

Information Technology Sector

10 October 2018

Peeping Into FY20 The Key Focus As FY19 Priced In

Nifty IT index outperformed Nifty - for the fifth successive quarter- by a massive 1120bps in the September 2018 quarter (see Exhibit 10). The outperformance in first four quarters was predominantly driven by: (1) Expectation of revenue growth pick-up in FY19 boosted by US tax reforms. (2) Large underweight institutional positioning in the sector which seemed poised for revenue acceleration. (3) Near-term negative news flow - rising interest rates and asset quality problems - on 'financials', a large overweight sector for institutions. (4) Better relative valuation. In the September 2018 quarter, we believe the outperformance was additionally driven by a very large INR depreciation (4.3% QoQ) versus USD and real and perceived deterioration in fortunes of Financials Sector especially post the ILFS episode and rise in Indian 10 year Gsec yields. The strong performance over the last 5 quarters seems to price in continued strong growth into FY20 (which we are skeptical about and have voiced it in our recent note ([Peaking Global Capex Cycle: 'Relatives' Are The Only Positives](#))). We think the recent uptick - modest and selective and which comes too late in the economic upcycle in the first place - has been driven largely by strong capex growth seen across both sides of the Atlantic may not repeat itself in CY2019. We reiterate that structural pressures continue to weigh on the sector's growth prospects. These include value compression and cannibalisation from automation (which is reaching enterprise scale, in our view, countering the upside from digital projects which are also scaling up) and movement to the cloud, a weaker but improving competitive position in 'new areas', insourcing, etc. Despite this we continue to be 'tactical bulls' due to non-fundamental factors and the steep INR depreciation we anticipate which should drive earnings for the Tier-1 companies to mid-teen level over FY18-FY21E versus mid-single digit growth in FY15-FY18. At current valuations, we prefer large-caps over mid-caps. Mid-caps may witness faster growth pick-up on a low base in FY19 (and from bombed-out margins in some cases) but we would like to advise investors to focus on sustainability and not overpay for a riskier business model. While we believe TCS will likely deliver the best organic revenue growth in FY19, such an expectation seems to be entirely factored in with little room for any negative surprise. Tactically, for valuation related reasons we prefer HCL Technologies, Wipro and Tech Mahindra as they seem to be build in considerable amount of pessimism with room for potential positive surprises. Thus while we do not favour them on a structural basis, we believe their valuations are enticing and could be tactical buys.

2QFY19 Expectations: Among Tier-1 companies we expect seasonal revenue strength in constant currency (CC) terms for TCS, Infosys and HCLT (~3% growth). Half of HCLT's growth will likely be inorganic. Wipro and Tech Mahindra (TML) will show flat CC growth (guided for by the former - ex Alight solutions) but a bit disappointing for TML as it seems unable to replace some large enterprise projects. This will be countered by cross-currency headwind (100bps-150bps) for Tier-1 companies. We expect Infosys and HCLT to hold on to their revenue and margin guidance for FY19. Among questions for which answers will be sought. (1) What are the companies saying on growth prospects for the seasonally weak 2HFY19 and beyond. What visibility do they they have on FY20 (2) Outlook for large US and European BFS clients. (3) How much of INR depreciation gains will be retained versus being reinvested in the business. (4) How quickly are the companies pivoting to Digital.

Risks to our 'tactical bullish' view: The upside risks: (1) An economic cycle upturn that lasts longer than we are currently anticipating. (2) A higher-than-currently expected depreciation of the INR. (3) A sustained flight away from financials as inflation/interest rates move higher and stressed asset cycle elongates. This ties in with the view that Nifty earnings in FY19 and FY20 are likely to show downward revision while the earnings of IT services sector look up. **Downside risks:** (1) A significant and faster-than-expected slowdown in the US/global economy. The rise in interest rates in the US and trade war with China could be catalysts. (2) Faster-than-expected return to Indian 'financials' as interest rates stabilise and stressed asset provisioning peaks.

