# Information Technology Sector

31 March 2020

Sector Update

**Girish Pai**
Head of Research
girish.pai@nirmalbang.com
+91-22-6273 8017

## Likely worse than the 2008-2009 GFC crisis

**We reinstate ratings on our IT services coverage with an expectation of a weighted average market cap decline of 16% over the next 12 months. The Covd-19 crisis, in our view, seems to be worse than the 2008-2009 global financial crisis in its severity. We have been faced with a trilemma - whether to take a 6-month, 12 month or a 3-year view. Whether to be tactical or structural in our approach. After considering pros and cons we continue with our cautious view we have had since April 2015 (except for a tactical positive view in 2018) despite what we think could be the risk of a rally at some point in the next 12 months as we put peak pain behind us and pent up demand kicks in. With economic recession a given in 2020 (Exhibit 5) in US and Europe (75-90% of revenue of Indian players) we expect Global 2000 revenues to be under pressure, leading to cut back in IT spending – a first since 2009 (Exhibit 7). While stock market downturn has been swift, we believe Global 2000 corporations are yet to fully understand the first order impacts of the lockdowns, much less second order ones. IT service vendors are likely to get some idea of the changed shape of IT budgets when they announce the 4QFY20 results. We would take any guidance (if any) given for FY21 by companies with more than a pinch of salt as we believe there is limited visibility. We estimate the Indian IT services industry revenue in US dollar terms to decline (a first in its history) by 3-4% in FY21 with risks to the downside if the Covid-19 crisis lasts beyond the June quarter or if there is a second eruption in the winter of 2020. Industry grew by ~5% during the GFC years but on a base that was ~1/3rd of the current one. Accenture's recent results were already indicating a negative organic revenue growth trajectory in the upcoming months (see negative). Unless a vaccine is found (seems at least 12 months away based on health experts) we believe this uncertainty could linger and could impact spending by both corporations and individuals and hence could smother pent up demand. We believe consumption (which has been the driving force across various economies in the last decade) to be subdued in 2H2020 even if the peak on the health scare is behind us by June 2020. We especially worry about sectors like BFSI, Retail, Manufacturing (auto and aerospace) and Travel & Hospitality. For BFSI a likely low interest rate environment in the US (akin to that of Europe through much of the last decade) could be detrimental to spending growth (BFSI malaise deepens). In the US, there could be additional worries around an adverse election outcome in November 2020. While fundamentals are likely to be weak with downside risks, what is harder to predict would be PE multiples that stocks would trade at. On the one hand we have a massive monetary and fiscal stimulus that has been imparted by both US and Europe that should drive 'risk on', on the other hand there would be lingering worries around the virus which could keep risk appetite suppressed. In the next 6 months, we see PE of stocks testing levels significantly below -2SD of mean multiple, as they did in 2008-2009 (see Exhibits 27,28). Relative valuation is tricky as domestic growth is also under pressure within India. Hence, tactically we are cautious despite Nifty IT correcting 25% from 3-month highs. Along with decline in revenue growth we have also factored in some margin pressure (despite a depreciated INR/USD, no salary increases, lower travel costs), which is going to come from lower pricing, lower utilization and higher costs of delivery due to work from home. We see new development projects cut/pushed back while run-the-business spending will likely see significant pricing pressure. Just as we have seen in past industry downturns, we see commoditisation and loss of pricing power of 'hot' skills – in today's case, Digital. In terms of PE multiples, we continue to work with TCS as the sector benchmark. However, using the stock behavior of 2008-2009, we have lowered the target PE multiple for it to 1.5SD below its 10 year mean to 15.1x (versus the previous 1SD below the 5 year mean at 16.5x). We have benchmarked all other companies with respect to TCS. The resultant ratings and target prices are given in Exhibit 1. TCS, Infosys, Mindtree, Persistent are 'Sell' while HCL Technologies, Wipro and Tech Mahindra are 'Accumulate'. The latter because of valuation than any material fundamental strength. If we go by past precedents of market shocks, our methodology to derive target prices will be tested on the downside for our coverage universe - ex-TCS and ex-Infosys. On an aggregate basis, we expect mid-tier companies to struggle significantly. Client, geographic and vertical concentration risks will manifest in slowdown in revenue, resulting in significant PE multiple contraction. Most of them are exposed to short term discretionary projects, which may be cut/pushed back or consolidated with bigger vendors.**

**Who is going to be affected:** As can be seen in Exhibit 2 we expect low single digit USD revenue declines for the Tier-1 Indian IT services players with Wipro likely delivering the worst and Tech Mahindra likely delivering the best (the latter due to the two large orders already in the bag relative to its size). A large part of this decline would be due to non-conversion of the 'robust pipeline' especially for net new orders. We expect heightened competitive intensity as had been seen in 2008-2009 GFC time frame. We will likely see material value/bill rate pressure as was witnessed by Infosys in that period (Exhibit 18) probably more so as we see automation/platform skills coming into play. We see moderate margin pressure in FY21 but we think the risk is to the downside.

**Why a material spike in pent-up demand may not happen this time around in FY22:** When we look back in the 2008-2009 time frame, after a few quarters of negative growth we saw growth roaring back towards the end of CY2009 and CY2010 (Exhibit 21). While we are building in some impact of pent-up demand into our estimates too (see Exhibit 3) we feel this time it could be different! The big spike in demand in FY10 was driven by strong incremental business flowing in from the BFSI space – particularly in the regulatory area connected with Dodd-Frank act and Volcker Rule. 50% plus of incremental business came from the BFSI space for the Tier-1 players at that time (see Exhibit 22). We do not see that happening in FY22. With fed funds rate at 0% and likely to remain so for at least the next 12 months and possibly more, we expect bank profitability in the US to be significantly impacted as indicated in our recent note. We see compression in spending as the banks struggle to align costs with falling revenues. A hint of this was given by JP Morgan at its latest investor's day (see Exhibits 23.24). Also unlike in 2008-2009, we believe certain sectors will likely be impacted on a permanent basis due to health-related reasons – travel and hospitality for instance. This was not the case in 2008-2009.

**The prospects were already a tad weak even before the Covid-19 hit:** Up until the virus episode, we were veering around to the view that the US economy was showing signs of delivering better growth (1.5%-2%) in 2020 from the 0-1.5% view that we held earlier (Street Is Not Factoring Even A Soft Landing). But post Covid-19 we believe it would go into a decline of 1-3%. Better prospects pre-Covid-19 were driven by (1) easier monetary policies and some unconventional moves by major global central banks. Both the U-turn on Fed funds rate and 'non-QE' was not expected in December 2018 when we put out our 0% growth view for FY21 (2) fiscal stimulus in US/China (3) non-escalation of US-China trade dispute. Even without the virus issue IT spending was looking weak as (1) US-China Phase 1 deal is a stretch to execute as there was no material tariff roll backs and Chinese obligations are onerous (2) accelerated value compression in core services (still 60-65% of revenue for most players) would offset gains from Digital services. Automation, modular software development, low code/no code development, etc in our view will continue to crunch labor intensity and value of projects (3) slightly muted large deal TCV wins compared to the preceding 12 months. The mix seems more in favor of renewals than on net new. Also, we see issues in conversion of this TCV into revenues (4) continued insourcing. This seems to have taken on a life of itself as more and more companies see their competitive advantage driven by software and want a bigger control over their destinies (5) likely better defense of market share by global peers like DXC and Cognizant under new managements (6) margin dilution from extremely competitive large deals and a higher cost structure due to subcontractors and a new breed of employees (more expensive) who have full stack capabilities.

**What is different between 2008-2009 and now:** While comparing 2008-2009 crisis with the Covid-19 one, we believe the current situation seems far more complex. It involves both a health issue and a financial one. The current crisis also involves impact on delivery of services (as India, the key geography of delivery, has been locked down), which was not the case in 2008-2009..

**INR may not come to the rescue as much this time around:** Unlike in 2008 when there was a steep depreciation of INR (by ~25%), we believe that strong forex reserve situation of India, likely flow of foreign capital (especially to set up an alternate supply chain that has been hitherto dominated by China) and relatively low consumer inflation would likely keep INR depreciation fairly muted. We think the pricing pressure could far outweigh benefits that companies are likely to get out of INR depreciation.

**Structurally, spending could be muted:** While there could be some pent-up demand once Covid-19 scare is done with, we believe there could potentially be muted spending on a structural basis. We believe the BFSI sector could be impacted materially by the low interest rate regime not only in Europe but more so in the US (to which it has a larger exposure). While there is discussion around a potential inflationary situation arising out of all the monetary and fiscal pump priming that has been done in both US and Europe, we would rather wait for such a thing to happen. We had heard similar commentary post the GFC too but we saw a period of very low inflation despite very low unemployment rates and reasonably strong economy. We think some industries are likely to face headwinds in terms of revenue and will likely not go back to where they were before the Covid-19 crisis. These could include Travel & Tourism, Hospitality, Brick & Mortar retail, Auto, Airlines, Aerospace, Energy, etc.

**How could customer behavior change post the Covid-19 crisis:** We see Digital becoming the de-facto IT services horizontal (if one were to call it that). That implies commoditization. Loss of pricing power with respect to so called 'legacy'. This would be aided by the higher supply of talent in the Indian context as there are many more trained resources in Digital than there were even a few years back due to the reskilling exercise undertaken by the companies (Exhibit 25). Besides fresh recruitment had focused on Digital skills.

**Structural silver linings in the medium-long term:** Structurally, we expect long-term relevance of Indian IT services industry to be intact though growth is likely to be not more than mid-single digit at best (Individual players could be better). Structurally: (1) Shift to digital has been not as disruptive as we had initially anticipated as the talent pool has been retrained at scale in new technologies. This relatively low-cost talent pool represents the single biggest advantage that India has as a sourcing destination that can be exploited by customers, India heritage players and global players. (2) Indian Industry has truly begun moving up the value chain. Share of wins in integrated deals has gone up, indicating the ability to stitch up capabilities right from consulting at one end to maintenance at the other. At least a few players in select verticals and sub segments can do that (3) Importantly India heritage players have begun to address multiple decision makers unlike in the past, addressing spends beyond that of the CIO office.

**Stock performance is a relative call and is more challenging:** We think our coverage universe may in the very near term represent very attractive capital return plays. However, considering the unstable demand conditions we expect the companies to be fairly conservative in 2020 in terms of moves on that front. From a 12-24-month perspective for a portfolio manager it is a question of relative growth and valuation between IT services players versus domestic focused investment opportunities. It is going to be tricky as both seem to be challenged from a demand perspective in the FY20-FY22 time frame.

### Exhibit 1: Changes made to our earnings estimates, target prices and ratings

| Company | CMP (Rs) | Market- cap (US$bn) | New FY21E EPS (Rs) | New FY22E EPS (Rs) | Old FY21E EPS (Rs) | Old FY22E EPS (Rs) | New target P/E (x) | Old target P/E (x) | New rating | Old rating | New TP (Rs) | Upside to CMP(%) | Old TP (Rs) | Change (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCS | 1850 | 99.0 | 86.7 | 92.3 | 93.0 | 100.1 | 15.1 | 16.5 | Sell | Sell | 1393 | (24.7) | 1593 | (12.5) |
| Infosys | 654 | 38.4 | 37.6 | 40.5 | 41.5 | 42.8 | 13.6 | 14.9 | Sell | Sell | 550 | (15.9) | 625 | (12.0) |
| Wipro | 186 | 14.8 | 17.4 | 18.9 | 18.7 | 19.6 | 9.8 | 11.6 | Accumulate | Sell | 186 | 0 | 221 | (11.0) |
| HCL Technologies | 433 | 16.4 | 37.6 | 42.6 | 42.1 | 45.3 | 11.3 | 13.1 | Accumulate | Accumulate | 483 | 11.5 | 557 | (13.3) |
| Tech Mahindra | 501 | 6.1 | 46.2 | 55.0 | 55.2 | 59.3 | 9.8 | 9.9 | Accumulate | Sell | 540 | 7.8 | 614 | (12) |
| Mindtree | 830 | 1.9 | 43.4 | 49.4 | 50.3 | 57.1 | 10.6 | 9.9 | Sell | Sell | 522 | (37.1) | 532 | (2) |
| Persistent Systems | 544 | 0.5 | 46.3 | 60.6 | *54.7* | *57.2* | 9.1 | 9.9 | Sell | Sell | 502 | (7.8) | 554 | (9) |

*Source: Nirmal Bang Institutional Equities Research, All Prices are as of end of trade on 27 March, 2020.*

### Exhibit 2: Assumptions on macro and companies

| | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|
| Real US GDP growth (%) | 2.9 | 2.3 | (1) – (3) | 1.0-3 |
| | **FY19** | **FY20E** | **FY21E** | **FY22E** |
| INR/USD | 70.1 | 71.0 | 74.0 | 75.2 |
| | **FY19** | **FY20E** | **FY21E** | **FY22E** |
| **USD revenue growth (%)** | | | | |
| TCS | 9.6 | 6.1 | -2.6 | 6.5 |
| Infosys | 7.9 | 8.8 | -3.0 | 6.0 |
| Wipro (IT services) | 1.6 | 1.1 | -4.5 | 4.5 |
| HCL Technologies | 10.1 | 15.0 | -2.1 | 5.6 |
| Tech Mahindra | 4.2 | 5.5 | 1.4 | 5.1 |
| Mindtree | 18.3 | 7.9 | -0.4 | 7 .0 |
| Persistent Systems | 2.2 | 4.8 | -3.0 | 4.7 |
| **EBIT margin (INR) (%)** | | | | |
| TCS | 25.6 | 24.7 | 24.5 | 24.3 |
| Infosys | 22.8 | 21.5 | 20.6 | 20.7 |
| Wipro | 17.1 | 17.6 | 17.5 | 17.4 |
| HCL Tech | 19.6 | 19.4 | 18.0 | 19.0 |
| Tech Mahindra | 15.0 | 12.2 | 12.0 | 13.0 |
| Mindtree | 12.8 | 10.1 | 11.7 | 12.2 |
| Persistent Systems | 12.6 | 9.0 | 8.3 | 10.1 |
| **EPS (Rs)** | | | | |
| TCS | 83.1 | 87.4 | 86.7 | 92.3 |
| Infosys | 36.1 | 39.2 | 37.6 | 40.5 |
| Wipro | 18.6 | 17.0 | 17.4 | 18.9 |
| HCL Tech | 36.8 | 39.9 | 37.6 | 42.6 |
| Tech Mahindra | 48.1 | 47.6 | 46.2 | 55.0 |
| Mindtree | 45.8 | 37.1 | 43.4 | 49.4 |
| Persistent Systems | 44.1 | 44.8 | 44.4 | 55.4 |
| **EPS growth (%)** | | | | |
| TCS | 24.0 | 5.2 | -0.8 | 6.5 |
| Infosys | 11.00 | 8.6 | -4.1 | 7.7 |
| Wipro | 10.5 | -8.6 | 2.4 | 8.6 |
| HCL Tech | 17.5 | 8.4 | -5.8 | 13.3 |
| Tech Mahindra | 12.5 | -1.0 | -2.9 | 19.0 |
| Mindtree | 32.3 | -19.0 | 17.0 | 13.8 |
| Persistent Systems | 9.2 | -2.4 | -0.8 | 24.7 |

