

# Infosys

17 July 2017

Reuters: INFY.BO; Bloomberg: INFO IN

## US BFS Pick-up And Mediocre Large Deal TCV Are Pain Points

The reiteration of revenue growth guidance by Infosys of 6.5%-8.5% in constant currency (CC) terms (7.1%-9.1% in USD terms) requires 2% CQGR for the next three quarters to hit the lower end. This, we believe, is contingent on a pick-up in the US BFS sector which looks increasingly difficult in 2017. Therefore, modest risk to even the lower end of its revenue guidance exists despite an in-line performance in 1QFY18. Mediocre total large deal TCV at US\$657mn (most of which is renewal-related) in our view will also exert pressure on growth in the coming years. While Infosys' management wanted focus on 'new services and software' (which were started post April 2015, constituting ~10% of revenues and are a sub-set of 23% of digital revenues), we believe large deal TCV in legacy services will continue to be an important driver of growth in the next 24-36 months as long as legacy services are still a large portion of its revenue base. TCV of US\$1bn-US\$1.5bn per quarter in our view is required for a company of Infosys' size to deliver industry-leading growth. While the employee utilisation rate can be pushed up a bit more, Infosys is probably on the verge of hitting a ceiling on this lever. The other margin levers (automation, offshore mix, onsite roll ratios) are not so easy to execute. But we believe that 23%-25% margin is less at risk unless INR appreciates further. We also believe that while spending is contracting on the traditional side, incremental spending is happening in the digital space where Indian players are losing market share to players like Accenture and Cognizant (CTS) and to global in-house captives of large clients because of behind-the-curve investments in building capabilities in consulting, user experience design, digital marketing, etc. Mid-quarter, we heard Infosys talk about 'tiering of vendors' and 'non-uniform reinvestment of savings from cost take-outs' to this effect. Post 1QFY18, we have retained our Sell rating on Infosys with a March 2018 target price of Rs846 (down 13% from CMP), based on 14.4x FY19E EPS. Our Sell rating is based on the view that the P/E multiple is likely to remain compressed in the foreseeable future because of a likely -3.3% FY17-FY19E earnings CAGR and erosion of RoIC (by 30ppts over FY13-FY19E). The target P/E multiple is -1 SD below the 10-year mean.

**1QFY18 performance largely in line:** Infosys' 3.3% USD QoQ revenue growth in 1QFY18 was in line with our expectation. Vertical-wise, the growth was led by Energy, Telecom, Insurance & Retail while geographically the growth was led by India, ROW and Europe. However, we believe the segments which drove growth in 1QFY18 can be volatile. Infosys' 2.7% CC QoQ revenue growth was a result of 1.7% increase in volume and 1.8% increase in realisation. While the increase in volume was weak in a seasonally strong quarter (TCS reported 3.5% volume growth in 1QFY18), the rise in realisation came as a positive surprise as TCS reported 1.5% decline in realisation in 1QFY18. We need to see if this realisation growth is a one-off or a structural trend. Our view is that, just as instances in the past, this will reverse in the coming quarters. EBIT margin declined 50bps to 24.1% (20bps above our expectation) on account of INR appreciation and higher variable pay to its employees by 80bps and 140bps, respectively, which were partly offset by improvement in employee utilisation (90bps), price realisation (50bps) and cross-currency tailwind (20bps).

Y/E Mar (Rsmn)	1QFY17	4QFY17	1QFY18	YoY (%)	QoQ (%)	1QFY18E	Dev (%)
Net Sales (USD mn)	2,502	2,566	2,651	6.0	3.3	2,648	0.1
Net Sales	167,820	171,200	170,780	1.8	(0.2)	170,521	0.2
Software Development Expenses	106,810	107,700	109,000	2.1	1.2	108,551	0.4
% of Sales	63.6	62.9	63.8	-	-	63.7	-
SG&A	20,540	21,380	20,670	0.6	(3.3)	21,145	(2.2)
% of Sales	12.2	12.5	12.1	-	-	12.4	-
EBIT	40,470	42,120	41,110	1.6	(2.4)	40,826	0.7
EBIT Margin (%)	24.1	24.6	24.1	-	-	23.9	-
Other Income	7,510	7,210	7,430	(1.1)	3.1	8,149	(8.8)
PBT	47,980	49,330	48,540	1.2	(1.6)	48,974	(0.9)
Provision for Tax	13,620	13,300	13,710	0.7	3.1	13,713	(0.0)
Effective Tax Rate	28.4	27.0	28.2	-	-	28.0	-
PAT (Reported)	34,360	36,030	34,830	1.4	(3.3)	35,262	(1.2)
NPM (%)	20.5	21.0	20.4	-	-	20.7	-

Source: Company, Nirmal Bang Institutional Equities Research

## SELL

Sector: Information Technology

CMP: Rs972

Target price: Rs846

Downside: 13%

### Girish Pai

 Head of Research  
 girish.pai@nirmalbang.com  
 +91-22-3926 8017

### Devanshu Bansal

 Research Associate  
 devanshu.bansal@nirmalbang.com  
 +91-22-3926 8179

### Key Data

Current Shares O/S (mn)	2,296.9
Mkt Cap (Rsbn/US\$bn)	2,232.7/34.6
52 Wk H / L (Rs)	1,097/900
Daily Vol. (3M NSE Avg.)	3,556,979

### Price Performance (%)

	1 M	6 M	1 Yr
Infosys	3.4	1.7	(9.4)
Nifty Index	3.1	17.7	15.7

Source: Bloomberg

## Exhibit 1: Key financials

Y/E March (Rsbn)	FY15	FY16	FY17	FY18E	FY19E
Revenues (Rsbn)	533	624	685	708	761
YoY (%)	6.4	17.1	9.7	3.4	7.4
EBIT (Rsbn)	138	156	169	166	160
EBIT (%)	25.9	25.0	24.7	23.4	21.1
Adj. PAT	123	135	144	138	134
YoY (%)	15.8	9.4	6.4	(3.5)	(3.0)
FDEPS (Rs)	53.9	59.0	62.8	60.6	58.7
RoE (%)	24.1	23.2	22.0	19.8	18.1
RoCE (%)	33.7	32.2	30.5	27.5	25.2
RoIC (%)	64.9	58.8	51.1	44.8	41.8
P/E(x)	18.0	16.5	15.5	16.0	16.5
P/BV (x)	4.1	3.6	3.2	3.1	2.9

Source: Company, Nirmal Bang Institutional Equities Research

## Exhibit 2: Change in our estimates

	New		Old		Change (%)	
	FY18E	FY19E	FY18E	FY19E	FY18E	FY19E
INR/USD	65.6	67.0	65.6	67.0	0.0	0.0
USD revenues	10,799	11,360	10,759	11,310	0.4	0.4
Revenues (Rsbn)	708	761	706	758	0.4	0.4
EBIT (Rsbn)	166	160	163	158	2.0	1.4
EBIT margin (%)	23.4	21.1	23.0	20.9	-	-
PAT (Rsbn)	138	134	138	134	0.5	0.2
EPS (Rs)	60.6	58.7	60.3	58.6	0.5	0.2

Source: Company, Nirmal Bang Institutional Equities Research

**We have a negative view on Indian IT services sector:** We have been cautious on the Indian IT services sector for more than two years and have advocated an underweight stance. We expect the sector to post 3%-6% USD revenue growth in FY18 (likely lowest on the street, organic). In our sector reports [Structural And Cyclical Speed-breakers Ahead](#) and [Downside Risks Open Up - It Is That Time Of The Cycle!](#), we had indicated the reasons for being bearish on the sector: These include: (1) The probability of below-trend growth in the US over the next 12-24 months is high as the economic cycle is maturing. This, in our view, will have a deleterious impact on Global 2000 corporations' sales growth - key driver of Indian IT sector's revenue growth. (2) We believe volume growth, pricing and margins are all likely to disappoint current consensus expectations amid intense competition because of convergence of capabilities and strategies among Tier-1 Indian players. (3) We see revenue cannibalisation from automation to accelerate as the entire industry is in a challenger-defender paradigm and some players have already factored in aggressive assumptions on gains from it and therefore have to deliver unless they want to witness material margin downside. (4) We do not believe digital business is material enough to offset the pressure one expects in traditional business. Besides we believe Indian industry is not getting a fair share of this business because of lower capabilities in consulting and design. (5) We see P/E multiple remaining compressed for the sector as revenue and earnings growth will be anaemic. We also expect return ratios to move down materially over FY17-FY19. (6) In the near term, we believe the changes to H1-B visa rules are likely to have a negative impact on the margins of the companies under our coverage over FY17-FY19 ([H1-B Related Minimum Wage Increase – Material Damage Likely To Margins](#)). Even if the minimum wage rule does not kick in, higher onsite hiring, higher onsite wage inflation, lower onsite utilisation and higher use of sub-contractors will damage margins. We expect RoIC to also move down in tandem.