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Summary of financial performance of companies in our coverage universe in 2QFY19E

(Rsmn)	Revenues					EBIT			EBIT margin (%)			PAT		
	2QFY19E	YoY (%)	QoQ (%)	QoQ Growth CC (%)	QoQ Growth USD (%)	2QFY19E	YoY (%)	QoQ (%)	2QFY18	1QFY19	2QFY19E	2QFY19E	YoY (%)	QoQ (%)
TCS	358,714	17.5	4.7	3.0	1.5	92,080	20.2	7.3	25.1	25.0	25.7	78,439	21.7	6.9
Infosys	202,419	15.2	5.8	3.1	2.1	49,150	15.8	8.3	24.2	23.7	24.3	41,000	10.0	13.5
Wipro	143,214	6.7	2.5	0.0	(1.4)	23,931	3.9	2.7	17.2	16.7	16.7	22,186	1.2	4.6
HCL Tech	148,174	19.2	6.8	3.0	1.9	28,753	17.3	5.3	19.7	19.7	19.4	25,195	15.1	4.8
Tech Mahindra	84,695	11.3	2.3	0.5	(1.2)	11,498	36.8	6.8	11.0	13.0	13.6	10,219	22.2	15.3
Mindtree	17,546	31.8	7.0	4.7	3.8	2,253	107.3	18.0	8.2	11.6	12.8	1,702	36.5	7.6
Persistent	8,650	13.6	3.7	0.60	0.0	904	16.1	(9.6)	10.2	12.0	10.5	806	(2.5)	(7.8)

Source: Nirmal Bang Institutional Equities Research

Exhibit 1: Tata Consultancy Services

Y/E March (Rsmn)	2QFY18	1QFY19	2QFY19E	YoY(%)	QoQ (%)	Comments
Net sales (US\$mn)	4,739	5,051	5,124	8.1	1.5	We have factored in 3.0% QoQ CC growth, ~150bps cross-currency headwind which will result in growth of 1.5% in USD terms. Growth would be driven by wins in insurance and retail that it recorded at beginning of 2018 or late 2017.
Net sales	305,410	342,610	358,714	17.5	4.7	
Software expenses	176,110	200,830	208,944	18.6	4.0	What to watch out for: (1) TCV data which it started revealing for the first time in 1QFY19 is something that would be looked at closely. In 1QFY19 the number was US\$4.9bn. 4QFY18 was indicated to be its best ever on the back of multiple large deals especially in Insurance like those of Transamerica, M&G Prudential, Scottish Widows and Marks & Spencers. While TCS did indicate that TCV could be volatile, any material deviation from the US\$5bn number could be construed as a surprise. (2) Outlook on growth with having incorporated some of the recent large deal wins in the base revenues especially with respect to 2HFY19..(3) In 1QFY19 TCS stated that North America BFSI had finally started to recover. We need to see if this gets reflected in better numbers in 2QFY19 or one has to wait longer. (4) Commentary on margins, especially in the context of INR depreciation how much it will retain and how much reinvest especially because the gains would have been quite substantial. (5) TCS delivered strong 45% YoY revenue growth in digital (CC terms) in 1QFY19. Expected continued strong traction here
% of sales	57.7	58.6	58.2	-	-	
Gross margin	129,300	141,780	149,771	15.8	5.6	
% of sales	42.3	41.4	41.8	-	-	
Operating expenses	52,700	56,000	57,691	9.5	3.0	
% of sales	17.3	16.3	16.1	-	-	
EBIT	76,600	85,780	92,080	20.2	7.3	
EBIT margin (%)	25.1	25.0	25.7	-	-	
Other Income	8,120	12,080	12,104	49.1	0.2	
PBT	84,720	97,860	104,184	23.0	6.5	
Provision for tax	20,120	24,240	25,525	26.9	5.3	
Effective tax rate	23.7	24.8	24.5	-	-	
Minority share in profit / loss	140	220	220	57.1	0.0	
PAT (reported)	64,460	73,400	78,439	21.7	6.9	
NPM (%)	21.1	21.4	21.9	-	-	