*Source: Companies, Nirmal Bang Institutional Equities Research*

**Exhibit 3: Quarterly result actuals and estimated. Biggest QoQ impact in 1Q and 2Q of FY21. Margins to be also adversely impacted**

| | Actuals | | | Estimates | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1QFY20 | 2QFY20 | 3QFY20 | 4QFY20 | 1QFY21 | 2QFY21 | 3QFY21 | 4QFY21 | 1QFY22 | 2QFY22 | 3QFY22 | 4QFY22 |
| **US$ Revenue (mn)** | | | | | | | | | | | | |
| TCS | 5485 | 5517 | 5586 | 5597 | 5473 | 5363 | 5363 | 5417 | 5551 | 5745 | 5801 | 5917 |
| QoQ% | 1.6 | 0.6 | 1.3 | 0.2 | (2.2) | (2.0) | 0.0 | 1.0 | 2.5 | 3.5 | 1.0 | 2.0 |
| YoY% | 8.6 | 5.8 | 6.4 | 3.7 | (0.2) | (2.8) | (4.0) | (3.2) | 1.4 | 7.1 | 8.2 | 9.2 |
| Infosys | 3131 | 3210 | 3243 | 3248 | 3198 | 3098 | 3063 | 3084 | 3145 | 3265 | 3360 | 3427 |
| QoQ% | 2.3 | 2.5 | 1.0 | 0.2 | (1.5) | (3.1) | (1.1) | 0.7 | 2.0 | 3.8 | 2.9 | 2.0 |
| YoY% | 10.6 | 9.9 | 8.6 | 6.2 | 2.2 | (3.5) | (5.5) | (5.1) | (1.7) | 5.4 | 9.7 | 11.1 |
| HCLT | 2364 | 2486 | 2543 | 2536 | 2493 | 2418 | 2394 | 2418 | 2490 | 2565 | 2590 | 2616 |
| QoQ% | 3.8 | 5.2 | 2.3 | (0.3) | (1.7) | (3.0) | (1.0) | 1.0 | 3.0 | 3.0 | 1.0 | 1.0 |
| YoY% | 15.0 | 18.4 | 15.5 | 11.3 | 5.5 | (2.7) | (5.9) | (4.7) | (0.1) | 6.1 | 8.2 | 8.2 |
| Wipro (IT Services) | 2039 | 2049 | 2094 | 2094 | 2021 | 1980 | 1941 | 1960 | 1980 | 2039 | 2100 | 2142 |
| QoQ% | (1.8) | 0.5 | 2.2 | 0.0 | (3.5) | (2.0) | (2.0) | 1.0 | 1.0 | 3.0 | 3.0 | 2.0 |
| YoY% | 0.6 | 0.4 | 2.3 | 0.9 | (0.9) | (3.3) | (7.3) | (6.4) | (2.0) | 3.0 | 8.2 | 9.3 |
| Tech Mahindra | 1247 | 1287 | 1353 | 1355 | 1356 | 1329 | 1316 | 1316 | 1342 | 1382 | 1424 | 1438 |
| QoQ% | (1.6) | 3.2 | 5.1 | 0.1 | 0.1 | (2.0) | (1.0) | 0.0 | 2.0 | 3.0 | 3.0 | 1.0 |
| YoY% | 1.9 | 5.7 | 7.3 | 6.9 | 8.8 | 3.3 | (2.7) | (2.9) | (1.0) | 4.0 | 8.2 | 9.3 |
| **INR/USD** | **69.6** | **70.6** | **71.4** | **72.3** | **74.3** | **73.7** | **74.2** | **74.0** | **74.6** | **75.4** | **75.4** | **75.3** |
| **INR EBIT Margin (%)** | | | | | | | | | | | | |
| TCS | 24.2 | 24.0 | 25.0 | 25.4 | 25.7 | 23.6 | 24.1 | 24.7 | 23.7 | 25.0 | 24.4 | 24.2 |
| Infosys | 20.5 | 21.7 | 21.9 | 21.9 | 21.3 | 20.4 | 20.5 | 20.2 | 20.1 | 20.8 | 21.0 | 21.0 |
| HCLT | 17.1 | 20.0 | 20.2 | 20.3 | 20.0 | 17.2 | 17.0 | 17.6 | 18.2 | 19.3 | 19.3 | 19.0 |
| Wipro | 18.0 | 18.0 | 18.1 | 18.3 | 18.4 | 17.5 | 17.9 | 17.8 | 17.8 | 17.5 | 17.9 | 17.9 |
| Tech Mahindra | 11.5 | 12.8 | 12.2 | 12.4 | 12.7 | 11.9 | 11.8 | 11.5 | 11.1 | 12.8 | 14.0 | 13.9 |

*Source: Companies, Nirmal Bang Institutional Equities Research*

**Exhibit 4: Indian IT services sector-valuations**

| | TCS | Infosys | Wipro | HCL Tech | Tech Mahindra | Mindtree | Persistent |
|---|---|---|---|---|---|---|---|
| **Year ending** | **March** | **March** | **March** | **March** | **March** | **March** | **March** |
| **Prices as on 27-Mar-20** | **1,850** | **654** | **186** | **433** | **501** | **830** | **544** |
| **Currency** | **INR** | **INR** | **INR** | **INR** | **INR** | **INR** | **INR** |
| Market Value (Rs Bn) | 7,082 | 2,842 | 1058 | 1175 | 437 | 136 | 44 |
| (US$mn) | 99,061 | 38,409 | 14,807 | 16,433 | 6,104 | 1,847 | 588 |
| March 2021 Target Price | 1,393 | 550 | 186 | 483 | 540 | 522 | 502 |
| Upside/(downside) | -24.7% | -15.9% | 0% | 11.5% | 7.8% | -37.1% | -7.8% |
| Recommendation | Sell | Sell | Accumulate | Accumulate | Accumulate | Sell | Sell |
| **FDEPS (Rs)** | | | | | | | |
| FY18 | 67.0 | 32.5 | 16.8 | 31.5 | 42.8 | 34.6 | 40.4 |
| FY19 | 83.1 | 36.0 | 18.6 | 36.8 | 48.1 | 45.8 | 44.1 |
| FY20E | 87.4 | 39.2 | 17.0 | 39.9 | 47.6 | 37.1 | 44.8 |
| FY21E | 86.7 | 37.6 | 17.4 | 37.6 | 46.2 | 43.4 | 44.4 |
| FY22E | 92.3 | 40.5 | 18.9 | 42.6 | 55.0 | 49.4 | 55.4 |
| **PE (x)** | | | | | | | |
| FY18 | 27.6 | 20.1 | 11.1 | 13.8 | 11.6 | 24.2 | 13.5 |
| FY19 | 22.3 | 18.2 | 10.0 | 11.8 | 10.3 | 18.1 | 12.3 |
| FY20E | 21.2 | 16.7 | 10.9 | 10.8 | 10.4 | 22.4 | 12.2 |
| FY21E | 21.3 | 17.4 | 10.7 | 11.5 | 10.7 | 19.1 | 12.3 |
| FY22E | 20.1 | 16.2 | 9.8 | 10.2 | 9.0 | 16.8 | 9.8 |
| **EV/EBITDA (x)** | | | | | | | |
| FY18 | 21.6 | 13.9 | 8.9 | 9.5 | 8.2 | 17.1 | 8.8 |
| FY19 | 17.6 | 12.7 | 6.8 | 7.9 | 5.6 | 11.8 | 6.3 |
| FY20E | 16.9 | 12.2 | 6.6 | 7.0 | 6.0 | 12.1 | 7.1 |
| FY21E | 16.8 | 12.7 | 5.8 | 6.8 | 5.3 | 10.0 | 6.4 |
| FY22E | 15.7 | 11.8 | 4.9 | 5.7 | 4.2 | 8.7 | 4.8 |
| **EV/Sales (x)** | | | | | | | |
| FY18 | 5.7 | 3.7 | 1.7 | 2.1 | 1.3 | 2.3 | 1.4 |
| FY19 | 4.8 | 3.2 | 1.3 | 1.8 | 1.0 | 1.8 | 1.1 |
| FY20E | 4.5 | 3.0 | 1.3 | 1.6 | 1.0 | 1.7 | 1.0 |
| FY21E | 4.4 | 2.9 | 1.2 | 1.6 | 0.8 | 1.5 | 0.9 |
| FY22E | 4.1 | 2.7 | 1.0 | 1.4 | 0.7 | 1.4 | 0.7 |
| **Pre Tax ROIC (%)** | | | | | | | |
| FY18 | 57.3 | 44.9 | 24.5 | 38.9 | 25.8 | 32.9 | 29.7 |
| FY19 | 61.8 | 47.5 | 30.4 | 36.3 | 37.9 | 46.4 | 44.2 |
| FY20E | 56.1 | 45.2 | 33.7 | 31.0 | 31.2 | 32.4 | 33.1 |
| FY21E | 54.1 | 41.1 | 32.2 | 23.4 | 29.5 | 37.6 | 30.7 |
| FY22E | 56.3 | 42.3 | 33.0 | 24.5 | 34.1 | 44.9 | 43.3 |

*Source: Company, Nirmal Bang Institutional Equities Research,*

## *2020 post Covid-19 could be worse than 2009*

As we write this sector update more than 800,000 people have been tested positive for Covid-19 virus globally and 37,000 plus people have died. Starting from China it has spread to 190 countries and has become a global pandemic. Governments globally have tried to control this new virus by locking down cities, states and whole countries. Citizens have been asked to stay at home and isolate themselves. This has led to sudden stoppage of demand for multiple industries and has likely pushed the global economy into a recession. The situation is quite fluid and making estimates of economic growth in such a situation is fraught with error. However, there is general acknowledgement that 2020 will likely be a year that could be as difficult as 2009 and possibly more. We have given this in Exhibits 5, 6. When the GFC in 2008-2009 hit the global economy, global IT spend declined. However, India was able to deliver positive growth (Exhibit 7,8) as the offshore delivery model gained market share. Please note, India IT and ITES exports at that time were about a third of what they are currently and hence we could suffer a far deeper cut in the current crisis.

Multiple countries have come out with relief packages post the Covid-19 crisis both on the monetary and the fiscal sides. An aggregation of the measures in key countries that affect Indian IT services industry – US, UK, and Europe- is given in Exhibit 9. While all of this helps, the key problem is health related and that does not seem to any solution in the next 3-6 months.

**Exhibit 5: Global Growth Forecasts: Real GDP Growth (%)**

| | | | | | IIF | EIU |
|---|---|---|---|---|---|---|
| | 2016 | 2017 | 2018 | 2019 | 2020 | 2020 |
| **World** | **2.7** | **3.2** | **3.1** | **2.6** | **-1.5** | **-2.2** |
| **G3** | **1.6** | **2.2** | **2.2** | **1.7** | **-3.4** | **-** |
| United States | 1.6 | 2.2 | 2.9 | 2.3 | -2.8 | -2.8 |
| Euro Area | 2.0 | 2.4 | 1.8 | 1.1 | -4.7 | -6.8 |
| Japan | 0.6 | 1.9 | 0.8 | 0.9 | -2.6 | - |
| China | 6.7 | 6.8 | 6.6 | 6.1 | 2.8 | 1.0 |
| India | 9.0 | 6.6 | 6.8 | 5.3 | 2.9 | 2.1 |

*Source: IIF and EIU, Nirmal Bang Institutional Equities Research*

**Exhibit 6: Global Growth: Real GDP Growth (%)**

| Country | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|
| World | 5.4 | 2.8 | -0.7 | 5.1 |
| United States | 1.9 | -0.3 | -3.5 | 3.0 |
| Euro Area | 3.0 | 0.4 | -4.3 | 1.8 |
| Japan | 2.4 | -1.2 | -6.3 | 4.0 |
| China | 14.2 | 9.6 | 9.2 | 10.3 |
| India | 10.0 | 6.2 | 6.8 | 10.1 |

*Source:IMF WEO, September 2011, Nirmal Bang Institutional Equities Research*

**Exhibit 7: Global IT and IT services spending during GFC phase**

| (In USDbn) | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|
| IT services | 747 | 809 | 774 | 793 |
| *growth (%)* | - | *8.3* | *-4.4* | *2.5* |
| Total market | 3181 | 3372 | 3227 | 3401 |
| *growth (%)* | - | *6.0* | *-4.3* | *5.4* |

*Source: Gartner, Nirmal Bang Institutional Equities Research*

**Exhibit 8: Indian IT and ITES exports during the GFC phase**

| (in USDbn) | FY07 | FY08 | FY09 | FY10 | FY11 |
|---|---|---|---|---|---|
| IT and ITES exports | 31.7 | 40.9 | 47.5 | 50.1 | 59 |
| *growth (%)* | *-* | *29.0* | *16.1* | *5.5* | *17.8* |