## 1QFY18 conference -call highlights

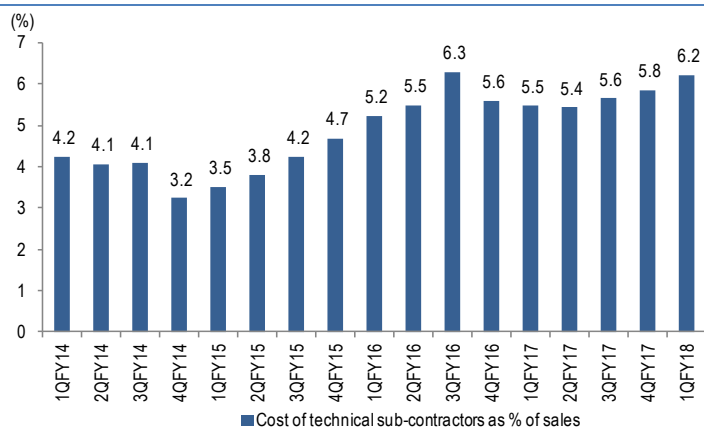
- Revenue growth slightly above our expectation:** Infosys' 2.7% CC QoQ revenue growth in 1QFY18 was 30bps above our expectation. Vertical-wise, the growth was led by Energy, Telecom and Retail while geographically the growth was led by India, ROW and Europe. We believe the segments which witnessed growth for Infosys in 1QFY18 can be volatile, both in terms of verticals and geographies, as Retail and Energy verticals are witnessing industry-wide weakness and emerging markets like India & ROW have historically been very volatile.
- Realisation growth was a surprise:** In terms of volume and realisation growth, Infosys' 2.7% CC QoQ growth was a result of 1.7% increase in volume and 1.8% rise in realisation. While the increase in volume was weak in a seasonally strong quarter, the increase in realisation came as a positive surprise as TCS reported 150bps decline in realisation in 1QFY18. We believe the increase in realisation could be because of more of digital revenues which are better priced than traditional services. We take the realisation increase with a pinch of salt as we do not believe it is a structural thing. Many times in the past we have seen instances where after a strong quarter of realisation growth it has reversed in subsequent quarters.
- Geography-wise performance:** All geographies grew on QoQ basis in USD terms led by India, ROW and Europe which grew 16%/8%/5%, respectively. North America, which constitutes 61.1% to total revenues, grew much lower than company average with 1.4% USD QoQ growth. 42% of incremental revenues came from India and ROW which we believe are relatively of lower margin/quality.
- Vertical-wise performance:** All verticals except Travel & Others grew on QoQ basis. Travel & Others declined 2% and 1% QoQ, respectively, in USD terms. The growth was led by Energy & utilities, Telecom, Insurance & Retail which grew 7.5%/8.6%/5%/4.1%, respectively, in USD terms on QoQ basis.
- Margins will be hit further in 2QFY18:** 1QFY18 EBIT margin declined 50bps to 24.1% (20bps above our expectation) on account of INR appreciation and higher variable pay to its employees by 80bps and 140bps, respectively, which were partly offset by improvement in employee utilisation (90bps), price realisation (50bps) and some cross-currency impact (20bps). The management indicated its focus to reduce onsite employee costs through shifting some of its onsite employees in fixed-price projects to near-shore locations and by increasing employee productivity with the help of automation and better utilisation. 1QFY18 margins do not include the impact of wage hike as it has been deferred to 2QFY18.
- FY18 guidance retained:** Infosys has held its CC 6.5%-8.5% revenue growth guidance and 23%-25% EBIT margin guidance for FY18 which it had provided during 4QFY17 earnings conference-call taking into account the appreciation in INR and investment in onsite development centres. This guidance, however, does not include the impact of implementation of the expected regulatory changes like increase in minimum wage level for H1-B visa holders. It also stated that this guidance has taken into consideration the current business and client-specific environment. We believe this guidance includes its optimistic view on the US BFS sector.
- Post 1QFY18 results, FY18 guidance implies strong growth in 3Q and 4Q:** The 6.5%-8.5% indicates 2% CQGR (in USD terms) for the rest three quarters of FY18 at the lower end. Now, with management expectations of growth returning to BFS in the second-half, we believe the company will have to deliver strong growth in 2HFY18 to even hit the lower end of its guidance which we believe is going to be a tough task in seasonally weak 3Q and 4Q quarters.
- Commentary on BFSI:** Infosys indicated lack of spending by clients in BFS and Retail verticals, but also hoped that growth would return to US BFS vertical in 2HFY17 with the recent hike in interest rates and likely decrease in regulatory requirements. Based on commentary of its peers that looks unlikely. We, however, believe that while spending is not happening on the traditional side, incremental spending is happening in the digital space where we believe Indian players are losing market share to players like Accenture and CTS because of behind-the-curve investments in building capabilities in consulting, user experience design, digital marketing, etc. Our interactions with a number of large BFSI players have also indicated that increasingly a large part of their digital work is done internally through the use of global in-house captives based in India and East Europe. As regards Europe, it sounded optimistic because of: (1) European banks being behind the curve in terms of technology adoption, and (2) Under-penetration in continental Europe as opposed to the US which gives it headroom for growth.

- Automation benefits should accelerate in FY18:** Infosys stated that it is trying to negate pricing pressure by increasing automation in its operations and bringing in productivity improvement, and with automation it has saved close to 3,500 FTE worth of efforts in 1QFY18. Its AI platform 'Nia' is being used for large-scale transformation within AMS, as well as to drive cost savings in managed projects. Also, net employee addition significantly reduced from 601 in 4QFY17 to -1,811 in 1QFY18 which resulted in improvement in revenue per employee, growing to US\$51,900 in 1QFY18 from US\$51,400 in 4QFY17. Infosys was able to significantly improve its utilisation including trainees as well as excluding trainees from 76.5%/80.5% in 1QFY17 to 80.2%/84%, respectively, in 1QFY18. Utilisation including trainees is at a historical high and that excluding trainees is at a 15-year high. The management indicated that it will continue to extract more juice from this lever going forward.
- New services, product and platform sales:** Starting 1QFY18, Infosys has segregated revenues from its New Services and New Software launched after 1 April 2015 into two brackets i.e. 'New Services' and 'New Software'. New Services include revenues from its six new segments viz. Cloud Eco-System, Big Data and Analytics, API and Micro Services, Data and Mainframe Modernisation, Cyber Security & IOT Engineering Services, and New Software include revenues from its platformssuch as Edge, Nia, Panaya and Skava. The management seems bullish particularly on its Cyber Security service line. For 1QFY18, New Services constituted 8.3% of overall revenues and New Software constituted 1.6% of overall revenues. In all, New Software and Services delivered ~10% of overall revenues. However, Infosys highlighted that based on the definition used by its peers to classify revenues under Digital, it contributed ~23% of overall revenues in 1QFY18.
- New product sales are strong:** As regards the performance of its new software-led offerings in 1QFY18, Infosys stated that it is seeing continued momentum in Nia, Skava and Panaya. Nia, which was launched in April 2015, has generated more than 160 AI-based scenarios across 70 clients and is central to all its conversations with clients and it has now also started finding client interest in areas such as sales operation, demand campaign, supply chain, digital contract engagement, and other typical business areas. In Edgeverve, it had 24 wins and 21 go-lives for its Finacle product and 12 wins and 17 go-lives for its Edge product. Its Trade Edge network has more than 2,000 partners now and it processes approximately 3bn transactions per month. For SKAVA, which is its e-commerce platform, Infosys stated that it continues to gain traction, and it is investing heavily in bringing the AI capabilities of Nia to power its next-generation digital commerce platform.
- Large deal TCV is not good enough to sustain growth in high single-digits, in our view:** Infosys' large deal TCV number in 1QFY18 was US\$657mn. It had stated in the past that large deal wins of US\$1.5bn would be required per quarter to drive industry-leading growth. At the current level, that seems unlikely. It also indicated that deal sizes have been reducing in the market, but this is a comment we have heard from its peers too.
- On culture:** Infosys stated that it is taking efforts to simplify its internal processes through automation and indicated that it is continuing to invest in education and training of its employees. It stated that so far 70 of its employees have graduated from 'Stanford Global Leadership programme' including 36 graduates in 1QFY18. It also stated that another 40 of its employees are in the current batch which it believes will help in building next generation leaders. From a learning standpoint, its 'Digital Tutor' platform now has more than 3,500 learning videos and tutorials and its 'Infosys learning platform' now has 181 courses with over 45,000 unique users till date. It has trained 2,100 of its employees in 'Nia' and more than 142,000 employees in 'Design Thinking' across the organisation.
- Wage hike:** During the quarter, Infosys had deferred the wage hike to 2QFY18. The management highlighted wage hike to be 6% on an average in 2QFY18. During 1QFY18, Infosys has paid higher variable pay to its employees which impacted the margins negatively.
- Capital allocation policy:** Infosys reiterated its commitment to execute the capital allocation policy announced in April 2017. Infosys had earlier identified an amount of Rs130bn to be paid out to shareholders during FY18 in a timely manner. The management, however, indicated that because of its large global shareholder base in multiple countries, the distribution to shareholders requires compliances and approvals in several jurisdictions which are causing the delay.
- New appointment in the management space:** Infosys has appointed Mr. Inderpreet Sawhney as its new general counsel. Mr. Sawhney brings to Infosys a wealth of critical experience in large complex global