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 2: Infosys

Y/E March (Rsmn)	2QFY18	1QFY19	2QFY19E	YoY (%)	QoQ (%)	Comments
Net sales (US\$mn)	2,728	2,833	2,892	6.0	2.1	We have factored in 3.1% QoQ CC growth, ~100bps cross-currency headwind resulting in revenue growth of 2.1% in USD Bterms.
Net sales	175,670	191,280	202,419	15.2	5.8	
Software development exp.	112,270	122,880	128,979	14.9	5.0	Things to watch out for: (1) Expect revenue growth guidance to be maintained between 6%-8% in CC terms and margins in the 22%-24% band. Need to see how much of the INR related gains are retained and how much spent Whether it is going to invest (in Digital capability building and sales) more than the 100bps that it committed to at the beginning of FY19 or more as it has the leeway to do that (2) Believe the large deal TCV number would have inched up to its highest in recent quarters to USD1.5bn because of the USD700mn Verizon deal (3) Need to understand the revenue and margin roadmap on the Verizon deal About 1400 employees are expected to be rebadged from Verizon to Infosys (3) Insourcing and reduced spending in case of a couple of large US banking accounts likely led to poor growth in 1QFY19. European BFSI also witnessed a slowdown in 1QFY19. However management stated that it will be back to showing healthy growth. Stated US BFSI should lead growth. We need to observe if numbers reflect the same. (4) Consulting had been a pain point for Infosys over the past 12-24 months. Infosys states even that has been sorted out, although it needs to bring the margin up to a more desirable level in the consulting business. Need to see if it puts this problem area behind.
% of sales	63.9	64.2	63.7	-	-	
SG&A expenses	20,940	23,030	24,290	16.0	5.5	
% of sales	11.9	12.0	12.0	-	-	
EBIT	42,460	45,370	49,150	15.8	8.3	
EBIT margin (%)	24.2	23.7	24.3	-	-	
Other income	8,830	7,260	7,015	(20.6)	(3.4)	
PBT	51,290	52,630	56,164	9.5	6.7	
Provision for tax	14,030	13,810	15,164	8.1	9.8	
Effective tax rate	27.4	26.2	27.0	-	-	
PAT (reported)	37,260	36,120	41,000	10.0	13.5	
NPM (%)	21.2	20.3	20.3	-	-	

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 3: Wipro

Y/E March (Rsmn)	2QFY18	1QFY19	2QFY19E	YoY (%)	QoQ (%)	Comments
IT services revenues (US\$mn)	2,014	2,027	1,998	(0.8)	(1.4)	<p>We have factored in 0% QoQ CC revenue growth for 1QFY19. ~140bps cross-currency headwind will mean that IT services revenues will decline by 1.4% in USD terms. We have not factored any numbers from the Alight deal in 2QFY19. Expect guidance of 2%-4% in QoQ CC growth for 3QFY19</p> <p>Things to watch out for: (1) For 2QFY19, the management gave revenue guidance of US\$2,009mn-US\$2,049mn (0.3%-2.3% sequential growth in CC terms). The revenue guidance is adjusted for divestment of its data centre business. (2) Execution timelines and margin roadmap of the large USD1.2bn Alight solutions order – largest in its history. (3) We will watch out for margin impact from divestment of its data centre business. (4) With respect to its communication business, the management stated that it has got a new leadership team which has refocused its efforts on newer parts of the segment, especially around 5G and digital transformation. The management stated that it has been able to acquire new clients in a couple of new markets. The management believes that the communication space has bottomed out and Wipro will see patchy growth over the next couple of quarters before it starts to witness a smooth trajectory. (5) Progress on the six- themed strategy espoused by its CEO to drive growth and profitability. (6) impact of extra two months of wage hikes</p>
Net sales	134,234	139,777	143,214	6.7	2.5	
Employee costs	94,694	100,350	102,357	8.1	2.0	
% of sales	70.5	71.8	71.5	-	-	
Other expenditure	16,952	19,421	16,926	(0.2)	(12.8)	
% of sales	12.6	13.9	11.8	-	-	
Forex gain / (loss)	453	771	0	-	-	
Other operating income	0	2,529	0	-	-	
EBIT	23,041	23,306	23,931	3.9	2.7	
EBIT margin (%)	17.2	16.7	16.7	-	-	
Other income	5,280	3,495	4,166	(21.1)	19.2	
PBT	28,321	26,801	28,097	(0.8)	4.8	
Provision for tax	6,426	5,865	6,181	(3.8)	5.4	
Effective tax rate (%)	22.7	21.9	22.0	-	-	
Minority share in profit / loss	22	270	270	1127.3	0.0	
PAT (reported)	21,917	21,206	22,186	1.2	4.6	
NPM (%)	16.3	15.2	15.5	-	-	