*Source: Nasscom, Nirmal Bang Institutional Equities Research*

**Exhibit 9: What are the monetary and fiscal measures taken thus far by the Developed world to fight the Covid-19 crisis**

| Country/Central bank | Monetary measures | Fiscal measures |
|---|---|---|
| US | Cut rates by 150bp | Congress passed the Families First Act . It requires **employers of a certain size to provide up to $10,000 in paid leave for employees impacted by the Covid-19 coronavirus** outbreak—and about 80 hours of paid sick leave. |
| | **US$700bn of QE- US$500bn of treasury securities and US200bn of mortgage backed securities which has now been extended to the 'amounts needed'.** Commercial mortgage backed agency securities have also been included in purchases. | **Approved the Federal Reserve's creation of a "Commercial Paper Funding Facility," (CPFF)** which allows the Fed to create a corporation which can purchase commercial paper, short-term, unsecured loans made by businesses for everyday expenses. |
| | Announced a **primary dealer credit facility** and **money market mutual fund liquidity facility (MMLF).** | Another **US$2tn stimulus package** |
| | Supporting the flow of credit to employers, consumers, and businesses by establishing new programs that, taken together, will provide up to **$300 billion in new financing** which include: | |
| | The Department of the Treasury, using the **Exchange Stabilization Fund (ESF)**, will provide **$30 billion in equity** to these facilities. | |
| | Establishment of two facilities to support credit to large employers – **the Primary Market Corporate Credit Facility (PMCCF) for new bond and loan issuance** and the **Secondary Market Corporate Credit Facility (SMCCF**) to provide liquidity for outstanding corporate bonds. | |
| | Establishment of a third facility, the **Term Asset-Backed Securities Loan Facility (TALF), to support the flow of credit to consumers and businesses.** The TALF will enable the issuance of asset-backed securities (ABS) backed by student loans, auto loans, credit card loans, loans guaranteed by the Small Business Administration (SBA), and certain other assets. | |
| | **Facilitating the flow of credit to municipalities by expanding the Money Market Mutual Fund Liquidity Facility (MMLF)** to include a wider range of securities, including municipal variable rate demand notes (VRDNs) and bank certificates of deposit. **Facilitating the flow of credit to municipalities by expanding the Commercial Paper Funding Facility (CPFF)** to include high-quality, tax-exempt commercial paper as eligible securities. | |
| UK | Bank of England cut rates by 65bps. | £330bn in loans, £20bn in other aid, a business rates holiday, and grants for retailers and pubs. |
| | Introduced term funding schemes for SMEs. | Government will pay 80% of salary for staff who are kept on by their employer payrolls, covering wages of up to £2,500 a month. |
| | Reduced counter-cyclical capital buffer to 0% from 1%. | |
| | £200 of corporate bond and government securities purchases. | |
| Europe | Targeted LTRO III at concessional rates and conditions. €120bn of asset purchases. | Italy announced a $28 billion plan over two separate spending packages including guaranteeing loans to small and medium businesses, money to companies who have been hit especially hard by the virus and help for workers who are facing layoffs. |
| | €750 billion of pandemic emergency purchase programme (PEPP) up to end of 2020. | France announced a $49 billion aid package that includes substantial social-security tax cuts, Unemployment benefits for people forced to work part time and a fund to help shopkeepers and the self-employed. They also announced guarantee on bank loans of up to $327 billion to help businesses. |
| | | Denmark-75% wage cover |

*Source: Teresa John, Economist,Nirmal Bang Institutional Equities Research*

A number of global 2000 corporations have also come out with comments with regard to impact on financials. These are at various points in time in the last 45 days and not updated. Many of these comments were made when the Virus impact had not spread much to Europe and the US and was still a China phenomenon. We suspect that the situation has turned our far worse in many cases compared to these initial comments

**Exhibit 10: Company Commentary regarding impact of Covid-19 on their financials/business in 2020**

| Company | Quantitative Impact | Comments |
|---|---|---|
| Agilent Technologies (Lab Instruments maker) | Anticipates a $25 million to $50 million hit in the first half as a result of the virus | - |
| Alcoa Corp (Aluminium products) | Pricing up by about $20 per ton over these last few weeks | - |
| Analog Devices | Reduced the revenue guidance by US$70mn | - |
| Apple Inc. | Generates 15% of revenue from China | Not expecting to meet second quarter financial guidance; was temporarily shuttering all of its stores and offices in mainland China as the number of coronavirus cases soared. The ipad pro tablet is seeing limited availability at stores in major cities of US, Australia and Europe. |
| Best Buy Inc | Doesn't believe it will impact in the long run | Sources lot of consumer electronics from China |
| Boston Scientific Corp | US$600mn business in China | The device maker now anticipates a "preliminary negative sales impact estimate of $10 million to $40 million." |
| Burberry | Burberry (BBRYF) has closed 24 of its 64 stores in mainland China. | |
| Capri Holding Pvt Ltd | It expects annual revenue of $5.65 billion and adjusted earnings per share of $4.45 to $4.50 as the virus eats into sales | Owns luxury brands Jimmy Choo and Versace |
| Carnival Corp | There could be a fiscal 2020 earnings-per-share impact of 55 cents to 65 cents if all operations are suspended in Asia through the end of April | - |
| CoCa Cola | The Chinese market makes up 10% of Coca-Cola's global volume | The Coca-Cola Company KO, said it is still expecting to reach its full-year guidance though COVID-19 will likely weigh on first-quarter results. Coca-Cola said it currently estimates an approximate 2- to 3-point impact to unit case volume, 1- to 2-point impact to organic revenue, and 1- to 2-penny impact to earnings per share for the first quarter. |
| Crocs Inc | Expects first-quarter revenue to be hurt by $20 million to $30 million due to disruptions in Asia from the coronavirus | Many of its sellers in china remain closed |
| Dominos Pizza | Fewer than 20 of its stores are closed in China and the outbreak is slowing down the openings of new stores in that market | Last year, Domino's opened 80 net new stores in China. |
| Estee Lauder | Third quarter will be most impacted by sales decline of luxury beauty products in China | - |
| Fresh Del Monte Produce | - | Port closures in China led to a slowdown in trucking and goods were left stacked up at ports over the extended Lunar New Year shutdown |
| General Mills | Greater China makes up 4% of General Mills' net sales | Half of its Haagen Daaz shops in greater china are closed |
| General Motors | - | GM identified a potential parts shortage and airlifted supplies for its North American truck production, according to United Auto Workers officials |
| Hasbro Inc | China is responsible for about two-thirds of global sourcing | Travel is limited, places are still closed. |
| Hilton Worldwide holdings | 33000 rooms are closed in china | |
| Hormel Food Corps | Expects international business to have very difficult second quarter. | There has been a slowdown in sales in China, with many restaurants closed, but sales of pantry items like Skippy peanut butter and canned pork Spam have increased |
| HP Inc | Anticipates earnings per share of 46 cents to 50 cents and adjusted EPS of 49 cents to 53 cents. | Expects negative impact of Top line, bottom line and Free Cash Flow |
| HSBC Holdings | - | Expects a weaker first-half performance in 2020, due to the downturn in Hong Kong and virus-related credit losses in the first quarter |
| Huawei | - | Chinese smartphone giant Huawei has been coy on coronavirus stating that there will be no impact on supply chain for the next 3-6 months. It has a significantly larger retail presence in China than Apple. |

| | | |
|---|---|---|
| Hyundai | - | Suspends production lines at its plants in Korea because of supply-chain disruptions in China stemming from the coronavirus outbreak. Hyundai, which is heavily dependent upon Chinese suppliers, was forced to idle some of its home plants this month due to shortages. |
| Intercontinental Hotels Group | Fee business is expected to take a US$5mn hit in Feb | Its Chinese operations make up less than 10% of group operating profit |
| IQVIA Inc (runs clinical trials in China) | Expects US$25mn impact in the first quarter | - |
| Loreal | - | Has a positive outlook, feels the impact will be temporary |
| Lululemon Athletica | Majority of 38 stores closed in China | - |
| Marriott International | Can't fully estimate the negative impact | - |
| Mastercard Inc. | Lowers its revenue guidance by 2-3 pps for 1Q2019 | Impacted by lower cross border travel and lower e-commerce growth. |
| Medtronic PLC | 7% of business is exposed to China | There are closures and slowdowns in factory production of its products as well as a delay in medical device procedures in China as the Chinese health care system focuses on containing the virus |
| Microsoft Corp. | - | Will not meet guidance for third quarter sales. The supply chain is returning to normal pace slowly. |
| Mondelez | Both margins and revenue will be impacted | Transportation costs have gone up due to shortage of trucks. |
| Nike Inc. | No comment | Closed half of the stores in china |
| Nintendo | - | Nintendo alerted customers in Japan that shipments of its Switch and Joy-Con devices, which are manufactured in China, will be delayed for an undisclosed amount of time due to coronavirus. |
| Norwegian Cruise line holdings | EPS will be lower by 75 cents | Has cancelled 40 cruises in Asia |
| Papa John's International | - | Impact of store closures in China is not currently material. |
| Paypal Holdings | Negative revenue impact of 1pps in March Qtr. | Is expecting revenue for the quarter to fall toward the low end of its guidance of $4.78 billion to $4.84 billion. |
| Procter and Gamble | China is its second largest market. | The company has 387 suppliers in China that ship to it globally more than 9,000 materials, impacting about 17,600 different finished products. |
| PVH Corp | Reaffirmed its adjusted earnings-per-share guidance of $1.79 for the fourth quarter and at least $9.45 for the full year. | 20% of its global sourcing and 7% of revenues comes from China |
| Qorvo- Apple Supplier | - | Expects the fourth quarter revenue of US$770mn, which is US$50mn below the midpoint of guidance range provided of US$800mn to US$840mn |
| Ralph Lauren | $70mn impact on sales | - |
| Royal Caribbean Cruises | Announced 65 cents impact on its FY20 EPS | Has cancelled 18 cruises in southeast Asia |
| Sabre corp | Estimated impact for the first quarter of earnings per share of 14 cents to 23 cents and for revenue of $100 million to $150 million. | Will have a material impact on its 2020 results |
| Target, Walmart | - | Will Experience out-of-stock issues |
| Trip Advisor Inc | Low single digit impact on its financial results | Seeing some unexpected or new cancellation levels in Asia, but not that exposed to Asia as an overall part of its business |
| Under Armour | Expected to lose between $50 million and $60 million in sales | - |
| United Airline Holdings | The cancelled flights makeup 5% of planned capacity for 2020. | The airline has suspended flights to and from the Chinese cities of Beijing, Chengdu, and Shanghai as well as Hong Kong through April 24. |
| US Toy Industry | China constitutes 85% of sales | At High Risk |
| Walmart | 1Q and 2Q2019 sales to be impacted, EPS to be impacted by few cents | All Walmart stores still remain open in china |
| Walt Disney | Operating income to be US$175mn less in 1Q2019 | Hong Kong and Shanghai theme parks to remain closed for months |
| Yum China Holdings (operates fast food brands: KFC and Pizza Hut) | Pizza Hut's business has been impacted more than KFC's. Delivery and takeout businesses are doing well. | 30% of restaurants remain closed. |
| Volkswagen, Toyota, Daimler, General Motors, Honda, Renault, Hyundai | - | Car Plants remain closed in China. According to S&P Global Ratings, the outbreak will force carmakers in China to slash production by about 15% in the first quarter |

*Source: Media,Nirmal Bang Institutional Equities Research*

**Exhibit 11: The fiscal stimulus bigger than that of 2008-2009 episode**

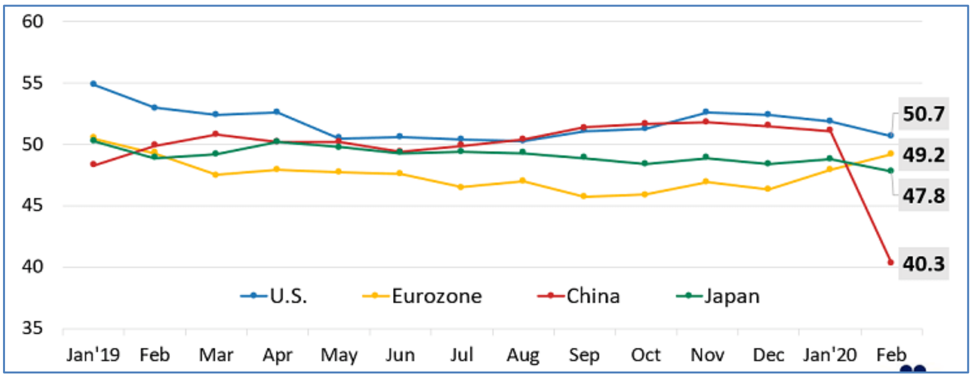

*Source: Economist, Nirmal Bang Institutional Equities Research*

**Exhibit 12: Mentions made on Corona virus by global companies in their recent analyst calls**

| | | | |
|---|---|---|---|
| 3M Company | Coty | IQVIA | Qorvo, Inc. |
| Air Products and Chemicals | Cummins | KLA Corporation | QUALCOMM |
| Align Technology | Danaher Corporation | Lam Research | Ralph Lauren |
| American Airlines | Dow | Las Vegas Sands | Royal Caribbean |
| Apple | Emerson Electric | Linde | Seagate Technology |
| Applied Materials | Estee Lauder | Marathon Petroleum | Sealed Air Corporation |
| Avery Dennison | Expedia | Maxim Integrated Products | Stanley Black & Decker |
| Becton, Dickinson and Company | Fortive | Mettler-Toledo | Starbucks |
| | General Motors | MGM Resorts | Tapestry |
| Boeing | Global Payments | Microchip Technology | Under Armour |
| BorgWarner | Hershey | Mondelez International | United Technologies |
| Boston Scientific | Hilton Worldwide | Newell Brands | V.F. Corporation |
| Cadence Design Systems | Honeywell | Nike | Visa |
| Capri Holdings | IDEX Corporation | NVIDIA Corporation | Walt Disney Company |
| Carnival | International Flavors & Fragrances | Parker-Hannifin | Wynn Resorts |
| Colgate-Palmolive | | PerkinElmer | Xylem Inc. |
| ConocoPhillips | IPG Photonics Corporation | Phillips 66 | Zebra Technologies |
| | | PVH Corp. | |