firms, as well as more innovative ones from India to Silicon Valley to help it become a much more global agile organisation, while upholding the higher standards of integrity and governance.

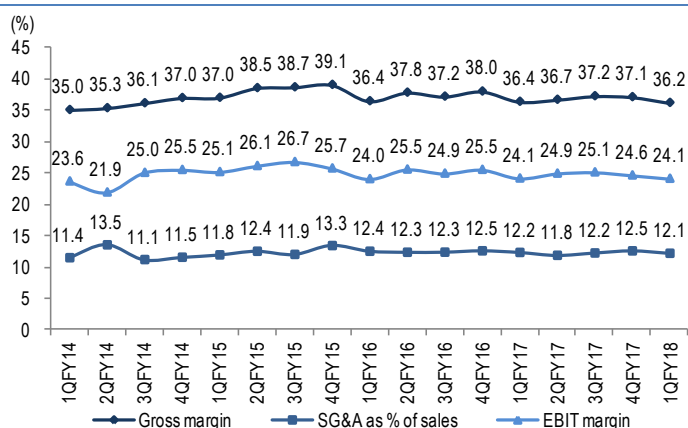
- **On its recently announced plans to hire 10,000 American workers over the next two years:** Infosys stated that it is going to establish four innovation hubs, with the first two in Indiana and North Carolina, for which it will hire 2,000 people each in the next two years. In 1QFY18 itself, ~600 U.S. workers were hired.
- **Zero Distance and Zero Bench has led to innovation and utilisation Improvement:** With Zero Distance it has delivered grassroot innovation by leveraging Design Thinking and has generated 16,000+ ideas of which 2,200 have already been implemented with clients. Infosys highlighted that it was able to save 3,500 FTEs worth of effort by driving automation into its service lines in 1QFY18. With Its Zero Bench programme, it has created 42,000+ work packets of which 24,000 work packets have been completed by the end of 1QFY18.

**Exhibit 3: Sub-contractor charges have started to inch up as Infosys begins to invest more locally**



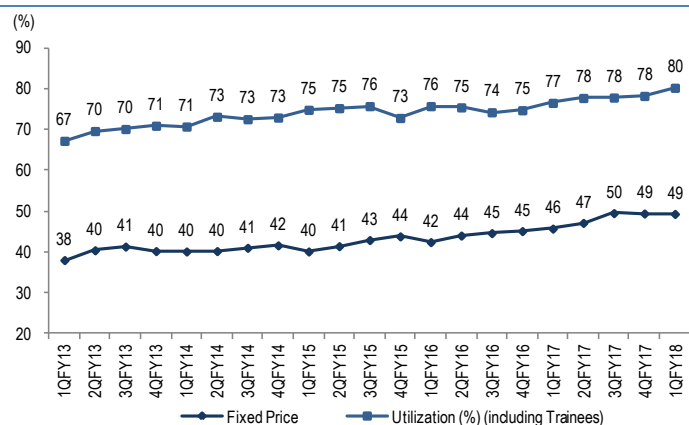
Source: Company, Nirmal Bang Institutional Equities Research

**Exhibit 4: EBIT margin performance has been in a narrow band**



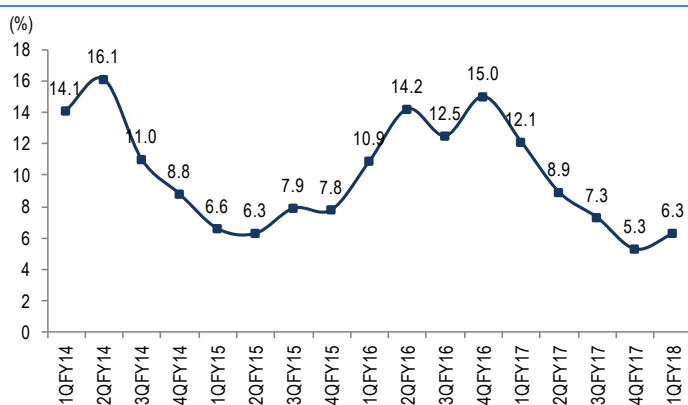
Source: Company, Nirmal Bang Institutional Equities Research

**Exhibit 5: Fixed-price contract is a key lever left for improvement in margins. Utilisation has almost maxxed.**



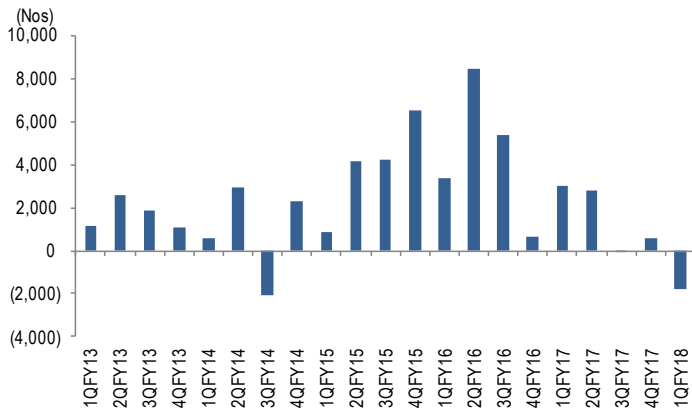
Source: Company, Nirmal Bang Institutional Equities Research

**Exhibit 6: YoY CC revenue growth (USD terms) shows a small upturn**



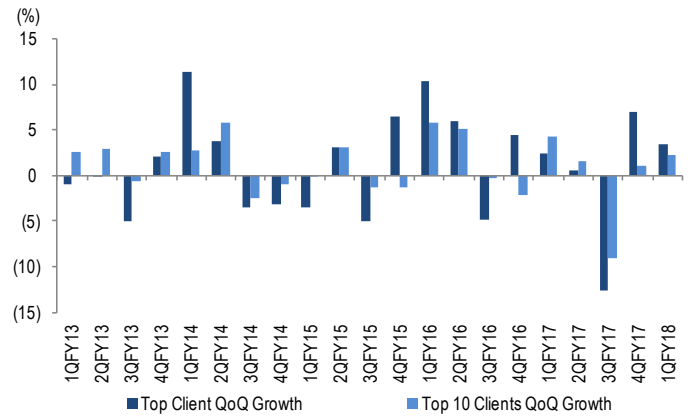
Source: Company, Nirmal Bang Institutional Equities Research