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 4: HCL Technologies

Y/E March (Rsmn)	2QFY18	1QFY19	2QFY19E	YoY (%)	QoQ (%)	Comments
Net sales (US\$mn)	1,928	2,055	2,093	8.6	1.9	<p>We have factored in 3.0% QoQ CC revenue growth and ~110bps cross-currency headwind, resulting in revenue growth of 1.9% in USD terms. We believe half of the 3% growth may have come from inorganic initiatives in 2Q – Actian and H&D.</p> <p>Things to watch out for: (1) In 1QFY19 commentary, The management reiterated its revenue growth guidance of 9.5%-11.5% in constant currency terms (based on FY18 average exchange rates). We expect HCLT to hold on to this guidance. (2) Margin guidance (currently between 19.5%-20.5%) needs to be watched especially because of what it plans to do with the INR gains. We believe that the company will reinvest all gains into driving growth (3) Watch out for the commentary on IMS as this forms about 38% of revenues and is facing compression from automation and shift to the cloud. (4) Progress on the renovated IP that it had acquired about two years ago. (5) Whether there is any improvement in the organic revenue guidance (4.25%-6.25%).</p>
Net sales	124,340	138,780	148,174	19.2	6.8	
Employee costs	82,080	91,060	96,606	17.7	6.1	
% of sales	66.0	65.6	65.2	-	-	
SG&A expenses	14,670	15,460	17,369	18.4	12.4	
% of sales	11.8	11.14	11.72	-	-	
Depreciation and amortisation	3,080	4,960	5,446	76.8	9.8	
% of sales	2.5	3.6	3.7	-	-	
EBIT	24,510	27,300	28,753	17.3	5.3	
EBIT margin (%)	19.7	19.7	19.4	-	-	
Other income	1,540	1,530	1,530	(0.6)	0.0	
Forex gain/(loss)	1,440	1,430	1,430	(0.7)	0.0	
PBT	27,490	30,260	31,713	15.4	4.8	
Provision for tax	5,610	6,220	6,519	16.2	4.8	
Effective tax rate	20.4	20.6	20.6	-	-	
Minority share in profit / loss	0	0	0	-	-	
PAT (reported)	21,880	24,040	25,195	15.1	4.8	
NPM (%)	17.6	17.3	17.0	-	-	

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 5: Tech Mahindra

Y/E March (Rsmn)	2QFY18	1QFY19	2QFY19E	YoY (%)	QoQ (%)	Comments
Net sales (USD mn)	1,179	1,224	1,210	2.6	(1.2)	<p>We have factored in 0.5% QoQ CC revenue growth, ~165bps cross-currency headwind leading to a decline of 1.15% in USD terms.</p> <p>Things to watch out for: (1) Enterprise segment is expected to be adversely impacted as some HCI (an acquisition) based healthcare projects had come to an end. We think the enterprise business growth in FY19 may be a tad softer than what TML had guided for initially (2) Pick up in revenue growth in the Telecom segment as it got a largish order at the beginning of the quarter. (3) For the first time we may see TCV for the company breach the USD350m mark. It may be closer to USD400-450m with a Telecom skew. Augurs well for the Telecom services side for a few quarters (4) While there is a lot of buzz on the business from 5G rollouts globally we think this is probably at least 12 months away. We will be looking for an update on the 5G commentary (5) Progress on extracting synergies from portfolio companies. This is expected to be a big margin driver in FY19 (6) Industrialisation of its automation initiatives. (7) While margin recovery has been admirable it remains to be seen how much more could be squeezed out.</p>
Net sales	76,064	82,763	84,695	11.3	2.3	
Direct cost	53,789	57,340	58,487	8.7	2.0	
% of sales	70.7	69.3	69.1	-	-	
SG&A expenses	11,218	11,854	11,854	5.7	0.0	
% of sales	14.7	14.3	14.0	-	-	
EBITDA	11,057	13,569	14,354	29.8	5.8	
EBITDA margin (%)	14.5	16.4	16.9	-	-	
Depreciation & amortisation	2,653	2,808	2,856	7.7	1.7	
EBIT	8404	10,761	11,498	36.8	6.8	
EBIT margin (%)	11.0	13.0	13.6	-	-	
Interest costs	386	305	294	(23.7)	(3.4)	
Other income	3,223	1,114	1,791	(44.4)	60.8	
PBT	11,241	11,570	12,995	15.6	12.3	
Exceptional Item (as reported)	0	-118	0	-	-	
Provision for tax	2,847	2,457	2,760	(3.1)	12.3	
Effective tax rate	25.3	21.2	21.2	-	-	
Minority share in profit / loss	31	16	16	(48.4)	0.0	
PAT (reported)	8,363	8,979	10,219	22.2	13.8	
PAT (adjusted)	8,363	8,861	10,219	22.2	15.3	
NPM (%)	11.0	10.7	12.1	-	-	