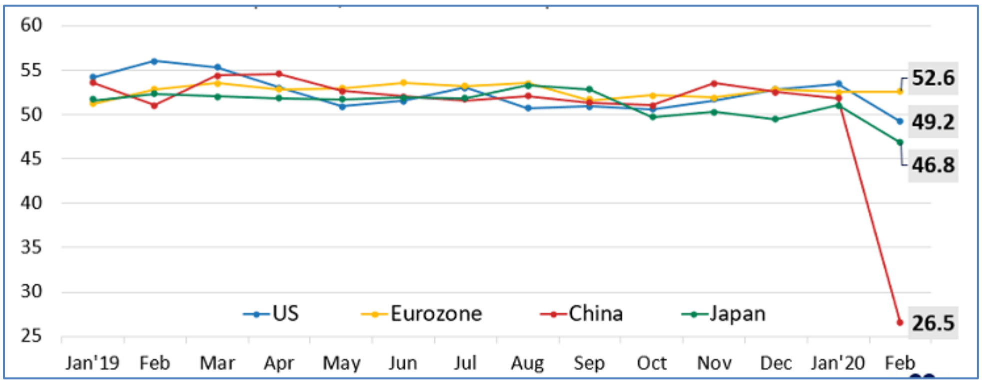
*Source: Media,Nirmal Bang Institutional Equities Research*

**Exhibit 13: Manufacturing PMI in major economies weak even before the virus episode**



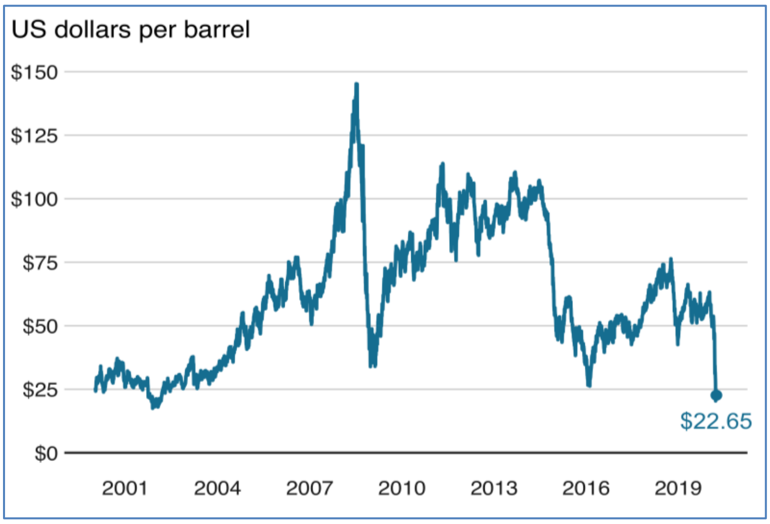

*Source: Refinitiv,Nirmal Bang Institutional Equities Research*

**Exhibit 14: Services PMI in major economies. It tanked in China due to lockdowns**




*Source: Refinitiv,Nirmal Bang Institutional Equities Research*

**Exhibit 15: Oil has seen a massive correction which takes it back to post dot com bust values. This could impact energy sector IT spending**




*Source: Bloomberg, Nirmal Bang Institutional Equities Research*

## How is Covid-19 impacting delivery

Unlike in the past disruptions, which were largely weather related like snowstorms (in the US) or floods (Chennai in 2015, for instance), this is a global disruption driven by a health issue. In no way can work be shifted from one city to another or from one country to another, which used to be the standard operating procedure in previous such instances.

Travel by IT personnel of customers to India has been completely suspended impacting new project starts. From our discussions with industry we understand that in new development work there is never typically any work from home (WFH) arrangement. WFH under normal circumstances is typically done for support activities that too only for about 10% of the workforce involved in that project. Those who work from home are provided laptops/PCs that are security cleared by customers. Large clients typically have their own development centers within the vendor campuses where the employees are supposed to work. These typically have tight security controls due to data privacy and other related issues.

So any laptops that are used for WFH purposes are provided by the customer and have requisite safeguards/controls and have to go through an approval process. It is not just the laptop/PC but also the Virtual Private Network (VPN) that needs to get a customer clearance.

Covid-19 related WFH will impact productivity that could potentially lead to deadlines on projects being missed (unless they are covered under force majeure clauses in contracts). However, we understand that there are projects that are mission critical or require significant communication bandwidth and links which cannot be transferred into a WFH environment. So, we believe a maximum of 70-75% of the employees who are working in India for a customer can be shifted to WFH basis.

We are not sure whether 'location independent agile' as espoused by TCS can be taken up on a WFH basis as it requires significant level of collaboration. At one point in time this was supposed to be done by teams which were at the customers offices onsite. Slowly quite a bit of the work moved to offshore locations. But even then these were likely done by multiple **teams** working from different locations. It remains to be seen how Digital or development work can be done by all individuals of a project working from their respective homes.

## Earnings picture: Expect negative USD revenue growth and margin compression in FY21. Expect some bounce back in FY22 based on muted pent-up demand

On the back of likely economic recession and a hit to revenue and profitability of Global 2000 corporations, we expect global IT spending to see a cut in 2020. This we believe will likely lead to both volume and pricing pressure (latter more so) for companies under coverage in FY21. For the very first time we expect Indian IT services industry to show a negative USD revenue growth in the low-mid single digits.

We estimate 1Q and 2Q of FY21 would be sequentially negative growth quarters for most companies. Along with decline in revenue growth we have also factored in some margin pressure (despite a depreciated INR/USD, no salary increases, lower travel costs), which is going to come from lower pricing, lower utilization and higher costs of delivery due to WFH. We see new development projects cut/pushed back while run-the-business spending will likely see significant pricing pressure. Just as we have seen in past industry downturns, we see commoditization and loss of pricing power of 'hot' skills – in today's case, Digital.

**Exhibit 16: Expect USD revenue growth decline in FY21 and margin compression**

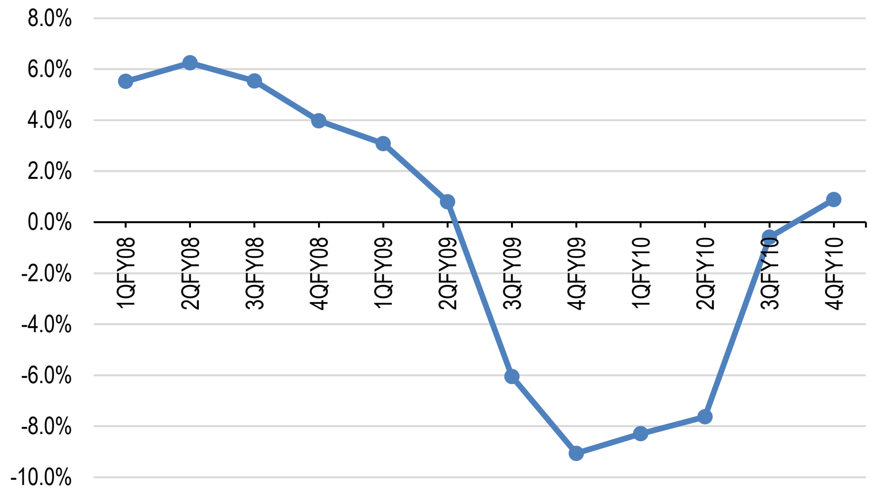
| | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|
| **USD revenue growth (%)** | | | | |
| TCS | 9.6 | 6.1 | -2.6 | 6.5 |
| Infosys | 7.9 | 8.8 | -3.0 | 6.0 |
| Wipro (IT services) | 1.6 | 1.1 | -4.5 | 4.5 |
| HCL Technologies | 10.1 | 15.0 | -2.1 | 5.6 |
| Tech Mahindra | 4.2 | 5.5 | 1.4 | 5.1 |
| Mindtree | 18.3 | 7.9 | -0.4 | 7 .0 |
| Persistent Systems | 2.2 | 4.8 | -3.0 | 4.7 |
| **EBIT margin (INR) (%)** | | | | |
| TCS | 25.6 | 24.7 | 24.5 | 24.3 |
| Infosys | 22.8 | 21.5 | 20.6 | 20.7 |
| Wipro | 17.1 | 17.6 | 17.5 | 17.4 |
| HCL Tech | 19.6 | 19.4 | 18.0 | 19.0 |
| Tech Mahindra | 15.0 | 12.2 | 12.0 | 13.0 |
| Mindtree | 12.8 | 10.1 | 11.7 | 12.2 |
| Persistent Systems | 12.6 | 9.0 | 8.3 | 10.1 |

**Exhibit 17: Quarterly result actuals and estimated. Biggest QoQ impact in 1Q and 2Q of FY21. Margins to be also adversely impacted**

| | Actuals | | | Estimates | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1QFY20 | 2QFY20 | 3QFY20 | 4QFY20 | 1QFY21 | 2QFY21 | 3QFY21 | 4QFY21 | 1QFY22 | 2QFY22 | 3QFY22 | 4QFY22 |
| **US$ Revenue (mn)** | | | | | | | | | | | | |
| TCS | 5485 | 5517 | 5586 | 5597 | 5473 | 5363 | 5363 | 5417 | 5551 | 5745 | 5801 | 5917 |
| *QoQ%* | *1.6* | *0.6* | *1.3* | *0.2* | *(2.2)* | *(2.0)* | *0.0* | *1.0* | *2.5* | *3.5* | *1.0* | *2.0* |
| YoY% | 8.6 | 5.8 | 6.4 | 3.7 | (0.2) | (2.8) | (4.0) | (3.2) | 1.4 | 7.1 | 8.2 | 9.2 |
| Infosys | 3131 | 3210 | 3243 | 3248 | 3198 | 3098 | 3063 | 3084 | 3145 | 3265 | 3360 | 3427 |
| *QoQ%* | *2.3* | *2.5* | *1.0* | *0.2* | *(1.5)* | *(3.1)* | *(1.1)* | *0.7* | *2.0* | *3.8* | *2.9* | *2.0* |
| *YoY%* | *10.6* | *9.9* | *8.6* | *6.2* | *2.2* | *(3.5)* | *(5.5)* | *(5.1)* | *(1.7)* | *5.4* | *9.7* | *11.1* |
| **INR/USD** | **69.6** | **70.6** | **71.4** | **72.3** | **74.3** | **73.7** | **74.2** | **74.0** | **74.6** | **75.4** | **75.4** | **75.3** |
| **INR EBIT Margin (%)** | | | | | | | | | | | | |
| TCS | 24.2 | 24.0 | 25.0 | 25.4 | 25.7 | 23.6 | 24.1 | 24.7 | 23.7 | 25.0 | 24.4 | 24.2 |
| Infosys | 20.5 | 21.7 | 21.9 | 21.9 | 21.3 | 20.4 | 20.5 | 20.2 | 20.1 | 20.8 | 21.0 | 21.0 |

*Source: Companies, Nirmal Bang Institutional Equities Research*

**Exhibit 18: Infosys' blended revenue productivity during GFC. It plummeted and then came back up**




*Source: Infosys, Nirmal Bang Institutional Equities Research*

Pricing compression would eat into the gains made on travel (there is likely to be little travel as long as we don't put the health scare conclusively behind us), salaries – no hikes likely, some may institute salary cuts at the mid to upper management levels and INR depreciation. Pyramid and Automation remain key levers going forward as many of the traditional levers of offshore mix and utilization are likely at their historic peak and there is no significant room to move.

Travel costs are typically in the region of 150-250bps, the modest salary hikes these days lead to a loss in margin of 100-150bps. If one adds potential salary cuts for mid-to-top management, we believe there could be headroom room for 300-500bps of margin compression that can be handled even without taking into account gains from automation and INR depreciation. Pyramid rationalization and automation remain levers that are yet to be fully exploited. The normal levers of Offshore shift and Utilisation haver been fully exploited in our view. Also if the nature of work shift towards non-discretionary run-the-business type, we think there is potential scope to lower the subcontractor expenses.