**Exhibit 7: Effect of automation and focus on utilisation is being seen in muted net employee addition**



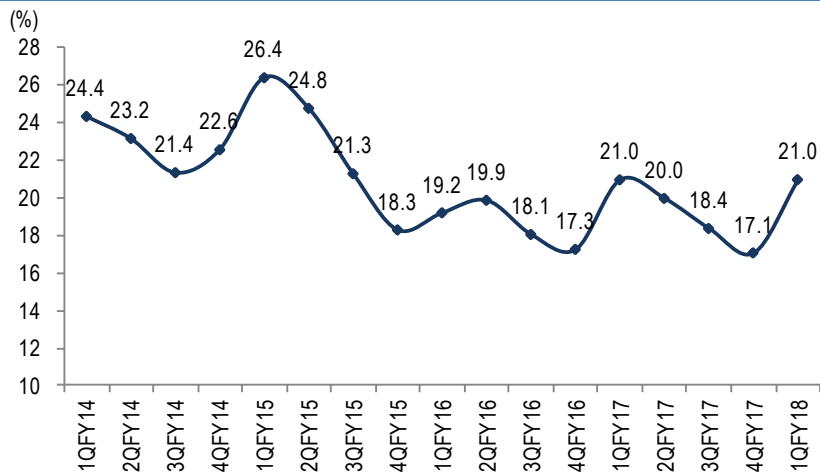
Source: Company, Nirmal Bang Institutional Equities Research

**Exhibit 8: Top accounts' growth has improved after a poor 3QFY17**



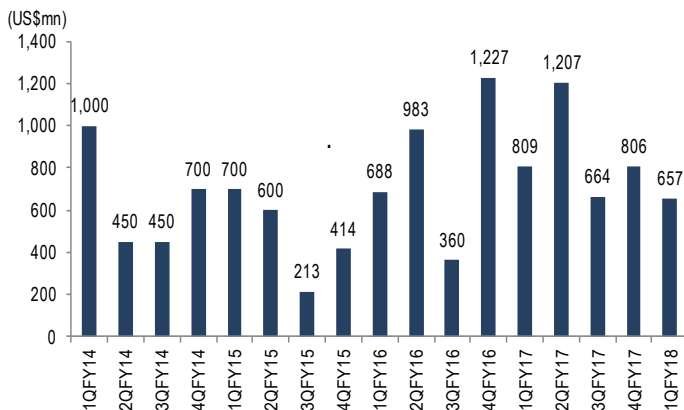
Source: Company, Nirmal Bang Institutional Equities Research

**Exhibit 9: Attrition rate has seen seasonal spike up**



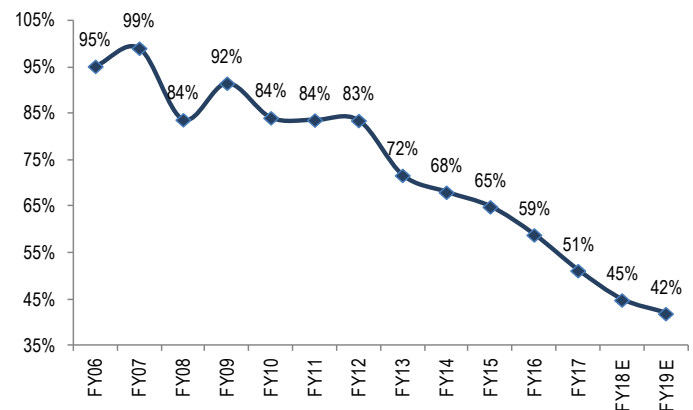
Source: Company, Nirmal Bang Institutional Equities Research

**Exhibit 10: Total Deal TCV continues to disappoint**



Source: Company, Nirmal Bang Institutional Equities Research

**Exhibit 11: RoIC has been falling rapidly**



Source: Company, Nirmal Bang Institutional Equities Research

## Exhibit 12: Key metrics

	1QFY15	2QFY15	3QFY15	4QFY15	1QFY16	2QFY16	3QFY16	4QFY16	1QFY17	2QFY17	3QFY17	4QFY17	1QFY18
Revenues(US\$m)	2,133	2,201	2,218	2,159	2,256	2,392	2,408	2,446	2,501	2,587	2,551	2,569	2,651
EBIT (US\$m)	536	575	592	555	541	610	600	625	602	644	640	634	638
PAT (US\$m)	482	511	522	498	476	519	525	533	511	540	547	543	541
<b>P&amp;L (Rsmn)</b>													
Revenues	127,700	133,420	137,960	134,110	143,540	156,350	159,020	165,500	167,820	173,100	172,730	171,200	170,780
EBITDA	32,110	34,830	36,890	34,490	34,470	39,930	39,590	42,200	40,470	43,090	43,340	42,120	41,110
PAT	28,860	30,960	32,500	30,970	30,300	33,980	34,650	35,970	34,360	36,090	37,080	36,030	34,830
<b>Vertical mix (%)</b>													
Manufacturing	23.2	23.3	23.4	23.8	24.0	23.8	22.8	22.7	22.8	22.5	22.5	22.4	22.2
Insurance, finance and banking	33.4	32.8	33.1	33.6	33.1	32.8	33.5	32.8	32.8	33.1	33.3	33.5	33.3
Telecom	8.7	8.9	8.7	8.3	8.4	7.9	8.0	8.6	9.4	9.4	9.1	9.9	10.4
Retailing & CPG	15.8	15.3	14.9	15.1	15.0	14.9	14.7	15.0	15.5	14.9	14.6	14.1	14.2
Others	12.4	13.1	12.8	12.4	11.9	12.8	13.3	13.2	12.7	13.4	13.6	13.5	13.3
Life sciences	4.6	4.7	5.1	5.1	5.6	5.9	5.8	5.7	4.7	4.5	4.6	4.6	4.6
Healthcare	1.9	1.9	2.0	1.7	2.0	1.9	1.9	2.0	2.1	2.2	2.3	2.0	2.0
<b>Horizontal mix (%)</b>													
Application development	15.8	16.1	14.9	14.3	14.0	14.0	14.1	13.7	14.4	15.6	15.5	15.3	15.4
Application maintenance	18.7	18.9	19.5	19.7	19.9	19.6	19.1	19.7	19.5	18.1	17.0	16.8	16.7
Package implementation	32.3	32.4	32.6	32.7	32.8	32.8	33.8	33.2	32.1	32.1	32.4	32.6	32.6
Testing	9.5	9.4	9.1	8.9	8.9	9.0	9.2	9.0	9.1	9.2	9.1	9.0	9.3
Product engineering services	3.4	3.4	3.4	3.5	3.5	3.3	3.4	3.4	3.5	3.7	3.9	4.0	4.1
Business process management	5.3	5.1	5.4	5.3	5.0	4.9	4.9	5.0	4.9	4.9	4.9	5.1	5.0
Infrastructure management	7.9	7.9	8.2	8.1	8.3	8.7	7.5	8.0	8.3	8.4	8.6	8.5	8.4
Other services	2.3	2.2	2.3	2.5	2.7	2.8	3.0	2.8	2.7	2.9	3.0	3.2	3.1
Products, platforms and solutions	4.8	4.6	4.6	5.0	4.9	4.9	5.0	5.2	5.5	5.1	5.6	5.5	5.4
Products	3.2	2.9	2.9	3.4	3.2	2.8	3.0	3.2	3.0	3.0	3.2	3.1	0.0
BPM platform	1.2	1.2	1.1	1.0	1.4	1.0	0.9	1.7	2.1	1.7	1.9	1.9	0.0
Others	0.4	0.5	0.6	0.6	0.3	1.1	1.1	0.3	0.4	0.4	0.5	0.5	0.0
<b>Geographic Mix (%)</b>													
North America	60.8	60.8	61.6	62.8	63.2	63.3	62.5	61.9	62.0	61.5	62.0	62.3	61.1
Europe	24.5	24.7	24	23.1	22.4	22.9	23.2	23.4	23.0	22.5	22.2	22.1	22.4
India	2.4	2.2	2.5	2.5	2.2	2.3	2.8	3.0	2.7	3.4	3.4	3.2	3.6
Rest of the world	12.3	12.3	11.9	11.6	12.2	11.5	11.5	11.7	12.3	12.6	12.4	12.4	12.9
<b>Project type</b>													
T&M	59.9	58.6	57.1	56.2	57.6	56.0	55.4	54.9	54.3	52.9	50.5	50.6	50.7
Fixed price	40.1	41.4	42.9	43.8	42.4	44.0	44.6	45.1	45.7	47.1	49.5	49.4	49.3
<b>Staff utilisation (%) (including trainees)</b>	<b>74.8</b>	<b>75.2</b>	<b>75.7</b>	<b>72.8</b>	<b>75.7</b>	<b>75.4</b>	<b>74.2</b>	<b>74.7</b>	<b>76.5</b>	<b>77.7</b>	<b>77.8</b>	<b>78.2</b>	<b>80.2</b>
Onsite mix (%)	54.5	54.6	54.8	55.2	56.1	56.1	56.5	56.5	57.0	57.0	56.5	56.7	56.6
Offshore mix (%)	45.5	45.4	45.2	44.8	43.9	43.9	43.5	43.5	43.0	43.0	43.5	43.3	43.4
<b>Client concentration (%)</b>													
Top client	3.4	3.4	3.2	3.5	3.7	3.7	3.5	3.6	3.6	3.5	3.1	3.3	3.3
Top 5 clients	13.7	13.6	13.3	13.9	14.0	14.0	13.9	13.7	13.7	13.1	12.3	12.2	0.0
Top 10 clients	22.9	22.9	22.4	22.7	23.0	22.8	22.6	21.8	22.2	21.8	20.1	20.2	20.0
<b>Number of clients</b>													
US\$1mn	520	526	532	529	535	542	555	558	574	577	591	598	606
US\$5mn	235	237	240	244	248	258	261	268	268	277	275	282	279
US\$10mn	148	150	154	159	161	169	171	177	180	186	195	189	190
US\$25mn+	78	83	83	83	83	85	89	88	87	89	90	91	97
US\$50mn	43	43	46	47	49	50	51	52	52	54	54	56	56
US\$75mn+	24	27	29	29	28	31	28	31	31	30	32	31	31
US\$100mn	12	13	14	15	14	14	13	14	17	18	18	19	18
US\$200mn	3	3	4	4	6	6	6	6	6	6	6	6	0
US\$300mn	1	0	0	0	1	1	1	1	1	1	1	1	0
Employee strength	161,284	165,411	169,638	176,187	179,523	187,976	193,383	194,044	197,050	199,829	199,763	200,364	198,553
Attrition rate (%)	19.5	20.1	20.4	18.9	19.2	19.9	18.1	17.3	21.0	20.0	18.4	17.1	21.0