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 6: Mindtree

Y/E March (Rsmn)	2QFY18	1QFY19	2QFY19E	YoY (%)	QoQ (%)	Comments
Net sales (US\$m)	206	242	250.7	21.6	3.8	<p>We have factored in 4.7% QoQ CC revenue growth and ~90bps cross-currency headwind which will result in 3.8% growth in USD terms.</p> <p>Things to watch out for: (1) Continued growth in its largest client. 1QFY19 growth was led by its top client as ~42% of QoQ incremental revenues came from the top client. Besides this client, strong growth has also been driven by clients outside of the top 10 list. We need to see if the other top 10 clients also contribute to growth. (2) We will wait for indications that TTM deal wins in Digital start looking up. Despite the bullish commentary, that has not happened so far. (3) MTCL indicated further investments in terms of technology initiatives. In 1QFY19 it took a hit of 60bps due to investments in a faculty chair in Stanford. We understand that it has done something similar in an Indian Technology Institute. (4) After a strong 1H, focus would be what will drive growth in 2HFY19 and beyond</p>
Net sales	13,316	16,395	17,546	31.8	7.0	
Staff costs	9,001	10,395	11,025	22.5	6.1	
% of sales	67.6	63.4	62.8	-	-	
Other expenses	2,774	3,690	3,860	39.2	4.6	
% of sales	20.8	22.5	22.0	-	-	
EBIT	1,087	1,910	2,253	107.3	18.0	
EBIT margin (%)	8.2	11.6	12.8	-	-	
Other income-net	598	279	111	(81.5)	(60.3)	
Forex gain/(losses)	0	0	0	-	-	
PBT	1,660	2,161	2,347	41.4	8.6	
Provision for tax	413	579	645	56.3	11.5	
Effective tax rate	24.9	26.8	27.5	-	-	
PAT (reported)	1,247	1,582	1,702	36.5	7.6	
NPM (%)	9.4	9.6	9.7	-	-	

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 7: Persistent Systems

Y/E March (Rsmn)	2QFY18	1QFY19	2QFY19E	YoY(%)	QoQ (%)	Comments
Net Sales (USD mn)	118.1	123.6	123.6	4.6	(0.0)	We have factored 0.6% QoQ CC revenue growth and ~60bps cross-currency headwind which will result in flat revenue QoQ in USD terms.
Net Sales	7,613	8,343	8,650	13.6	3.7	
Direct Cost	4,994	5,373	5,691	13.9	5.9	Things to watch out for: (1) Persistent Systems (PSL) had indicated that FY19 will turn out better than FY18 in terms of growth (delivered 9.7% USD growth) and said demand environment was strong. It remains to be seen if that is possible due to internal execution issues connected with staffing and also the project oriented nature of its digital business. Digital business disappointed us in terms of growth in 1Q. We expect strong growth in this division in 2Q (2) PSL in 1QFY19 stated that 5accelerite business is expected to pick up from 2QFY19 as new products like Share Insights, Sentient and Neuro start delivering. We will be closely watching whether the numbers reflect the same. (3) IP business is expected to see seasonality (June and December quarters are the strongest) and absence of some one-off revenues which occurred in 1Q – Reseller revenues in Europe (4) Wage hike will be taken this quarter but impression given by PSL is that it would be mitigated to some extent by margin improvement initiatives
% of Sales	65.6	64.4	65.8	-	-	
SG&A	1,461	1,570	1,648	12.8	5.0	
% of Sales	19.2	18.8	19.1	-	-	
EBITDA	1,158	1,400	1,311	13.2	(6.4)	
EBITDA Margin (%)	15.2	16.8	15.2	-	-	
Depreciation and Amortisation	379	401	407	-	-	
EBIT	778	1,000	904	16.1	(9.6)	
EBIT Margin (%)	10.2	12.0	10.5	-	-	
Other Income, Net	133	166	170	27.7	2.7	
Forex Gain/(Losses)	203	21	-	(100.0)	(100.0)	
PBT	1,115	1,186	1,074	(3.6)	(9.4)	
Provision for Tax	288	313	269	(6.8)	(14.1)	
<i>Effective Tax Rate</i>	25.9	26.4	25.0	-	-	
PAT	826	873	806	(2.5)	(7.8)	
NPM (%)	10.9	10.5	9.3	-	-	