As can be seen in Exhibit 19 there are host of mitigants that companies can work with to offset the lack of pricing power in the current environment. We think EBIT margins will see some pressure but may not be material enough to upset earnings

**Exhibit 19: Margin pressure points and mitigants; Should be reasonable to handle**

| **Pressure Points** | **Mitigants** | **Levers that seem to have been used up** |
|---|---|---|
| • Lower pricing – on both Digital and non-Digital work<br>• Lower discretionary spend and shift towards more commoditized legacy work<br>• Work from home related Transition costs<br>• Lower productivity of teams as they WFH | • INR depreciation<br>• Lower travel costs<br>• No salary increases or salary cuts at the mid-senior management level<br>• Lower subcontractor costs<br>• Automation<br>• Pyramidisation<br>• Likely lower real estate costs as a reasonable %age of staff works from home on a permanent basis | • Utilisation<br>• Offshore shift |

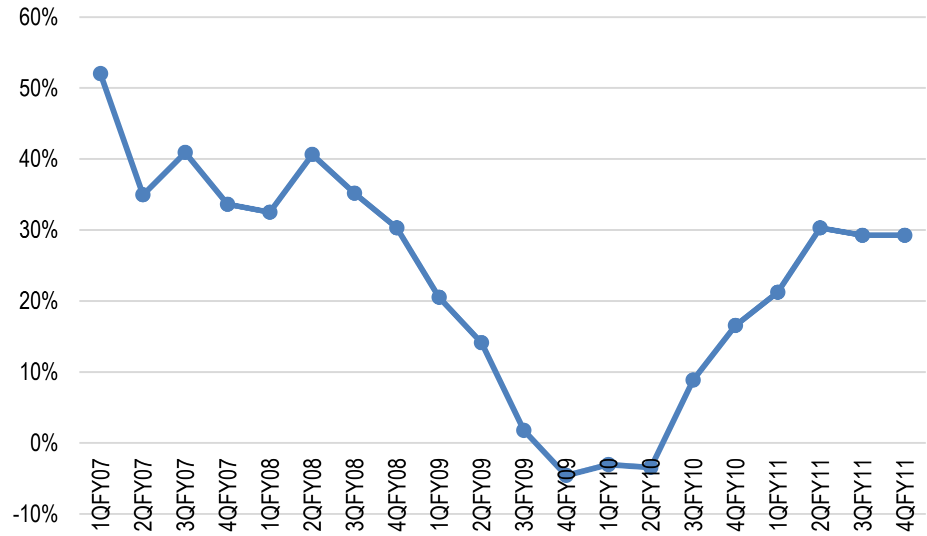
*Source: Nirmal Bang Institutional Equities Research*

**Exhibit 20: Exposure of individual companies to various sectors (% of total revenue in 3QFY20)**

| | BFSI | Manufacturing | CMT | Telecom | Life Science and Healthcare | Retail, Transport & logistics and CPG | Hi-Tech | Travel and Hospitality | Energy and Utilities | Technology, Media and Entertainment | Regional Market & Others |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TCS | 30.8 | 9.8 | 6.9 | - | 7.6 | 15.5 | 8.7 | - | - | - | 20.7 |
| Infosys | 31.5 | 17.9 | - | 13.0 | 6.7 | 15.3 | - | - | 12.8 | - | 2.8 |
| Wipro | 30.9 | 21.0 | 5.7 | - | 13.1 | 16.9 | - | - | 12.9 | - | - |
| HCL Tech | 21.6 | 21.0 | - | 9.0 | 12.2 | 10.3 | - | - | 10.9 | - | 15.1 |
| Tech Mahindra | 13.2 | 17.3 | 42.6 | | - | 7.0 | - | - | - | 7.6 | 12.2 |
| Persistent | 30.5 | - | - | - | 18.9 | - | 50.6 | - | - | - | - |
| Mindtree | 21.0 | - | - | - | - | 21.0 | - | 17.0 | - | 42.0 | - |

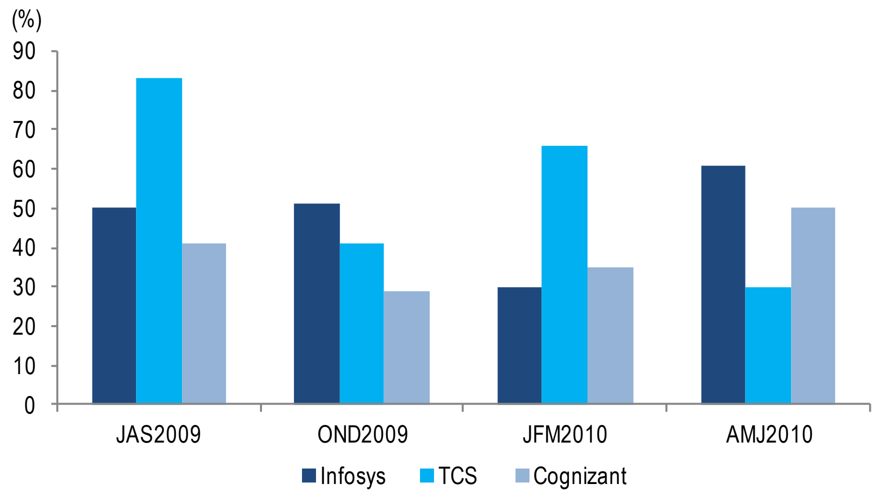
*Source: Companies, Nirmal Bang Institutional Equities Research*
Note: CMT - Communication, Media and Telecom

**Exhibit 21: TCS + Infosys revenue goes down during the GFC and shows a V shaped recovery due to pent up demand**




*Source: Companies,Nirmal Bang Institutional Equities Research*

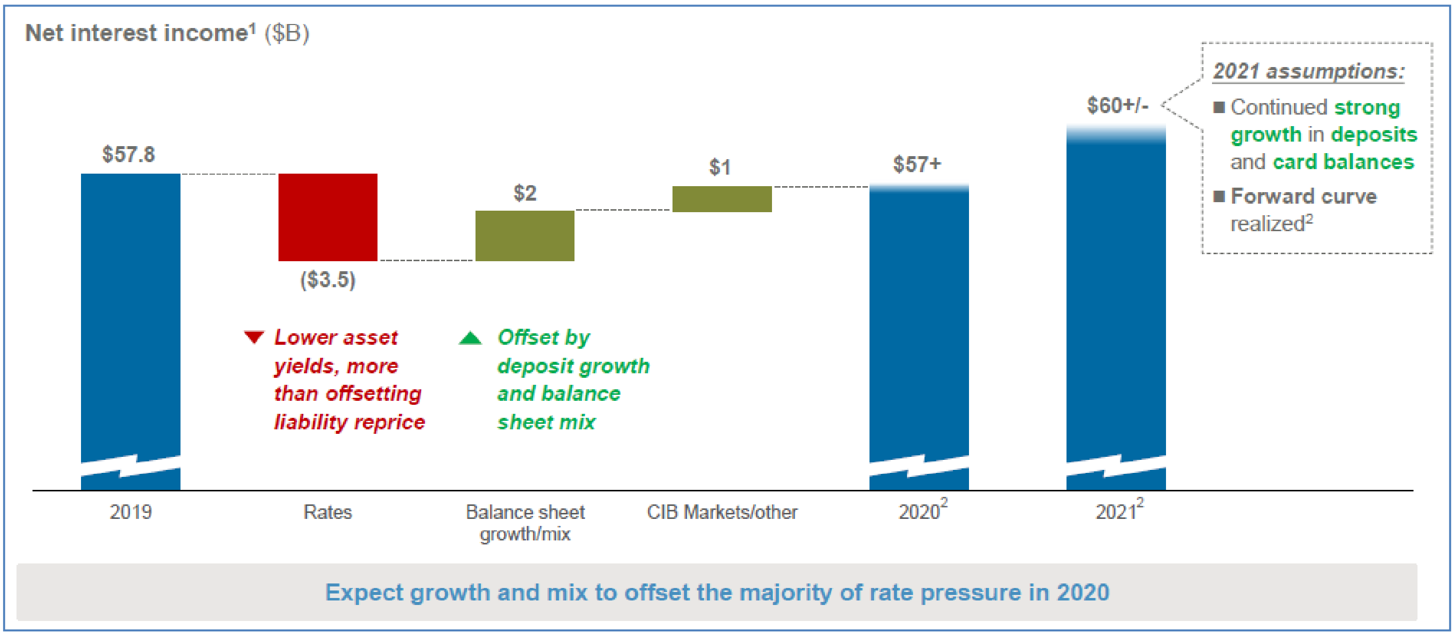
**Exhibit 22: Incremental revenue coming from BFSI sector for leading companies during the 2009-2010 demand spike**




*Source: Companies,Nirmal Bang Institutional Equities Research*

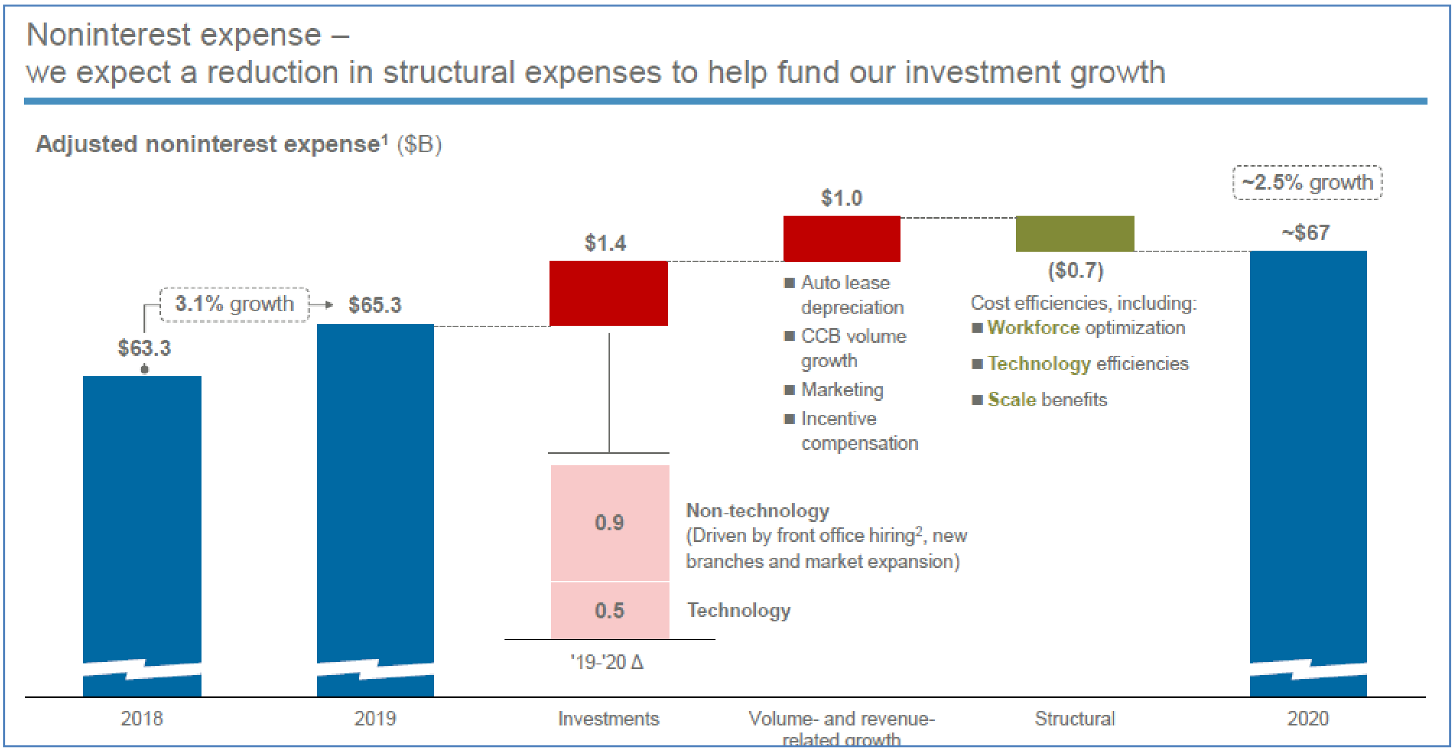
Exhibit 20 gives one a fair idea about the exposure to each company on a vertical basis. We expect BFSI, Energy, Travel and Hospitality, Manufacturing (especially Auto and Aerospace) to be problem areas. There could be some positive rub off due to Life sciences & healthcare and CMT verticals.

**Exhibit 23: JP Morgan's take on Net interest progression in 2020 and 2021**




*Source: JP Morgan, Nirmal Bang Institutional Equities Research*

**Exhibit 24: JP Morgan's take on how non-interest expenses are going to move in 2020**




*Source: JP Morgan, Nirmal Bang Institutional Equities Research*

**Exhibit 25: Digital training – what is happening here**

| Company | Employee numbers with Digital skills at the start | Employee numbers with Digital skills, currently |
|---|---|---|
| TCS | 120,000 digitally trained as of 4QFY16 | 327,000 employees on emerging technologies and over 404,000 employees on agile methodologies – 3QF2Y0 |
| Infosys | - | ~190,000 trained in agile methodologies as of 2QFY20 |
| Wipro | 8200 people trained in Digital in 1QFY17 | 130,000 employees trained in Digital skills as of 3QFY19 |

*Source: Companies, Nirmal Bang Institutional Equities Research*

**Latest reports on stocks under coverage (latest 2 each)**

Tata Consultancy Services- 3QFY20 Result Update- Weak exit challenges FY21; Not trapping large bank innovation spend?

Tata Consultancy Services- 2QFY20 Result Update- 1H did not deliver; 2H recovery visibility low; margin a challenge

Infosys- 3QFY20 Result Update- EBIT margin, core services and net new TCV are dampeners

Infosys- Analyst meet Update-Growth margin trade off will be a point of concern

Wipro- 3QFY20 Result Update- Broad-based growth elusive. Automation continues to deliver

Wipro- 2QFY20 Result Update- Margin driven earnings growth may have peaked

HCL Technologies- 3QFY20 Result Update- Product business hitting its stride; Order inflow tad weak

HCL Technologies- Company Update- Software will be the big valuation swing factor

Tech Mahindra- 3QFY20 Result Update- Mega TCV streak continues; Growth Vs. Margin debate back

Tech Mahindra- Analyst Meet Update- Big deals in the bag, conversion will be key. Margin challenge likely

Mindtree- 3QFY20 Result Update- 3Q Weak; Weak renewals. Pivoting to a sustainable model

Mindtree- 2QFY20 Result Update- Stabilising, but will not meet earlier FY20 expectations

**Persistent Systems- 3QFY20 Result Update- IBM IP business fails to deliver**

Persistent Systems- 2QFY20 Result Update- Recovery in IP and Enterprise Services

## *Valuation: -1.5SD below 10 year mean forward P/E of TCS is our frame of reference*

While continuing with our cautious view on the sector, our reference target multiple for the sector continues to be TCS and has been changed to -1.5SD below the past ten-year mean against the 1SD below 5 year mean that we were using previously. This change is based on the study of the valuations that the IT industry got in 2008-2009 time frame. Target P/E multiples for other stocks are based on subjective discounts to the multiple assigned to TCS. Despite assigning the highest target P/E multiple to TCS, we continue with a Sell recommendation as we believe the current valuations are unsustainable over the next 12 months on the back of likely sharp consensus revenue downgrades.

**Why we use TCS as the benchmark for valuation purposes**: It reflects the strong position that TCS holds in the Indian IT services industry through: (1) Breadth and depth in service lines, geographies and verticals, (2) Ability to stitch together integrated offerings, (3) Significant lead in automation skills, (4) Strong and stable base of experienced employees with contextual knowledge and (5) Strong product, platform and agile delivery capabilities. The strengths of TCS will help it gain market share through a 3-year period despite its size and also help to keep its margins among industry's best.

