foreign exchange earned by India from satellite mapping in the last five years was more than ₹ 100 crores. Out of this, highest earnings were received from Germany (57.4 per cent), followed by Algeria (12.5 per cent) and China (6.5 per cent). However, there has been a decline in foreign exchange earnings in recent years (Table 11). Since 2014-15, China and Myanmar which were among the top four markets of India have stopped using these services. In the case of China, the agreements came to an end and China as a part of its Earth Observation Programme has developed series of satellites in optical and microwave, providing data in variety of spatial and spectral resolutions. In the case of Myanmar, Antrix the marketing arm of the Department of Space, is trying to renew the cooperation. Further, ISRO is pursuing a project to support ASEAN Member states including Myanmar to receive and process data from Indian remote sensing satellites (Resourcesat-2 and Oceansat-2) and also to provide training in space science, technology and applications for the benefit of the ASEAN Member countries.

Table 11. Satellite Mapping Services Exports (IRS Related Services)

	Foreign Exchange Earned (₹ in Crores)					
	2012-13	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**Cumulative**
Total	38.09	14.82	28.84	25.10	11.38	118.23
Germany	20.86	9.88	11.52	17.97	7.57	67.80
Algeria	2.80	0.70	8.96	2.38	--	14.84
China	6.74	0.87	0.11	--	--	7.72
Myanmar	2.64	2.16	2.40	--	--	7.20
Iran	--	--	0.88	3.52	2.48	6.88
Norway	--	--	4.15	1.23	0.63	6.01
France	2.19	1.17	--	--	--	3.36
USA	2.80	--	--	--	--	2.80
UK	--	--	0.82	--	0.70	1.52

Source: **Antrix, ISRO.**

9.45 Geospatial market basically comprises of data, hardware, software and services including mapping. Out of the above, data component is only 5 per cent. Out of this data component, Asia Pacific Region's contribution is 14 per cent. The market is highly competitive due to many high resolution data providers. ANTRIX, right now is able to market only medium and coarse resolution data products. Commercial potential for the medium and coarse resolution data segment is facing threat due to Free and Open data policy in many countries, especially with the availability of free data from Landsat-8 of US and Sentinel from the European Space Agency (ESA) resulting in this data being practically available free of cost to the entire globe. Many countries are currently treating the Remote Sensing data as societal or public goods. Only High and Very High Resolution data have commercial markets in the current scenario. This market is also highly competitive with many private satellite operators across the globe. Currently, ANTRIX, is marketing Cartosat-1 data (which offers 2.5 m stereo data) to various users across the globe and the contribution by ANTRIX in this data segment is minimal (below 0.5 per cent). However, the situation is likely to improve with realization of High/ Very High Resolution data satellites.

Satellite Launching

9.46 India started its launch vehicle development to orbit indigenous satellites in a self-reliant manner. India's operational workhorse vehicle, Polar Satellite Launch Vehicle (PSLV) is a four-stage vehicle primarily designed to carry Remote Sensing satellites into polar sun-synchronous orbit. As on 10 July, 2017, 40 launches of PSLV have taken place. The last 39 missions conducted provided a string of successes. Though initially designed for launching Remote Sensing Satellites in Polar Orbits, the vehicle has been tuned to launch Communication, Meteorological and Navigation satellites into Sub-Geo Transfer Orbit (Sub-GTO). Apart from launching indigenously built satellites, PSLV also offers satellite launch services to customers through commercial arrangements with ANTRIX. As on March

Table 12. Satellite Launch Services Exports

Financial Year	Foreign Exchange earned (₹ in Crores) *	Countries that used satellite launch services	Global satellite launch services revenue (Million Euros)	India's share in the Global satellite launch services revenue (per cent)
2012-13	136.18	Canada, France, Japan, UK	5160	0.4
2013-14	--	--	4800	--
2014-15	149.41	Canada, France, Germany, Singapore	5250	0.3
2015-16	394.22	Canada, Indonesia, Singapore, UK, USA	4800	1.1
2016-17	274.66	Algeria, Canada, Germany, Indonesia, Netherlands, USA	N.A	--

Source: **ISRO based on "State of the Satellite Industry Report" published every year by "Satellite Industry Association".**

Note: *** Earnings are recorded in the year of launch.**

2017, PSLV has successfully launched 225 satellites. This includes 37 National Satellites, 8 student satellites built by universities/ academic institutions, one re-entry mission and 180 foreign satellites from 23 Countries.

9.47 Towards providing launch services to international satellite customers, Antrix acts as the single nodal agency between customer and ISRO and provides end-to-end support to the customer. Foreign exchange earnings of India from export of satellite launch services has increased noticeably in 2015-16 and 2016-17 and consequently India's share in global satellite launch services revenue has also increased (Table 12). Foreign Exchange earnings in 2015-16 were higher than in 2016-17 as there were two dedicated Polar Satellite Launch Vehicle (PSLV) missions for launching international customer satellites in 2015-16, while in 2016-17 there was launching of international customer satellites only as co-passengers to the Indian national satellite missions.

9.48 With the successful track record of PSLV and Geo-synchronous Satellite Launch Vehicle (GSLV) and the emergence of small satellites market globally, especially in the US and Europe, Antrix foresees greater utilization of PSLV and GSLV launch services by the international community for launching their low earth orbit (LEO) satellites involving constellations on-board PSLV and smaller communication satellites on-board GSLV as a dedicated launch option. Thus the market potential for providing PSLV and GSLV launch services to international satellite customers is high.

Conclusion

9.49 India's services sector growth, which was highly resilient even during the global financial crisis, has been showing moderation in recent times. However, pick up is seen in recent months with some segments of the sector showing better performance. This is also reflected in the Nikkei Services PMI of India which rose to 53.1 in June 2017, the strongest since October 2016 supported by strong upswing in inflows of new business.