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 8: Average foreign exchange rates

	2QFY19	1QFY19	2QFY18	QoQ (%)	YoY (%)
USD-INR	70.0	67.1	64.2	4.3	9.0
USD-EUR	0.9	0.8	0.9	2.3	0.9
USD-GBP	0.8	0.7	0.8	3.3	(0.5)
USD-JPY	111.5	109.2	111.0	2.1	0.4
USD-AUD	1.4	1.3	1.3	3.3	7.9
USD-BRL	3.9	3.6	3.2	8.3	23.4
USD-CAD	1.3	1.3	1.3	1.3	4.6

Note: Positive sign implies appreciation of the USD and negative implies depreciation

Source: Bloomberg, Nirmal Bang Institutional Equities Research

Exhibit 9: Indian IT services sector-valuations

Year ending	TCS	Infosys	Wipro	HCL Tech	Tech Mahindra	Mindtree	Persistent
	March	March	March	March	March	March	March
CMP (prices as on 9 Oct.)	2,092	718	320	1,066	696	1,010	714
Currency	INR	INR	INR	INR	INR	INR	INR
Market value (Rsbn)	8,009	3,120	1,581	1,465	624	167	57
(US\$m)	111,231	43,330	21,960	20,354	8,667	2,321	793
September 2019 target price	2,145	752	377	1,281	845	986	909
Upside/(downside)	3%	5%	18%	20%	21%	-2%	27%
Recommendation	Accumulate	Accumulate	Buy	Buy	Buy	Sell	Buy
FDEPS (Rs)							
FY18	67.0	32.5	16.8	63.0	42.8	34.4	40.4
FY19E	87.9	39.5	21.3	78.7	49.7	47.6	52.6
FY20E	101.5	44.7	25.3	88.1	57.6	64.9	68.6
FY21E	108.8	47.4	26.0	91.0	57.4	67.7	71.0
P/E (x)							
FY18	31.2	22.1	19.0	16.9	16.3	29.4	17.7
FY19E	23.8	18.2	15.0	13.6	14.0	21.2	13.6
FY20E	20.6	16.0	12.6	12.1	12.1	15.6	10.4
FY21E	19.2	15.1	12.3	11.7	12.1	14.9	10.0
EV/EBITDA (x)							
FY18	24.5	15.4	14.1	12.0	12.1	21.2	11.7
FY19E	19.3	13.5	10.9	9.6	8.9	13.3	8.3
FY20E	16.3	11.4	9.0	8.2	7.6	9.9	6.3
FY21E	15.6	11.3	11.2	8.1	9.1	11.5	7.0
EV/sales (x)							
FY18	6.5	4.1	2.6	2.7	1.9	2.9	1.8
FY19E	5.3	3.7	2.2	2.3	1.6	2.1	1.4
FY20E	4.6	3.1	1.8	2.0	1.3	1.8	1.1
FY21E	4.5	3.1	2.3	2.0	1.5	2.0	1.2
RoIC (%)							
FY18	57.3	44.9	24.5	38.9	25.8	32.9	29.7
FY19E	64.9	51.6	30.9	38.0	33.4	55.2	45.9
FY20E	69.5	56.4	36.8	36.1	35.3	69.3	56.4
FY21E	70.5	55.4	37.5	32.7	32.9	69.8	60.9

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 10: Stock and Index performance sheet