**Exhibit 26: Our Relative Valuation Matric and rationale**

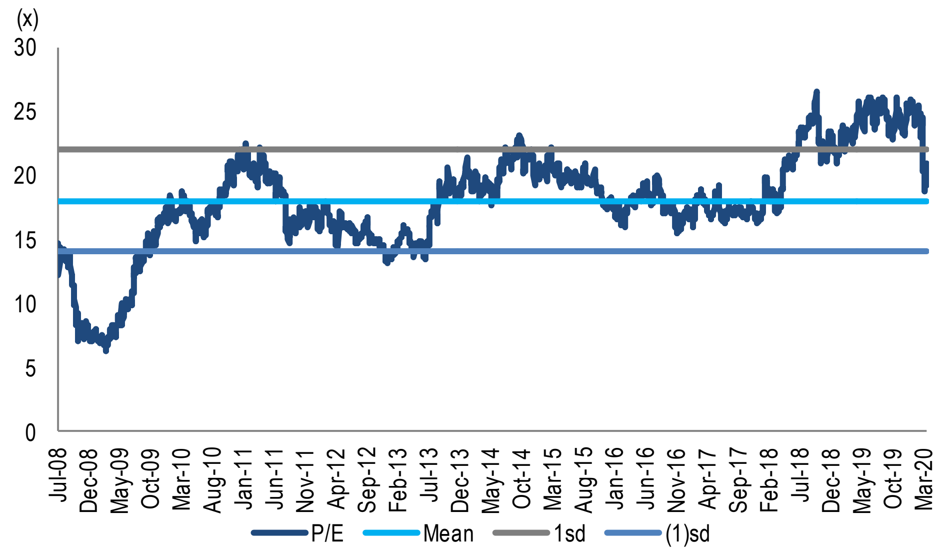
| Company | Target PE multiple | Discount given to TCS | Rationale for the discount |
|---|---|---|---|
| TCS | -1.5SD below the 10-year mean 15.1x | 0% | Given above |
| Infosys | 13.6x | 10% | Lower 'legacy services' capabilities in terms of automation. Lower platform skills. Lower margins, ROIC. Seems to be focused on a growth strategy that has kept margins under pressure. Good large deal TCV traction ever since the new CEO came in in early 2018. |
| HCLT | 11.3x | 25% | Weaker organic growth in the last few years. Significant concentration in IMS. Significant investment in products business where credentials need to be proved. Lower margin and much lower ROIC. |
| Wipro | 9.8x | 35% | Weak overall growth. Company specific issues have impacted growth in the last 10 years. Margins have recovered but are lower than peers. Lower ROIC partly due to lower margins and partly due to ineffective M&A. Currently it also has new CEO coming in and he/she could take a few quarters to settle down. |
| Tech Mahindra | 9.8x | 35% | High vertical concentration in Communications. Partly M&A driven growth. Margins and ROIC are poor. Has struggled to balance growth and margins. Lately the company has had two mega deals which could help growth in FY21.but not much else. |
| Mindtree | 10.6x | 30% | Has a weak business model which is dependent on short term discretionary projects. Has a large exposure to travel and hospitality sector – 17% - which could see substantial pressure in the coming quarters. Have reduced discount from the past due to the L&T parentage and the possibility of a 2-way or a 3-way merger. Also the recent focus on annuity revenues is a positive |
| Persistent Systems | | 40% | Has had a terrible run in the last 4-5 years where nothing much has worked. Would have given it a higher discount but for the fact that the new management seems to have the right ideas. But not sure how of that can be implemented in the current environment. |

*Source: Companies, Nirmal Bang Institutional Equities Research*

## *Long term PE multiple charts indicate extreme moves in terms of valuation during crises*

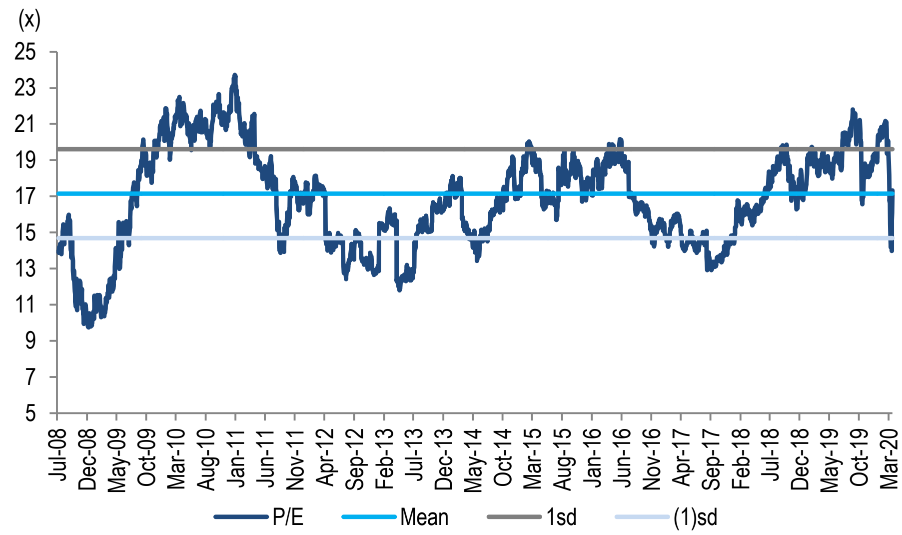
If one goes back to the 2008-2009 time frame one would see that stocks like Infosys were at significantly lower levels in terms of valuations that the target multiples that have attributed to them. A look at the forward PE multiple chart of TCS also conveys the picture that forced liquidation led to absurd valuations for a certain period of time. So we think 15.1x Target PE we have attributed to TCS is generous one.

**Exhibit 27: 12-year TCS 12 month forward PE Chart**




*Source: Bloomberg, Nirmal Bang Institutional Equities Research*

**Exhibit 28: 12-year Infosys 12 month forward PE Chart**




*Source: Bloomberg, Nirmal Bang Institutional Equities Research*

## Risks to our view:

**The upside risks to our stock target prices include:** (1) A faster than economic turnaround than what we have anticipated post the Covid-19 crisis (2) A higher-than-currently expected depreciation of the Indian rupee or INR. (3) A sustained flight away from financials as India growth collapses and a new stressed asset cycle emerges.

**Downside risks to our target prices include:** (1) A deeper than expected slowdown in the US/global economy as Covid-19 is not controlled by June 2020. (2) Faster-than-expected return to Indian 'financials' as stressed asset provisioning is not as high as currently feared.

## Summary financials

### Exhibit 29: TCS

| Y/E March (Rsbn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| Revenues (Rsbn) | 1,231 | 1,465 | 1,575 | 1,600 | 1,730 |
| *YoY growth (%)* | *4.4* | *19.0* | *7.5* | *1.6* | *8.1* |
| EBIT (Rsbn) | 305 | 375 | 388 | 392 | 421 |
| *% of sales* | *24.8* | *25.6* | *24.7* | *24.5* | *24.3* |
| PAT (Rsbn) | 258 | 315 | 328 | 325 | 346 |
| *YoY growth (%)* | *-1.8* | *21.9* | *4.2* | *-0.8* | *6.4* |
| FDEPS (Rs) | 67.0 | 83.1 | 87.4 | 86.7 | 92.3 |
| *RoE (%)* | 29.3 | 35.0 | 37.0 | 38.4 | 41.4 |
| *RoCE (%)* | 30.7 | 35.7 | 35.6 | 35.9 | 38.7 |
| *RoIC (%)* | 57.3 | 61.8 | 56.1 | 54.1 | 56.3 |
| P/E (x) | 27.6 | 22.3 | 21.2 | 21.3 | 20.1 |
| P/BV (x) | 8.1 | 7.7 | 8.3 | 8.4 | 8.6 |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 30: Infosys

| Y/E March (Rsbn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| Revenues (Rsbn) | 705 | 827 | 910 | 921 | 992 |
| *YoY growth (%)* | *3.0* | *17.2* | *10.1* | *1.2* | *7.7* |
| EBIT (Rsbn) | 171 | 189 | 196 | 190 | 206 |
| *EBIT (%)* | *24.3* | *22.8* | *21.5* | *20.6* | *20.7* |
| Adj. PAT(Rsbn) | 147 | 157 | 167 | 160 | 172 |
| *YoY growth (%)* | 2.3 | 6.8 | 6.6 | (4.5) | 7.7 |
| FDEPS-adjusted (Rs) | 32.5 | 36.0 | 39.2 | 37.6 | 40.5 |
| *RoE (%)* | *21.9* | *24.1* | *27.8* | *28.1* | *29.0* |
| *RoCE (%)* | *30.5* | *32.8* | *36.8* | *36.5* | *37.6* |
| *RoIC (%)* | *44.9* | *47.5* | *45.2* | *41.1* | *42.3* |
| P/E (x) | 20.1 | 18.2 | 16.7 | 17.4 | 16.2 |
| P/BV (x) | 4.4 | 4.4 | 5.0 | 4.8 | 4.6 |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 31: Wipro

| Y/E March (Rsbn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| Revenues(Rsbn) | 545 | 586 | 610 | 607 | 643 |
| *YoY growth (%)* | *(1.0)* | *7.5* | *4.1* | *(0.5)* | *6.0* |
| EBIT (Rsbn) | 84 | 100 | 108 | 106 | 112 |
| *EBIT (%)* | *15.5* | *17.1* | *17.6* | *17.5* | *17.4* |
| Adj. PAT (Rsbn) | 80 | 90 | 99 | 99 | 108 |
| *YoY growth (%)* | *(5.7)* | *12.4* | *10.3* | *(0.2)* | *8.8* |
| FDEPS (Rs) | 16.8 | 18.6 | 17.0 | 17.4 | 18.9 |
| *RoE (%)* | *15.9* | *17.0* | *17.5* | *16.2* | *15.3* |
| *RoCE (%)* | *12.7* | *15.0* | *15.5* | *14.3* | *13.4* |
| *RoIC (%)* | *24.5* | *30.4* | *33.7* | *32.2* | *33.0* |
| P/E (x) | 11.1 | 10.0 | 10.9 | 10.7 | 9.8 |
| P/BV (x) | 2.2 | 1.9 | 1.9 | 1.6 | 1.4 |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 32: HCL Technologies

| Y/E March (Rsmn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| Revenues (Rsmn) | 505,700 | 604,280 | 704,140 | 719,421 | 771,310 |
| *YoY growth (%)* | *8.2* | *19.5* | *16.5* | *2.2* | *7.2* |
| EBIT (Rsmn) | 99,880 | 118,210 | 136,870 | 129,280 | 146,420 |
| *EBIT (%)* | *19.8* | *19.6* | *19.4* | *18.0* | *19.0* |
| Adj. PAT (Rsmn) | 87,820 | 101,230 | 108,292 | 101,987 | 115,634 |
| *YoY growth (%)* | *4.0* | *15.3* | *7.0* | *-5.8* | *13.4* |
| FDEPS (Rs) | 31.5 | 36.8 | 39.9 | 37.6 | 42.6 |
| *RoE (%)* | *25.0* | *25.8* | *23.2* | *18.2* | *17.7* |
| *RoCE (%)* | *27.1* | *27.4* | *25.2* | *19.8* | *19.6* |
| *RoIC (%)* | *38.9* | *36.3* | *31.0* | *23.4* | *24.5* |
| P/E(x) | 13.8 | 11.8 | 10.8 | 11.5 | 10.2 |
| P/BV (x) | 1.6 | 1.4 | 1.1 | 1.0 | 0.8 |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 33: Tech Mahindra

| Y/E March (Rsmn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| Revenues | 307,730 | 347,421 | 371,692 | 393,479 | 419,929 |
| *YoY (%)* | *5.6* | *12.9* | *7.0* | *5.9* | *6.7* |
| *Gross profit* | *92,431* | *113,831* | *110,187* | *116,525* | *125,308* |
| *% of sales* | *30.0* | *32.8* | *29.6* | *29.6* | *29.8* |
| EBIT | 36,321 | 52,076 | 45,427 | 47,149 | 54,619 |
| *% of sales* | *11.8* | *15.0* | *12.2* | *12.0* | *13.0* |
| PAT | 38,001 | 42,735 | 42,251 | 41,006 | 48,824 |
| *YoY (%)* | *35.1* | *12.5* | *(1.1)* | *(2.9)* | *19.1* |
| FDEPS | 42.8 | 48.1 | 47.6 | 46.2 | 55.0 |
| *RoE (%)* | *21.5* | *21.9* | *19.4* | *17.2* | *18.3* |
| *RoCE (%)* | *17.2* | *22.8* | *18.6* | *17.5* | *18.3* |
| *RoIC (%)* | *25.8* | *37.9* | *31.2* | *29.5* | *34.1* |
| P/E(x) | 11.6 | 10.3 | 10.4 | 10.7 | 9.0 |
| P/BV (x) | 2.3 | 2.2 | 2.0 | 1.8 | 1.6 |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 34: Mindtree

| Y/E March (Rsmn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| Revenues (Rsmn) | 54,628 | 70,215 | 76,649 | 79,597 | 86,549 |
| *YoY growth (%)* | *4.3* | *28.5* | *9.2* | *3.8* | *8.7* |
| EBIT (Rsmn) | 5,692 | 9,004 | 7,715 | 9,340 | 10,541 |
| *as % of sales* | 10.4 | 12.8 | 10.1 | 11.7 | 12.2 |
| Adj. PAT (Rsmn) | 5,701 | 7,541 | 6,113 | 7,141 | 8,140 |
| *YoY growth (%)* | *37.1* | *32.3* | *-18.9* | *16.8* | *14.0* |
| FDEPS (Rs) | 34.6 | 45.8 | 37.1 | 43.4 | 49.4 |
| *RoE (%)* | *21.4* | *24.9* | *19.1* | *21.9* | *22.6* |
| *RoCE (%)* | *21.7* | *31.5* | *23.7* | *25.8* | *26.7* |
| *RoIC (%)* | *32.9* | *46.4* | *32.4* | *37.6* | *44.9* |
| P/E (x) | 24.2 | 18.1 | 22.4 | 19.1 | 16.8 |
| P/BV (x) | 5.0 | 4.1 | 4.4 | 4.0 | 3.6 |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 35: Persistent Systems

| Y/E March (Rsmn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| Revenues (Rsmn) | 30,337 | 33,659 | 35,780 | 36,173 | 38,455 |
| *YoY growth (%)* | *5.4* | *11.0* | *6.3* | *1.1* | *6.3* |
| EBIT (Rsmn) | 3,102 | 4,233 | 3,223 | 3,004 | 3,870 |
| *% of sales* | 10.2 | 12.6 | 9.0 | 8.3 | 10.1 |
| Adj. PAT (Rsmn) | 3,231 | 3,517 | 3,433 | 3,406 | 4,247 |
| *YoY growth (%)* | *7.2* | *8.9* | *-2.4* | *-0.8* | *24.7* |
| FDEPS (Rs) | 40.4 | 44.1 | 44.8 | 44.4 | 55.4 |
| *RoE (%)* | *15.4* | *18.9* | *13.7* | *12.1* | *14.0* |
| *RoCE (%)* | *15.3* | *18.9* | *13.7* | *12.1* | *14.0* |
| *RoIC (%)* | *29.7* | *44.2* | *33.1* | *30.7* | *43.3* |
| P/E (x) | 13.5 | 12.3 | 12.2 | 12.3 | 9.8 |
| P/BV (x) | 2.0 | 1.8 | 1.8 | 1.6 | 1.4 |