Source: Company, Nirmal Bang Institutional Equities Research

## Exhibit 13: QoQ and YoY growth of various parameters

	1QFY13	2QFY13	3QFY13	4QFY13	1QFY14	2QFY14	3QFY14	4QFY14	1QFY15	2QFY15	3QFY15	4QFY15	1QFY16	2QFY16	3QFY16	4QFY16	1QFY17	2QFY17	3QFY17	4QFY17	1QFY18
<b>QoQ Growth (%)</b>																					
<b>Client Metrics</b>																					
Top Client	(1)	(0)	(5)	2	11	4	(4)	(3)	(4)	3	(5)	6	10	6	(5)	4	2	1	(13)	7	3
Top 10 clients	3	3	(1)	3	3	6	(2)	(1)	(0)	3	(1)	(1)	6	5	(0)	(2)	4	2	(9)	1	2
Top 25 clients	The company has stopped providing revenue contribution from Top 5 clients number and started providing Top 25 clients revenue contribution from 1QFY18 onwards																				2
Top 10 - Top client	3	3	0	3	1	6	(2)	(1)	1	3	(1)	(3)	5	5	1	(3)	5	2	(8)	(0)	2
Top 25 - Top 10 client	The company has stopped providing revenue contribution from Top 5 clients number and started providing Top 25 clients revenue contribution from 1QFY18 onwards																				1
Non- Top 10	(2)	2	8	2	3	3	3	(0)	3	3	2	(3)	4	6	1	3	2	4	1	0	4
<b>Geographical Data</b>																					
North America	2	2	1	1	5	4	(1)	(1)	4	3	2	(1)	5	6	(1)	1	3	3	(1)	1	1
Europe	(8)	5	16	6	(3)	5	5	1	(1)	4	(2)	(6)	1	8	2	2	1	1	(3)	0	5
India	(1)	(18)	45	11	11	(4)	10	(1)	(6)	(5)	15	(3)	(8)	11	23	9	(8)	30	(1)	(5)	16
Rest of the world	(1)	3	7	(1)	3	1	5	(1)	1	3	(2)	(5)	10	(0)	1	3	8	6	(3)	1	8
Total Growth	(1)	2	6	2	3	4	2	(1)	2	3	1	(3)	4	6	1	2	2	3	(1)	1	3
<b>Service Offering</b>																					
Development	0	2	(2)	0	4	6	1	(3)	4	5	(7)	(7)	2	6	1	(1)	8	12	(2)	(1)	4
Maintenance	(1)	5	(1)	2	(0)	3	2	1	(2)	4	4	(2)	5	4	(2)	5	1	(4)	(7)	(1)	3
Package implementation	(5)	3	15	2	6	3	2	(3)	1	3	1	(2)	5	6	4	(0)	(1)	3	(0)	1	3
Testing	5	6	3	1	4	4	5	5	5	2	(2)	(5)	4	7	3	(1)	4	5	(2)	(1)	7
Engineering services	2	(0)	(1)	2	3	7	(1)	6	2	3	1	0	4	(0)	4	2	5	9	4	3	6
Business Process Management	1	(2)	17	2	1	4	6	3	(2)	(1)	7	(4)	(1)	4	1	4	0	3	(1)	5	1
Infrastructure management	5	6	7	7	(0)	7	(3)	4	12	3	5	(4)	7	11	(13)	8	6	5	1	(1)	2
Other services	(1)	(1)	(3)	(2)	3	4	(7)	4	7	(1)	5	6	13	10	8	(5)	(1)	11	2	7	0
Products	(3)	(8)	6	6	(3)	2	2	(4)	(4)	(1)	1	6	2	6	3	6	8	(4)	8	(1)	1
<b>Fixed Price &amp; Time and Material Mix</b>																					
Fixed Price	(5)	9	8	(1)	3	4	4	1	(2)	6	5	(1)	1	10	2	3	4	7	4	0	3
Time and Material	1	(1)	4	4	3	4	0	(2)	5	1	(2)	(4)	7	3	(0)	1	1	1	(6)	1	4
<b>Revenue by Industry class</b>																					
Manufacturing	5	1	4	5	4	7	(0)	0	3	4	1	(1)	5	5	(4)	1	3	2	(1)	0	2
Insurance Finance and Banking	(3)	2	6	3	2	3	2	(1)	2	1	2	(1)	3	5	3	(1)	2	4	(1)	1	3
Insurance	(4)	2	9	(1)	3	(3)	2	(2)	(1)	3	6	(1)	(2)	(1)	6	(7)	6	5	6	1	5
BFS	(2)	2	5	4	2	4	2	(0)	2	1	1	(1)	4	6	2	1	2	4	(2)	1	2
Telecom	(17)	19	2	(1)	(6)	1	(3)	8	3	6	(1)	(7)	6	(0)	2	9	12	3	(5)	9	9
Retailing	(1)	10	(1)	(2)	5	3	4	(4)	4	(0)	(2)	(1)	4	5	(1)	4	6	(1)	(3)	(3)	4
Others (utilities, logistic, transportation, etc)	(6)	(1)	12	1	2	6	2	(1)	(1)	9	(1)	(6)	0	14	5	1	(2)	9	0	(0)	2
Energy& Utilities	(20)	11	8	(2)	(3)	8	4	1	(2)	11	(10)	(11)	(3)	19	9	3	(7)	6	3	1	7
Transportation & logistics	11	(3)	12	2	3	4	(10)	6	(10)	3	1	4	(2)	34	1	(4)	8	3	4	1	(2)
Others	6	(10)	16	2	7	6	5	(4)	2	8	6	(4)	3	6	2	(0)	1	14	(3)	(1)	(1)
Life Sciences	19	(15)	30	2	1	1	11	(6)	(0)	5	9	(3)	15	12	(1)	(0)	(16)	(1)	1	1	3
Healthcare	48	(40)	13	29	30	(9)	(3)	(5)	2	3	6	(17)	23	1	1	7	7	8	3	(13)	3
Total	(1)	2	6	2	3	4	2	(1)	2	3	1	(3)	4	6	1	2	2	3	(1)	1	3
<b>Onsite: Offshore Mix</b>																					
Onsite	(1)	5	7	4	13	2	(8)	7	2	3	1	(2)	6	6	1	2	3	3	(2)	1	3
Offshore	(1)	0	4	1	(9)	6	15	(8)	3	3	0	(4)	2	6	(0)	2	1	3	(0)	0	4