Stock performance (%)	CY07	CY08	CY09	CY10	CY11	CY12	CY13	CY14	CY15	CY16	CY17	1QCY18	2QCY18	3QCY18	QTD	CY18TD
TCS	(10.7)	(55.4)	207.8	57.5	(0.4)	8.7	70.1	17.3	(4.4)	(2.8)	11.7	8.5	29.7	18.2	(4.2)	59.3
Infosys	(20.1)	(37.2)	128.7	33.6	(20.4)	(15.3)	50.8	12.3	10.5	(8.6)	4.1	9.5	15.5	11.7	(1.7)	38.9
Wipro	(13.2)	(55.3)	188.8	19.8	(18.7)	(1.6)	57.7	0.2	1.0	(15.4)	30.4	(8.7)	(7.0)	23.9	(0.7)	4.4
HCL Tech	4.0	(64.6)	219.8	23.6	(15.6)	61.5	99.1	27.5	5.8	(2.5)	7.2	10.3	(4.4)	17.4	(1.8)	21.6
Tech Mahindra	(32.6)	(78.3)	298.9	(29.3)	(17.1)	58.7	100.6	41.4	(19.6)	(8.1)	3.0	28.5	2.6	13.7	(6.6)	40.0
Persistent Systems	-	-	-	-	(24.5)	55.6	91.7	65.8	(20.7)	(3.6)	11.7	(0.5)	16.9	(2.8)	(9.5)	2.3
Mindtree	-	(51.8)	195.6	(24.3)	(24.7)	72.2	122.7	59.8	16.4	(26.9)	17.0	25.9	27.8	4.7	(2.3)	64.7
Cognizant	(10.3)	(49.3)	157.1	62.4	(13.8)	13.6	38.4	6.2	14.8	(7.9)	27.1	11.6	(0.9)	(2.3)	3.8	12.2
Accenture	(1.0)	(12.1)	28.6	16.1	11.2	22.0	25.0	9.9	17.4	10.5	31.2	(4.0)	11.0	4.0	(12.5)	(3.1)
Globant SA	-	-	-	-	-	-	-	-	150.3	(12.9)	39.7	11.1	11.9	3.9	(12.5)	13.0
Epam Systems INC	-	-	-	-	-	-	83.9	37.2	65.8	(18.9)	67.5	3.6	11.5	10.8	(17.7)	5.2
Luxoft Holding INC	-	-	-	-	-	-	-	1.7	105.3	(29.4)	(0.3)	(26.4)	(10.1)	28.5	(12.2)	(25.4)
Cap Gemini	(9.2)	(36.5)	17.2	11.3	(32.9)	38.7	48.4	-	44.0	(6.2)	22.5	1.8	14.4	(5.9)	(4.8)	4.4
Hexaware	(58.7)	(76.2)	383.6	22.4	27.7	13.3	56.1	51.2	21.1	(15.1)	65.0	11.3	21.6	(6.4)	(8.8)	15.4
Cyient	(1.7)	(67.2)	193.0	11.0	(33.9)	59.3	88.6	53.3	(8.6)	3.9	18.3	19.7	10.3	(2.8)	(9.2)	16.6
Mphasis	5.3	(47.4)	357.0	(6.9)	(56.0)	29.9	12.2	(13.9)	33.9	13.8	27.9	15.6	29.4	8.2	(9.3)	46.9
NIIT Tech	21.0	(71.8)	167.9	10.6	(9.5)	34.8	45.9	(0.1)	63.0	(26.4)	53.1	33.2	26.9	(0.1)	1.8	72.0
LTI	-	-	-	-	-	-	-	-	-	-	61.2	22.3	24.7	14.7	(9.6)	58.1
LTTS	-	-	-	-	-	-	-	-	-	-	30.5	20.7	(1.4)	42.5	(15.2)	43.7
Intellect Design	-	-	-	-	-	-	-	-	258.4	(50.2)	27.9	(1.1)	17.1	4.9	(5.1)	15.2
OFSS	(23.7)	(69.4)	398.1	(0.6)	(19.7)	77.0	1.0	1.5	11.5	(17.1)	30.6	(7.8)	8.8	(3.9)	1.1	(2.5)
Ramco Systems	5.8	(75.8)	93.2	17.3	(37.4)	33.6	54.2	219.0	71.7	(57.8)	57.3	(32.6)	(4.1)	(6.1)	(8.2)	(44.3)
Just Dial	-	-	-	-	-	-	-	(4.9)	(36.0)	(61.5)	57.4	(15.4)	25.3	(14.0)	(10.9)	(18.7)