*Source: Company, Nirmal Bang Institutional Equities Research*

## Change in our estimates

### Exhibit 36: TCS

| | New | | | Old | | | *Change (%)* | | |
|---|---|---|---|---|---|---|---|---|---|
| | FY20E | FY21E | FY22E | FY20E | FY21E | FY22E | *FY20E* | *FY21E* | *FY22E* |
| INR/USD | 71.0 | 74.0 | 75.2 | 71.9 | 74.6 | 76.4 | *(1.3)* | *(0.7)* | *(1.6)* |
| USD revenues (US$mn) | 22,185 | 21,616 | 23,014 | 22,090 | 22,336 | 23,179 | *0.4* | *(3.2)* | *(0.7)* |
| Revenues (Rsbn) | 1,575 | 1,600 | 1,730 | 1,588 | 1,665 | 1,771 | *(0.9)* | *(3.9)* | *(2.3)* |
| EBIT (Rsbn) | 388 | 392 | 421 | 388 | 412 | 446 | *0.1* | *(4.7)* | *(5.7)* |
| *EBIT margin (%)* | *24.7* | *24.5* | *24.3* | *24.4* | *24.7* | *25.2* | - | - | - |
| PAT (Rsbn) | 328 | 325 | 346 | 336 | 349 | 376 | *(2.4)* | *(6.7)* | *(7.8)* |
| FDEPS (Rs) | 87.4 | 86.7 | 92.3 | 89.5 | 93.0 | 100.1 | *(2.4)* | *(6.7)* | *(7.8)* |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 37: Infosys

| | New | | | Old | | | *Change (%)* | | |
|---|---|---|---|---|---|---|---|---|---|
| | FY20E | FY21E | FY22E | FY20E | FY21E | FY22E | *FY20E* | *FY21E* | *FY22E* |
| INR/USD | 70.9 | 74.0 | 75.2 | 71.9 | 74.6 | 76.4 | *(1.3)* | *(0.7)* | *(1.6)* |
| USD revenues (US$mn) | 12,832 | 12,444 | 13,196 | 12,860 | 13,251 | 13,506 | *(0.2)* | *(6.1)* | *(2.3)* |
| Revenues (Rsbn) | 910 | 921 | 992 | 924 | 988 | 1032 | *(1.6)* | *(6.8)* | *(3.9)* |
| EBIT (Rsbn) | 196 | 190 | 206 | 205 | 217 | 224 | *(4.3)* | *(12.7)* | *(8.3)* |
| *EBIT margin (%)* | *21.5* | *20.6* | *20.7* | *22.1* | *22.0* | *21.7* | - | - | - |
| PAT -adjusted (Rsbn) | 167 | 160 | 172 | 170 | 176 | 182 | *(1.9)* | *(9.6)* | *(5.6)* |
| FDEPS-adjusted (Rs) | 39.2 | 37.6 | 40.5 | 39.9 | 41.5 | 42.8 | *(1.8)* | *(9.4)* | *(5.4)* |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 38: Wipro

| | New | | | Old | | | *Change (%)* | | |
|---|---|---|---|---|---|---|---|---|---|
| | FY20E | FY21E | FY22E | FY20E | FY21E | FY22E | *FY20E* | *FY21E* | *FY22E* |
| INR/USD | 72.5 | 75.0 | 76.2 | 72.6 | 74.6 | 76.4 | *(0.1)* | *0.6* | *(0.3)* |
| USD revenues (US$mn) | 8,276 | 7,902 | 8,261 | 8,330 | 8,201 | 8,207 | *(0.7)* | *(3.7)* | *0.7* |
| Revenues (Rsbn) | 610 | 607 | 643 | 619 | 628 | 644 | *(1.5)* | *(3.4)* | *(0.1)* |
| EBIT (Rsbn) | 108 | 106 | 112 | 110 | 113 | 115 | *(2.5)* | *(6.1)* | *(2.9)* |
| *EBIT margin (%)* | *17.6* | *17.5* | *17.4* | *17.8* | *18.0* | *17.9* | - | | - |
| PAT (Rsbn) | 99 | 99 | 108 | 104 | 111 | 117 | *(4.5)* | *(10.8)* | *(7.5)* |
| FDEPS (Rs) | 17.0 | 17.4 | 18.9 | 17.4 | 18.7 | 19.6 | *(2.5)* | *(7.0)* | *(3.5)* |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 39: HCL Technologies

| | New | | | Old | | | *Change (%)* | | |
|---|---|---|---|---|---|---|---|---|---|
| | FY20E | FY21E | FY22E | FY20E | FY21E | FY22E | *FY20E* | *FY21E* | *FY22E* |
| INR/USD | 72.0 | 74.0 | 75.2 | 72.3 | 74.6 | 76.4 | *(0.4)* | *(0.7)* | *(1.6)* |
| USD revenues (US$mn) | 9,928 | 9,721 | 10,261 | 9,971 | 10,308 | 10,751 | *(0.4)* | *(5.7)* | *(4.5)* |
| Revenues (Rsmn) | 704,140 | 719,421 | 771,310 | 716,737 | 768,511 | 821,345 | *(1.8)* | *(6.4)* | *(6.1)* |
| EBIT (Rsmn) | 136,870 | 129,280 | 146,420 | 138,378 | 147,280 | 157,398 | *(1.1)* | *(12.2)* | *(7.0)* |
| *EBIT margin (%)* | *19.4* | *18.0* | *19.0* | *19.3* | *19.2* | *19.2* | - | - | - |
| PAT (Rsmn) | 108,292 | 101,987 | 115,634 | 107,406 | 114,187 | 122,926 | *0.8* | *(10.7)* | *(5.9)* |
| FDEPS (Rs) | 39.9 | 37.6 | 42.6 | 39.6 | 42.1 | 45.3 | *0.8* | *(10.7)* | *(5.9)* |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 40: Tech Mahindra

| | New | | | Old | | | Change (%) | | |
|---|---|---|---|---|---|---|---|---|---|
| | FY20E | FY21E | FY22E | FY20E | FY21E | FY22E | *FY20E* | *FY21E* | *FY22E* |
| INR/USD | 70.8 | 74.0 | 75.2 | 71.8 | 74.6 | 76.4 | *(1.3)* | *(0.7)* | *(1.6)* |
| USD revenues (US$mn) | 5,242 | 5,317 | 5,587 | 5,327 | 5,505 | 5,642 | *(1.6)* | *(3.4)* | *(1.0)* |
| Revenues (Rsmn) | 371,692 | 393,479 | 419,929 | 382,913 | 410,364 | 431,021 | *(2.9)* | *(4.1)* | *(2.6)* |
| EBIT (Rsmn) | 45,427 | 47,149 | 54,619 | 53,866 | 60,124 | 62,511 | *(15.7)* | *(21.6)* | *(12.6)* |
| *EBIT margin (%)* | *12.2* | *12.0* | *13.0* | *14.1* | *14.7* | *14.5* | - | - | - |
| PAT (Rsmn) | 41,226 | 40,644 | 48,462 | 46,020 | 49,373 | 53,070 | *(10.4)* | *(17.7)* | *(8.7)* |
| EPS (Rs) | 47.6 | 46.2 | 55.0 | 52.3 | 56.0 | 60.2 | *(9.0)* | *(17.5)* | *(8.6)* |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 41: Mindtree

| | New | | | Old | | | Change (%) | | |
|---|---|---|---|---|---|---|---|---|---|
| | FY20E | FY21E | FY22E | FY20E | FY21E | FY22E | *FY20E* | *FY21E* | *FY22E* |
| INR/USD | 70.5 | 74.0 | 75.2 | 71.5 | 74.6 | 76.4 | *(1.3)* | *(0.7)* | *(1.6)* |
| USD revenues (US$mn) | 1,080 | 1,076 | 1,151 | 1,096 | 1,080 | 1,101 | *(1.5)* | *(0.4)* | *4.6* |
| Revenues (Rsmn) | 76,649 | 79,597 | 86,549 | 78,822 | 80,532 | 84,133 | *(2.8)* | *(1.2)* | *2.9* |
| EBIT (Rsmn) | 7,715 | 9,340 | 10,541 | 8,385 | 10,900 | 11,424 | *(8.0)* | *(14.3)* | *(7.7)* |
| *EBIT margin (%)* | *10.1* | *11.7* | *12.2* | *10.6* | *13.5* | *13.6* | - | - | - |
| PAT (Rsmn) | 6,113 | 7,141 | 8,140 | 6,310 | 8,282 | 9,403 | *(3.1)* | *(13.8)* | *(13.4)* |
| EPS (Rs) | 37.1 | 43.4 | 49.4 | 38.3 | 50.3 | 57.1 | *(3.1)* | *(13.8)* | *(13.4)* |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 42: Persistent Systems

| | New | | | Old | | | Change (%) | | |
|---|---|---|---|---|---|---|---|---|---|
| | FY20E | FY21E | FY22E | FY20E | FY21E | FY22E | *FY20E* | *FY21E* | *FY22E* |
| INR/USD | 71.0 | 74.0 | 75.2 | 71.8 | 74.6 | 76.4 | *(1.1)* | *(0.7)* | *(1.6)* |
| USD revenues (USDmn) | 504 | 489 | 512 | 510.0 | 505.6 | 510.2 | *(1.2)* | *(3.3)* | *0.3* |
| Revenues (Rsmn) | 35,780 | 36,173 | 38,455 | 36674 | 37691 | 38976 | *(2.4)* | *(4.0)* | *(1.3)* |
| EBIT (Rsmn) | 3,223 | 3,004 | 3,870 | 4260 | 4108 | 4238 | *(24.3)* | *(26.9)* | *(8.7)* |
| *EBIT margin (%)* | *9.0* | *8.3* | *10.1* | *11.6* | *10.9* | *10.9* | - | - | - |
| PAT (Rsmn) | 3,433 | 3,406 | 4,247 | 4195 | 4192 | 4386 | *(18.2)* | *(18.7)* | *(3.2)* |
| FDEPS (Rs) | 44.8 | 44.4 | 55.4 | 54.7 | 54.7 | 57.2 | *(18.2)* | *(18.7)* | *(3.2)* |

*Source: Company, Nirmal Bang Institutional Equities Research*

## Financials -TCS

### Exhibit 43: Income statement

| Y/E March (Rsbn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| **Average INR/USD** | **64.5** | **70.1** | **71.0** | **74.0** | **75.2** |
| **Net sales (USDmn)** | **19,089** | **20,913** | **22,185** | **21,616** | **23,014** |
| ***-Growth (%)*** | ***8.6*** | ***9.6*** | ***6.1*** | ***-2.6*** | ***6.5*** |
| **Net sales** | 1,231 | 1,465 | 1,575 | 1,600 | 1,730 |
| *-Growth (%)* | *4.4* | *19.0* | *7.5* | *1.6* | *8.1* |
| Cost of sales & services | 713 | 852 | 928 | 944 | 1,030 |
| *Gross margin* | 518 | 613 | 647 | 656 | 700 |
| *% of sales* | *42.1* | *41.9* | *41.1* | *41.0* | *40.5* |
| SG& A expenses | 213 | 239 | 259 | 263 | 279 |
| *% of sales* | *17.3* | *16.3* | *16.4* | *16.4* | *16.1* |
| *EBIT* | 305 | 375 | 388 | 392 | 421 |
| ***EBIT margin (%)*** | ***24.8*** | ***25.6*** | ***24.7*** | ***24.5*** | ***24.3*** |
| Other income (net) | 36 | 41 | 41 | 35 | 34 |
| PBT | 341 | 416 | 429 | 428 | 455 |
| *-PBT margin (%)* | 27.7 | 28.4 | 27.3 | 26.8 | 26.3 |
| Provision for tax | 82 | 100 | 100 | 101 | 108 |
| *Effective tax rate (%)* | *24.1* | *24.1* | *23.4* | *23.7* | *23.7* |
| Minority interest | 1 | 1 | 1 | 1 | 1 |
| Net profit | 258 | 315 | 328 | 325 | 346 |
| *-Growth (%)* | *-1.8* | *21.9* | *4.2* | *-0.8* | *6.4* |
| *-Net profit margin (%)* | *21.0* | *21.5* | *20.8* | *20.3* | *20.0* |
| Average shares outstanding-Basic | 3,829 | 3,790 | 3,752 | 3,752 | 3,752 |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 44: Cash flow