## YoY Growth (%)

Client Metrics																					
	1QFY13	2QFY13	3QFY13	4QFY13	1QFY14	2QFY14	3QFY14	4QFY14	1QFY15	2QFY15	3QFY15	4QFY15	1QFY16	2QFY16	3QFY16	4QFY16	1QFY17	2QFY17	3QFY17	4QFY17	1QFY18
Top Client	(4)	(11)	(8)	(4)	8	12	14	8	(7)	(7)	(9)	1	15	18	19	16	8	2	(6)	(4)	(3)
Top 10 clients	5	4	2	8	8	11	9	5	2	(0)	1	0	6	8	9	9	7	3	(6)	(3)	(5)
Top 25 clients	The company has stopped providing revenue contribution from Top 5 clients number and started providing Top 25 clients revenue contribution from 1QFY18 onwards																				
Top 10 - Top client	11	9	6	7	3	6	5	2	0	(2)	3	2	6	10	12	10	9	1	(6)	(7)	(0)
Top 25 - Top 10 client	The company has stopped providing revenue contribution from Top 5 clients number and started providing Top 25 clients revenue contribution from 1QFY18 onwards																				
Non- Top 10	5	2	6	10	16	16	11	9	9	9	7	4	6	9	8	14	12	10	9	7	9
Geographical Data																					
North America	5	1	0	6	9	11	9	7	6	5	9	9	10	13	10	12	9	5	5	6	4
Europe	5	10	11	18	25	26	15	9	11	10	2	(5)	(3)	1	5	15	14	6	1	(1)	3
India	(19)	(25)	10	31	48	72	31	17	(1)	(2)	2	(1)	(3)	14	21	36	36	60	29	12	41
Rest of the world	10	8	16	9	13	10	8	8	6	8	1	(3)	5	2	5	14	12	18	14	11	11
Service Offering																					
Development	11	2	(3)	0	4	8	11	8	8	7	(1)	(5)	(6)	(5)	3	8	14	21	16	17	13
Maintenance	(2)	2	(4)	4	5	3	6	5	4	5	7	5	13	13	6	13	9	(0)	(6)	(10)	(9)
Package implementation	24	25	39	15	28	28	13	7	3	4	3	4	7	10	12	15	9	6	2	3	8
Testing	16	8	11	16	15	12	15	19	21	19	11	0	(1)	4	10	14	13	11	5	5	8
Engineering services	15	3	(7)	3	4	12	11	15	14	10	12	6	9	6	8	10	11	21	22	24	24
Business Process Management	(5)	(11)	5	19	18	25	13	14	11	7	8	(0)	(0)	4	(2)	7	9	8	6	7	8
Infrastructure management	17	20	19	27	20	22	11	8	21	17	26	16	11	20	(1)	12	11	4	22	12	7
Other services	(14)	(26)	(13)	(7)	(3)	2	(3)	3	7	2	16	17	24	38	41	27	11	12	6	20	22
Products	33	35	20	1	1	11	7	(4)	(5)	(8)	(8)	1	8	16	18	18	24	13	19	11	4
Fixed Price & Time and Material Mix																					
Fixed Price	2	10	6	12	20	14	10	12	7	10	11	9	12	16	13	16	20	16	18	15	14
Time and Material	7	(2)	4	8	10	15	11	5	7	4	2	(1)	2	4	5	11	5	2	(3)	(3)	(1)
Total	5	3	5	9	14	15	11	8	7	7	6	3	6	9	8	13	11	8	6	5	6
Revenue by industry class																					
Manufacturing	16	12	12	14	14	21	16	12	10	7	8	7	9	11	6	8	5	2	5	4	3
Insurance Finance and Banking	(0)	(2)	0	8	14	14	10	7	6	5	4	4	5	9	10	10	10	9	5	7	8
Insurance	(4)	(3)	(2)	6	14	8	1	(0)	(4)	1	6	7	6	1	2	(5)	4	10	10	19	17
BFS	1	(2)	1	9	14	15	12	8	9	5	4	3	5	10	12	14	11	9	4	5	6
Telecom	(16)	(2)	3	1	14	(4)	(9)	(0)	10	14	16	(0)	2	(4)	(0)	17	24	29	21	21	17
Retailing	3	12	10	7	14	6	11	8	7	4	(2)	1	0	6	7	12	15	8	5	(1)	(3)
Others (utilities, logistic, transportation, etc)	2	(4)	(1)	5	14	22	12	10	7	10	6	0	1	6	13	20	18	13	8	7	11
Energy & Utilities	(10)	(4)	(6)	(7)	14	11	7	10	11	15	(0)	(12)	(13)	(7)	13	31	24	10	4	1	17
Transportation & logistics	5	3	(6)	23	14	22	(2)	2	(11)	(11)	(1)	(3)	6	38	37	27	40	8	12	17	6
Others	13	(7)	7	14	14	33	21	14	9	12	13	12	13	10	7	11	9	17	11	10	8
Life Sciences	33	5	23	35	14	36	15	6	5	9	8	12	29	36	23	26	(7)	(18)	(16)	(15)	4
Healthcare	129	(20)	(13)	30	14	72	48	8	(15)	(4)	6	(7)	11	9	3	33	16	25	28	5	1
Total	5	3	5	9	14	15	11	8	7	7	6	3	6	9	8	13	11	8	6	5	6
Onsite: Offshore Mix																					
Onsite	3	4	9	15	32	28	10	13	2	3	13	4	9	12	12	16	13	10	6	5	5
Offshore	7	1	1	4	(4)	1	11	2	15	11	(2)	2	2	5	4	10	9	6	6	4	7

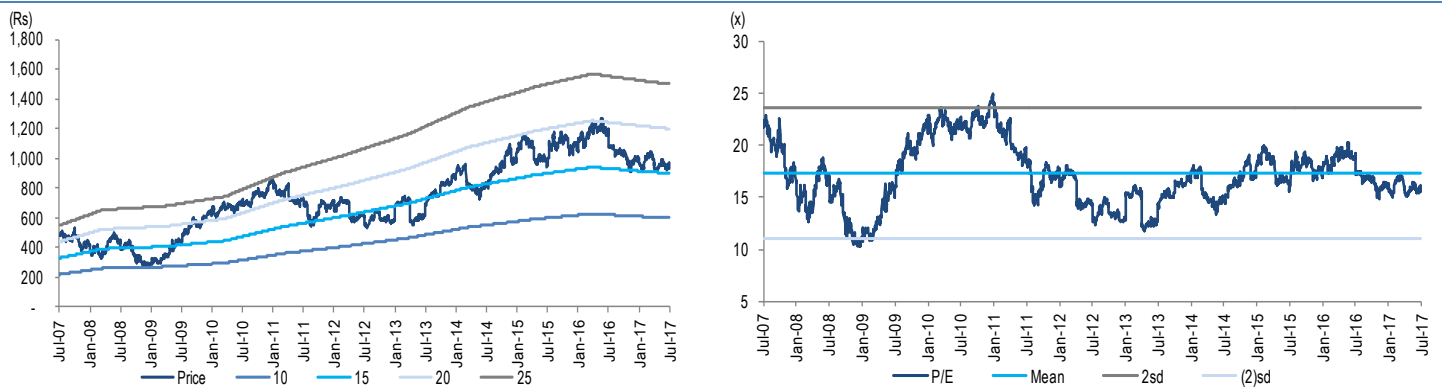
Source: Company, Nirmal Bang Institutional Equities Research