Infoedge	133.2	(69.5)	116.2	47.6	(13.6)	23.2	34.6	81.3	2.4	5.4	44.3	(10.4)	0.9	20.0	3.3	12.0
Makemytrip	-	-	-	-	(15.4)	(47.5)	53.9	33.1	(31.2)	32.5	29.9	10.7	8.9	(24.1)	22.0	11.7
Index Performance (%)																
Nasdaq	19.8	(43.0)	56.4	18.5	2.7	14.1	37.0	20.0	8.6	5.7	31.0	0.3	9.0	8.3	(14.4)	1.4
S&P 500	3.8	(39.8)	26.5	11.7	0.4	11.0	31.3	13.0	(0.8)	9.0	19.5	(3.1)	4.4	7.2	(10.3)	(2.8)
Stox 600	(0.5)	(46.0)	28.6	9.4	(12.5)	15.0	17.3	4.2	7.8	(2.0)	8.1	(5.2)	2.9	0.9	(4.1)	(5.6)
DAX	22.0	(40.4)	23.8	16.1	(15.4)	30.2	25.5	2.7	9.6	6.6	13.4	(8.0)	3.1	(0.5)	(2.3)	(7.8)
Nikkei	(11.1)	(42.1)	19.0	(3.0)	(17.9)	23.8	56.7	7.1	9.1	0.6	19.0	(7.7)	6.1	8.1	(2.5)	3.2
MSCI EM	37.0	(54.6)	73.3	16.8	(20.2)	15.4	(5.0)	(4.7)	(17.1)	8.5	34.4	0.8	(8.0)	(2.0)	13.1	2.7
Bovespa	43.6	(41.2)	82.7	1.0	(18.1)	7.4	(15.5)	(2.9)	(13.3)	38.9	26.9	9.8	(13.2)	9.0	8.5	2.9
HSCEI	54.3	(51.3)	60.9	0.4	(21.0)	14.4	(5.3)	10.0	(18.4)	(3.6)	25.5	2.7	(7.7)	(0.5)	(5.4)	(10.8)
CNX BANK	63.1	(48.5)	77.7	29.3	(31.0)	55.2	(8.7)	63.9	(9.3)	6.6	41.4	(4.8)	8.7	(4.7)	(2.4)	(3.8)
CNX IT	(11.1)	(54.5)	163.5	29.6	(18.6)	(1.1)	57.2	17.4	(0.3)	(7.4)	11.7	8.8	11.8	13.2	(3.0)	33.7
CNX FMCG	20.0	(18.6)	41.7	29.5	9.4	48.7	11.7	17.8	0.1	1.7	30.5	(1.8)	10.9	2.7	(8.8)	2.0
CNX AUTO	4.0	(54.5)	193.3	35.0	(18.6)	41.2	9.9	57.3	(0.7)	10.5	30.2	(8.7)	(1.0)	(10.4)	(8.9)	(26.4)
CNX ENERGY	93.3	(47.0)	58.6	4.0	(27.5)	12.0	0.1	8.4	(0.7)	19.2	40.8	(7.5)	0.9	17.7	(13.4)	(4.9)
CNX PHARMA	13.8	(25.4)	60.8	34.5	(10.2)	32.7	26.3	42.6	10.3	(15.5)	(5.4)	(12.8)	9.8	8.7	(3.3)	0.6
CNX METAL	140.9	(73.4)	224.0	0.5	(47.1)	16.2	(13.8)	6.2	(31.3)	45.5	49.7	(11.3)	(2.1)	1.3	(3.2)	(14.8)
CNX INFRA	91.4	(56.0)	38.0	(4.1)	(38.1)	21.9	(4.7)	22.5	(8.8)	(2.3)	34.1	(7.7)	(6.1)	(5.1)	(4.7)	(21.6)
CNX MIDCAP	76.0	(59.1)	100.2	18.0	(30.5)	39.3	(5.4)	55.7	7.2	6.5	47.4	(10.6)	(3.1)	(5.6)	(6.7)	(23.8)
CNX SMALLCAP	83.5	(70.5)	107.8	16.6	(32.9)	35.6	(8.1)	53.9	7.4	2.2	57.5	(13.6)	(7.9)	(14.3)	(6.4)	(36.1)
NIFTY	53.1	(51.0)	73.5	18.0	(23.9)	27.2	6.5	31.1	(4.3)	2.6	29.3	(3.5)	5.9	2.0	(5.8)	(1.7)
USD/INR	39.4	48.8	46.5	44.7	53.1	55.0	61.8	63.0	66.2	67.4	65.1	65.2	68.5	70.1	73.7	67.4

Source: Bloomberg, Nirmal Bang Institutional Equities Research

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