## Exhibit 14: Quarterly snapshot

(Rsmn)	4QFY15	1QFY16	2QFY16	3QFY16	4QFY16	1QFY17	2QFY17	3QFY17	4QFY17	1QFY18
INR/USD	62.0	63.5	65.4	66.1	67.7	67.1	66.9	67.7	66.7	64.4
US\$ revenues	2,160	2,256	2,392	2,408	2,444	2,502	2587	2551	2566	2651
Revenues	134,110	143,540	156,350	159,020	165,500	167,820	173,100	172,730	171,200	170,780
Gross margin	52,370	52,310	59,110	59,120	62,880	61,010	63,480	64,330	63,500	61,780
SG&A expenses	17,880	17,840	19,180	19,530	20,680	20,540	20,390	20,990	21,380	20,670
EBIT	34,490	34,470	39,930	39,590	42,200	40,470	43,090	43,340	42,120	41,110
Other income	8,800	7,580	7,920	8,020	7,710	7,510	7,600	8,200	7,210	7,430
PBT	43,290	42,050	47,850	47,610	49,910	47,980	50,690	51,540	49,330	48,540
Tax	12,320	11,750	13,870	12,960	13,940	13,620	14,600	14,460	13,300	13,710
PAT	30,970	30,300	33,980	34,650	35,970	34,360	36,090	37,080	36,030	34,830
<b>YoY growth (%)</b>										
US\$ revenues	3.4	5.7	8.7	8.5	13.1	10.9	8.1	6.0	5.0	6.0
Revenue	4.2	12.4	17.2	15.3	23.4	16.9	10.7	8.6	3.4	1.8
Gross profit	10.1	10.7	15.0	10.8	20.1	16.6	7.4	8.8	1.0	1.3
EBIT	5.1	7.3	14.6	7.3	22.4	17.4	7.9	9.5	(0.2)	1.6
Net profit	3.5	5.0	9.8	6.6	16.1	13.4	6.2	7.0	0.2	1.4
<b>QoQ growth (%)</b>										
US\$ revenues	(2.7)	4.4	6.0	0.6	1.5	2.4	3.4	(1.4)	0.6	3.3
Revenues	(2.8)	7.0	8.9	1.7	4.1	1.4	3.1	(0.2)	(0.9)	(0.2)
EBIT	(6.5)	(0.1)	15.8	(0.9)	6.6	(4.1)	6.5	0.6	(2.8)	(2.4)
Net profit	(4.7)	(2.2)	12.1	2.0	3.8	(4.5)	5.0	2.7	(2.8)	(3.3)
<b>Margins (%)</b>										
Gross margin	39.1	36.4	37.8	37.2	38.0	36.4	36.7	37.2	37.1	36.2
EBIT	25.7	24.0	25.5	24.9	25.5	24.1	24.9	25.1	24.6	24.1
PAT	23.1	21.1	21.7	21.8	21.7	20.5	20.8	21.5	21.0	20.4
SG&A expenses	13.3	12.4	12.3	12.3	12.5	12.2	11.8	12.2	12.5	12.1

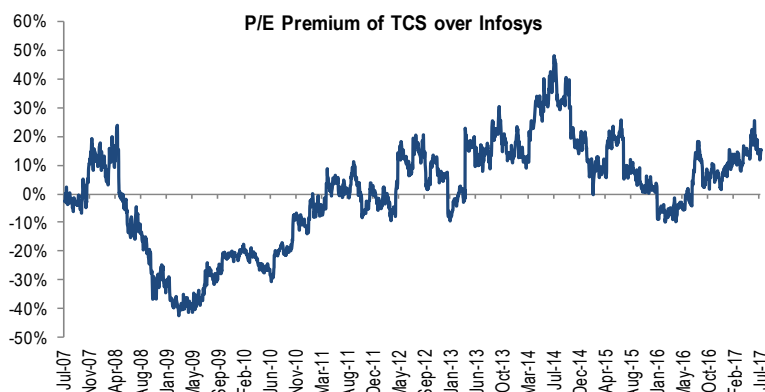
Source: Company, Nirmal Bang Institutional Equities Research

## Exhibit 15: P/E multiple charts



Source: Company, Bloomberg, Nirmal Bang Institutional Equities Research

## Exhibit 16: P/E premium (discount) chart Of TCS over Infosys



Source: Bloomberg, Nirmal Bang Institutional Equities Research

## Financials

### Exhibit 17: Income statement

Y/E March (Rsbn)	FY15	FY16	FY17	FY18E	FY19E
<b>Average INR/USD</b>	<b>61.2</b>	<b>65.7</b>	<b>67.1</b>	<b>65.6</b>	<b>67.0</b>
<b>Net Sales (USDmn)</b>	<b>8,714</b>	<b>9,499</b>	<b>10,206</b>	<b>10,799</b>	<b>11,360</b>
<b>-Growth (%)</b>	<b>5.7</b>	<b>9.0</b>	<b>7.4</b>	<b>5.8</b>	<b>5.2</b>
<b>Net Sales</b>	<b>533</b>	<b>624</b>	<b>685</b>	<b>708</b>	<b>761</b>
<b>-Growth (%)</b>	<b>6.4</b>	<b>17.1</b>	<b>9.7</b>	<b>3.4</b>	<b>7.4</b>
Direct Costs	329	391	433	455	506
Gross Margin	204	233	252	253	255
% of sales	38.3	37.4	36.8	35.7	33.5
SG&A	66	77	83	87	94
% of sales	12.4	12.4	12.2	12.3	12.4
<b>EBIT</b>	<b>138</b>	<b>156</b>	<b>169</b>	<b>166</b>	<b>160</b>
<b>% of sales</b>	<b>25.9</b>	<b>25.0</b>	<b>24.7</b>	<b>23.4</b>	<b>21.1</b>
Other income (net)	34	31	31	27	26
PBT	173	187	200	192	186
<b>-PBT margin (%)</b>	<b>32.4</b>	<b>30.0</b>	<b>29.1</b>	<b>27.2</b>	<b>24.5</b>
Provision for tax	49	53	56	54	52
<b>Effective tax rate (%)</b>	<b>28.6</b>	<b>28.0</b>	<b>28.1</b>	<b>28.1</b>	<b>28.0</b>
<b>Net profit</b>	<b>123</b>	<b>135</b>	<b>144</b>	<b>138</b>	<b>134</b>
<b>-Growth (%)</b>	<b>15.8</b>	<b>9.4</b>	<b>6.4</b>	<b>(3.5)</b>	<b>(3.0)</b>
<b>-Net profit margin (%)</b>	<b>23.1</b>	<b>21.6</b>	<b>21.0</b>	<b>19.5</b>	<b>17.6</b>

Source: Company, Nirmal Bang Institutional Equities Research

### Exhibit 19: Balance sheet

Y/E March (Rsbn)	FY15	FY16	FY17	FY18E	FY19E
Equity capital	6	11	11	11	11
Reserves & surplus	542	606	678	699	761
Net worth	548	618	689	711	772
Deferred tax liability	2	3	2	2	2
Other liabilities	0	1	2	1	1
Total loans					
<b>Total liabilities</b>	<b>550</b>	<b>622</b>	<b>693</b>	<b>714</b>	<b>775</b>
Goodwill	31	38	37	37	37
Other intangible assets	6	10	8	7	7
Net block	91	105	117	125	138
Investments	22	19	164	164	164
Deferred tax asset - net	5	5	5	7	7
Other non-current assets	44	61	65	66	69
Unbilled revenue	28	30	36	40	42
Derivative financial instrument	1	1	3	0	0
Other current assets	33	44	49	55	58
Income tax assets-current	-	-	-	-	-
Debtors	97	113	123	130	137
Cash & bank balance	304	327	226	237	278
Total current assets	463	516	437	463	515
Total current liabilities	114	132	140	155	163
Net current assets	349	384	297	307	352
<b>Total assets</b>	<b>550</b>	<b>622</b>	<b>693</b>	<b>714</b>	<b>775</b>

Source: Company, Nirmal Bang Institutional Equities Research

### Exhibit 18: Cash flow

Y/E March (Rsbn)	FY15	FY16	FY17	FY18E	FY19E
EBIT	138	156	169	166	160
(Inc./dec. in working capital)	3	(11)	(14)	0	(4)
Cash flow from operations	141	145	155	166	157
Other income	34	31	31	27	26
Depreciation & amortisation	13	15	17	18	20
Financial expenses	0	0	0	0	0
Tax paid	(49)	(53)	(56)	(54)	(52)
Dividends paid	(75)	(67)	(71)	(75)	(73)
<b>Net cash from operations</b>	<b>64</b>	<b>72</b>	<b>76</b>	<b>82</b>	<b>78</b>
Capital expenditure	(25)	(29)	(29)	(26)	(33)
Net cash after capex	38	43	47	56	44
Inc./(dec.) in debt	-	-	-	-	-
(Inc./dec. in investments)	-	-	-	-	-
Cash from financial activities	-	-	-	-	-
Others	6	(20)	(147)	(46)	(3)
Opening cash	260	304	327	226	237
Closing cash	304	327	227	237	278
Change in cash	44	23	(100)	10	41

Source: Company, Nirmal Bang Institutional Equities Research

### Exhibit 20: Key ratios

Y/E March	FY15	FY16	FY17	FY18E	FY19E
<b>Per share (Rs)</b>					
EPS	53.9	59.0	62.8	60.6	58.7
FDEPS	53.9	59.0	62.8	60.6	58.7
Dividend Per Share	22.4	24.3	25.8	27.3	26.4
Dividend Yield (%)	2.3	2.5	2.6	2.8	2.7
Book Value	240	270	302	311	338
Dividend Payout Ratio (incl DT)	41.5	49.5	49.4	54.2	54.2
<b>Return ratios (%)</b>					
RoE	24.1	23.2	22.0	19.8	18.1
RoCE	33.7	32.2	30.5	27.5	25.2
ROIC	64.9	58.8	51.1	44.8	41.8
<b>Turnover Ratios</b>					
Asset Turnover Ratio	0.8	0.8	0.8	0.8	0.8
Debtor Days (incl. unbilled Rev)	85	83	84	87	85
Working Capital Cycle Days	37	33	37	36	35
<b>Valuation ratios (x)</b>					
PER	18.0	16.5	15.5	16.0	16.5
P/BV	4.1	3.6	3.2	3.1	2.9
EV/EBTDA	16.1	14.2	13.1	13.4	13.9
EV/Sales	4.2	3.6	3.2	3.1	2.9
M-cap/Sales	4.2	3.6	3.2	3.1	2.9

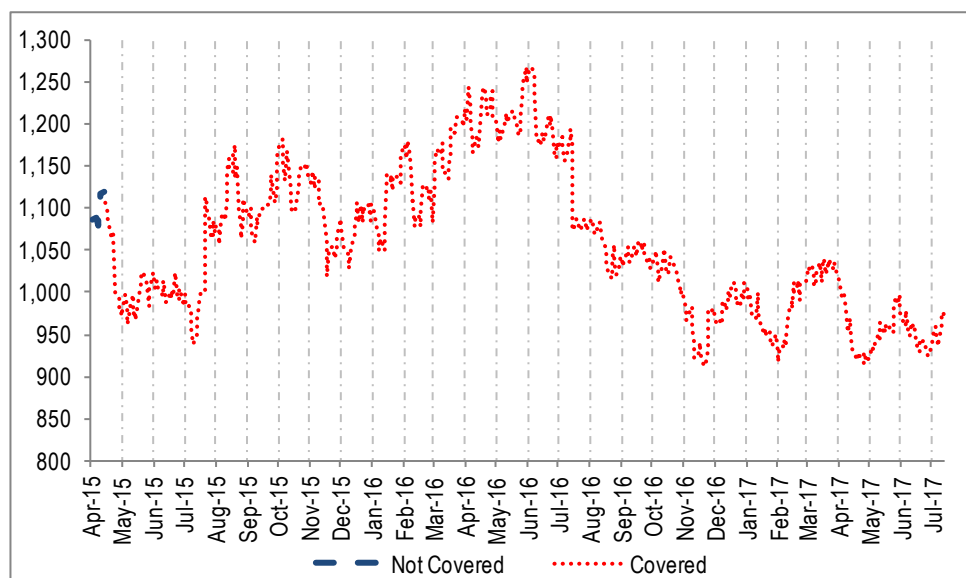
Source: Company, Nirmal Bang Institutional Equities Research

## Rating track

Date	Rating	Market price (Rs)	Target price (Rs)
13 April 2015	Accumulate	2,229	2,147
27 April 2015	Sell	1,995	1,823
4 June 2015	Sell	2,032	1,823
22 July 2015**	Accumulate	1,116	1,189
7 September 2015	Accumulate	1,074	1,189
14 September 2015	Accumulate	1,091	1,189
13 October 2015	Accumulate	1,122	1,194
8 January 2016	Under Review	1,063	-
14 January 2016	Under Review	1,133	-
14 March 2016	Sell	1,141	1,002
15 April 2016	Sell	1,173	1,010
9 June 2016	Sell	1,238	1,010
18 July 2016	Sell	1,072	988
29 August 2016	Sell	1,020	970
17 October 2016	Sell	1,027	964
10 January 2017	Sell	970	920
16 January 2017	Sell	975	910
14 February 2017	Sell	985	926
15 April 2017	Sell	931	887
15 May 2017	Sell	964	887
21 June 2017	Sell	944	844
17 July 2017	Sell	972	846

\*\* Post 1:1 bonus issue of equity shares

## Rating track graph



## Disclaimer

### Stock Ratings Absolute Returns

BUY > 15%

ACCUMULATE -5% to 15%

SELL < -5%

This report is published by Nirmal Bang's Institutional Equities Research desk. Nirmal Bang group has other business units with independent research teams separated by Chinese walls, and therefore may, at times, have different or contrary views on stocks and markets. Reports based on technical and derivative analysis may not match with reports based on a company's fundamental analysis. This report is for the personal information of the authorised recipient and is not for public distribution. This should not be reproduced or redistributed to any other person or in any form. This report is for the general information for the clients of Nirmal Bang Equities Pvt. Ltd., a division of Nirmal Bang, and should not be construed as an offer or solicitation of an offer to buy/sell any securities.

We have exercised due diligence in checking the correctness and authenticity of the information contained herein, so far as it relates to current and historical information, but do not guarantee its accuracy or completeness. The opinions expressed are our current opinions as of the date appearing in the material and may be subject to change from time to time without notice.

Nirmal Bang or any persons connected with it do not accept any liability arising from the use of this document or the information contained therein. The recipients of this material should rely on their own judgment and take their own professional advice before acting on this information. Nirmal Bang or any of its connected persons including its directors or subsidiaries or associates or employees or agents shall not be in any way responsible for any loss or damage that may arise to any person/s from any inadvertent error in the information contained, views and opinions expressed in this publication.

*Nirmal Bang Equities Private Limited (hereinafter referred to as "NBEPL") is a registered Member of National Stock Exchange of India Limited, Bombay Stock Exchange Limited. NBEPL has registered with SEBI as a Research Entity in terms of SEBI (Research Analyst) Regulations, 2014. (Registration No: INH000001436 - 19.08.2015 to 18.08.2020).*

*NBEPL or its associates including its relatives/analyst do not hold any financial interest/beneficial ownership of more than 1% in the company covered by Analyst.*

*NBEPL or its associates/analyst has not received any compensation from the company covered by Analyst during the past twelve months. NBEPL /analyst has not served as an officer, director or employee of company covered by Analyst and has not been engaged in market-making activity of the company covered by Analyst.*

*The views expressed are based solely on information available publicly and believed to be true. Investors are advised to independently evaluate the market conditions/risks involved before making any investment decision.*

**Access all our reports on Bloomberg, Thomson Reuters and Factset.**

Team Details:			
Name		Email Id	Direct Line
Rahul Arora	CEO	rahul.arora@nirmalbang.com	-
Girish Pai	Head of Research	girish.pai@nirmalbang.com	+91 22 3926 8017 / 18
Dealing			
Ravi Jagtiani	Dealing Desk	ravi.jagtiani@nirmalbang.com	+91 22 3926 8230, +91 22 6636 8833
Pradeep Kasat	Dealing Desk	pradeep.kasat@nirmalbang.com	+91 22 3926 8100/8101, +91 22 6636 8831
Michael Pillai	Dealing Desk	michael.pillai@nirmalbang.com	+91 22 3926 8102/8103, +91 22 6636 8830
Atul Vitha	Dealing Desk	atul.vitha@nirmalbang.com	+91 22 3926 8071 / +91 22 3926 8226

## Nirmal Bang Equities Pvt. Ltd.

### Correspondence Address

B-2, 301/302, Marathon Innova,  
 Nr. Peninsula Corporate Park,  
 Lower Parel (W), Mumbai-400013.

Board No. : 91 22 3926 8000/1; Fax. : 022 3926 8010