| Y/E March (Rsbn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| **EBIT** | **305** | **375** | **388** | **392** | **421** |
| (Inc.)/dec. in working capital | (20) | (50) | 80 | 2 | (28) |
| **Cash flow from operations** | **285** | **325** | **468** | **395** | **392** |
| Other income | 36 | 41 | 41 | 35 | 34 |
| Depreciation &amortisation | 20 | 24 | 28 | 26 | 27 |
| Financial expenses | - | - | - | - | - |
| Tax paid | (82) | (100) | (100) | (101) | (108) |
| Dividends paid | (116) | (136) | (339) | (335) | (362) |
| **Net cash from operations** | **143** | **154** | **97** | **21** | **(16)** |
| Capital expenditure | (19) | (25) | (30) | (27) | (27) |
| Net cash after capex | 124 | 129 | 68 | (6) | (44) |
| Inc./(dec.) in debt | (0) | (2) | (1) | - | - |
| (Inc.)/dec. in investments | 60 | 67 | 31 | - | - |
| Equity issue/(share buyback) | (160) | (160) | - | - | - |
| **Cash from financial activities** | **(101)** | **(95)** | **30** | **-** | **-** |
| Others | 5 | 23 | (125) | (1) | (1) |
| Opening cash balance | 40 | 69 | 127 | 100 | 93 |
| Closing cash balance | 69 | 126 | 100 | 93 | 48 |
| Change in cash balance | 29 | 57 | (27) | (7) | (45) |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 45: Balance sheet

| Y/E March (Rsbn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| Equity capital | 1.9 | 3.8 | 3.8 | 3.8 | 3.8 |
| Reserves & surplus | 875 | 916 | 848 | 839 | 824 |
| Net worth | 876 | 920 | 852 | 843 | 827 |
| Minority Interest | - | - | - | - | - |
| Other liabilities | 29 | 29 | 85 | 84 | 93 |
| Total loans | 2 | 1 | - | - | - |
| Lease Laibilities | | | 12 | 12 | 12 |
| **Total liabilities** | **908** | **950** | **949** | **939** | **933** |
| Goodwill | 39 | 40 | 41 | 41 | 41 |
| Net block (incl. CWIP) | 116 | 117 | 118 | 119 | 120 |
| Investments | 3 | 2 | 2 | 2 | 2 |
| Deferred tax asset - net | 34 | 26 | 30 | 30 | 33 |
| Other non-current assets | 76 | 59 | 51 | 51 | 54 |
| Right of use asset | | | 66 | 66 | 66 |
| Other current assets | 427 | 470 | 420 | 419 | 428 |
| Debtors | 320 | 330 | 360 | 357 | 397 |
| Cash & bank balance | 49 | 72 | 53 | 53 | 53 |
| Bank deposits | 21 | 54 | 47 | 40 | (5) |
| Total current assets | 815 | 926 | 880 | 868 | 873 |
| Total current liabilities | 176 | 221 | 240 | 238 | 255 |
| Net current assets | 639 | 706 | 640 | 630 | 617 |
| **Total assets** | **908** | **950** | **949** | **939** | **933** |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 46: Key ratios

| Y/E March | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| **Per Share (Rs)** | | | | | |
| EPS | 67.0 | 83.1 | 87.4 | 86.7 | 92.3 |
| FDEPS | 67.0 | 83.1 | 87.4 | 86.7 | 92.3 |
| Dividend Per Share | 25.1 | 29.9 | 75.0 | 74.0 | 80.0 |
| Dividend Yield (%) | 1.4 | 1.6 | 4.1 | 4.0 | 4.3 |
| Book Value | 228.9 | 240.3 | 222.6 | 220.2 | 216.1 |
| Dividend Payout Ratio (excl DT) | 37.2 | 36.0 | 85.8 | 85.3 | 86.7 |
| **Return ratios (%)** | | | | | |
| RoE | 29.3 | 35.0 | 37.0 | 38.4 | 41.4 |
| RoCE | 30.7 | 35.7 | 35.6 | 35.9 | 38.7 |
| RoIC | 57.3 | 61.8 | 56.1 | 54.1 | 56.3 |
| **Turnover Ratios** | | | | | |
| Asset Turnover Ratio | 1.1 | 1.3 | 1.3 | 1.4 | 1.5 |
| Debtor Days (incl. unbilled Rev) | 95 | 82 | 83 | 81 | 84 |
| Working Capital Cycle Days | 63 | 72 | 62 | 61 | 63 |
| **Valuation ratios (x)** | | | | | |
| P/E | 27.6 | 22.3 | 21.2 | 21.3 | 20.1 |
| P/BV | 8.1 | 7.7 | 8.3 | 8.4 | 8.6 |
| EV/EBITDA | 21.6 | 17.6 | 16.9 | 16.8 | 15.7 |
| EV/Sales | 5.7 | 4.8 | 4.5 | 4.4 | 4.1 |
| M-cap/Sales | 5.8 | 4.8 | 4.5 | 4.4 | 4.1 |

*Source: Company, Nirmal Bang Institutional Equities Research*

## Financials - Infosys

### Exhibit 47: Income statement

| Y/E March (Rsbn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| **Average INR/USD** | **64.5** | **70.0** | **70.9** | **74.0** | **75.2** |
| **Net Sales (USD mn)** | **10,940** | **11,799** | **12,832** | **12,444** | **13,196** |
| ***-Growth (%)*** | ***7.2*** | ***7.9*** | ***8.8*** | ***(3.0)*** | ***6.0*** |
| **Net Sales** | **705** | **827** | **910** | **921** | **992** |
| *-Growth (%)* | *3.0* | *17.2* | *10.1* | *1.2* | *7.7* |
| Direct Costs | 451 | 539 | 609 | 623 | 670 |
| Gross Margin | 254 | 288 | 301 | 298 | 322 |
| *% of sales* | *36.0* | *34.8* | *33.1* | *32.3* | *32.4* |
| SG& A | 82 | 99 | 105 | 108 | 116 |
| *% of sales* | *11.7* | *12.0* | *11.5* | *11.7* | *11.7* |
| **EBIT** | **171** | **189** | **196** | **190** | **206** |
| ***% of sales*** | ***24.3*** | ***22.8*** | ***21.5*** | ***20.6*** | ***20.7*** |
| Other income (net) | 32 | 29 | 28 | 17 | 18 |
| PBT | 204 | 213 | 223 | 209 | 225 |
| *-PBT margin (%)* | *28.9* | *25.8* | *24.5* | *22.7* | *22.7* |
| Provision for tax | 57 | 56 | 56 | 49 | 53 |
| *Effective tax rate (%)* | *28.0* | *26.4* | *25.0* | *23.6* | *23.6* |
| **Net profit (adjusted)** | **147** | **157** | **167** | **160** | **172** |
| *-Growth (%)* | *2.3* | *6.8* | *6.6* | *(4.5)* | *7.7* |
| *-Net profit margin (%)* | *20.8* | *19.0* | *18.4* | *17.3* | *17.3* |
| Shares Outstanding (Basic) | 4,347 | 4,347 | 4,240 | 4,240 | 4,240 |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 48: Cash flow

| Y/E March (Rsbn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| EBIT | 171 | 189 | 196 | 190 | 206 |
| (Inc.)/dec. in working capital | (46) | 18 | (1) | 5 | (22) |
| Cash flow from operations | 126 | 206 | 195 | 195 | 183 |
| Other Income | 32 | 29 | 28 | 17 | 18 |
| Depreciation &amortisation | 19 | 20 | 28 | 24 | 26 |
| Financial expenses | 0 | 0 | (2) | (2) | (2) |
| Tax paid | (57) | (56) | (56) | (49) | (53) |
| Dividends paid | (179) | (113) | (143) | (135) | (145) |
| **Net cash from operations** | **(59)** | **86** | **51** | **51** | **27** |
| Capital expenditure | (3) | (50) | (45) | (38) | (42) |
| Net cash after capex | (63) | 36 | 6 | 12 | (15) |
| Inc./(dec.) in debt | - | - | - | - | - |
| (Inc.)/dec. in investments | 43 | 9 | 1 | 0 | 0 |
| Share issue/(share buyback) | (130) | 0 | (83) | 0 | 0 |
| Cash from financial activities | (87) | 9 | (82) | 0 | 0 |
| Others | 122 | (48) | (1) | 3 | 3 |
| Opening cash balance | 226 | 198 | 196 | 119 | 135 |
| Closing cash balance | 198 | 196 | 119 | 134 | 123 |
| Change in cash balance | (28) | (3) | (77) | 15 | (12) |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 49: Balance sheet

| Y/E March (Rsbn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| Equity capital | 10.9 | 21.7 | 21.2 | 21.2 | 21.2 |
| Reserves & surplus | 638 | 628 | 534 | 559 | 586 |
| Net worth | 649 | 650 | 555 | 580 | 607 |
| Deferred tax liability | 5 | 7 | 6 | 6 | 6 |
| Other liabilities | 3 | 4 | 10 | 10 | 10 |
| Lease Liabilities | | | 36 | 36 | 36 |
| **Total liabilities and Equity** | **658** | **661** | **607** | **632** | **659** |
| Goodwill | 22 | 35 | 42 | 42 | 42 |
| Other intangible assets | 2 | 7 | 13 | 13 | 13 |
| Net block | 121 | 134 | 138 | 153 | 169 |
| Investments | 122 | 113 | 73 | 73 | 73 |
| Deferred tax asset - net | 13 | 14 | 14 | 14 | 14 |
| Other non-current assets | 82 | 83 | 72 | 70 | 77 |
| Unbilled revenue | 43 | 54 | 66 | 64 | 73 |
| Derivative financial instrument | 0 | 3 | 0 | 0 | 0 |
| Other current assets | 64 | 57 | 61 | 59 | 67 |
| Income tax assets-current | - | 4 | 0 | 0 | 0 |
| Debtors | 131 | 148 | 183 | 178 | 201 |
| Cash & bank balance | 198 | 196 | 119 | 135 | 123 |
| Right-of-use Assets | | | 39 | 39 | 39 |
| Total current assets | 436 | 463 | 468 | 475 | 503 |
| Total current liabilities | 141 | 186 | 214 | 208 | 232 |
| Net current assets | 295 | 276 | 255 | 267 | 271 |
| **Total assets** | **658** | **661** | **607** | **632** | **659** |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 50: Key ratios

| Y/E March | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| **Per Share (Rs)** | | | | | |
| EPS-adjusted | 32.5 | 36.1 | 39.3 | 37.6 | 40.5 |
| FDEPS-adjusted | 32.5 | 36.0 | 39.2 | 37.6 | 40.5 |
| Dividend per share | 33.5 | 21.5 | 27.9 | 26.3 | 28.4 |
| Dividend yield (%) | 5.1 | 3.3 | 4.3 | 4.0 | 4.3 |
| Book value | 149 | 150 | 131 | 137 | 143 |
| Dividend payout ratio (incl. DT) | 122.1 | 71.8 | 85.4 | 84.4 | 84.4 |
| **Return ratios (%)** | | | | | |
| RoE | 21.9 | 24.1 | 27.8 | 28.1 | 29.0 |
| RoCE | 30.5 | 32.8 | 36.8 | 36.5 | 37.6 |
| RoIC | 44.9 | 47.5 | 45.2 | 41.1 | 42.3 |
| **Turnover ratios** | | | | | |
| Asset turnover | 0.9 | 1.0 | 1.1 | 1.1 | 1.1 |
| Debtor days (incl. unbilled rev.) | 89 | 88 | 99 | 95 | 99 |
| Working capital cycle days | 49 | 35 | 38 | 37 | 40 |
| **Valuation ratios (x)** | | | | | |
| P/E | 20.1 | 18.2 | 16.7 | 17.4 | 16.2 |
| P/BV | 4.4 | 4.4 | 5.0 | 4.8 | 4.6 |
| EV/EBITDA | 13.9 | 12.7 | 12.2 | 12.7 | 11.8 |
| EV/Sales | 3.7 | 3.2 | 3.0 | 2.9 | 2.7 |
| M-cap/Sales | 4.0 | 3.4 | 3.1 | 3.1 | 2.9 |

*Source: Company, Nirmal Bang Institutional Equities Research*

## Financials –Wipro

### Exhibit 51: Income statement

| Y/E March (Rsbn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| Average INR/USD | 65.3 | 70.0 | 72.5 | 75.0 | 76.2 |
| **Net Sales - IT Services (USD mn)** | **8,060** | **8,190** | **8,276** | **7,902** | **8,261** |
| ***-Growth (%)*** | ***4.6*** | ***1.6*** | ***1.1*** | ***-4.5*** | ***4.5*** |
| **Net Sales - Overall** | **545** | **586** | **610** | **607** | **643** |
| *-Growth (%)* | *-1.0* | *7.5* | *4.1* | *-0.5* | *6.0* |
| Cost of Sales & Services | 386 | 413 | 433 | 428 | 459 |
| *% of sales* | *70.8* | *70.5* | *70.9* | *70.6* | *71.4* |
| **Gross profit** | **159** | **173** | **177** | **178** | **184** |
| ***% of sales*** | ***29.2*** | ***29.5*** | ***29.1*** | ***29.4*** | ***28.6*** |
| **SG& A** | **76** | **80** | **73** | **72** | **72** |
| ***% of sales*** | ***14.0*** | ***13.7*** | ***11.9*** | ***11.9*** | ***11.2*** |
| **EBIT** | **84** | **100** | **108** | **106** | **112** |
| ***% of sales*** | ***15.5*** | ***17.1*** | ***17.6*** | ***17.5*** | ***17.4*** |
| Interest expenses | 6 | 7 | 8 | 7 | 7 |
| Other income (net) | 24 | 23 | 25 | 27 | 32 |
| PBT | 102 | 115 | 125 | 125 | 136 |
| *-PBT margin (%)* | *18.8* | *19.7* | *20.5* | *20.7* | *21.2* |
| Provision for tax | 22 | 25 | 25 | 26 | 29 |
| *Effective tax rate (%)* | *21.8* | *21.9* | *20.3* | *21.0* | *21.0* |
| Minority Interest | 0.0 | 0.1 | 0.3 | 0.0 | 0.0 |
| **Net profit** | **80** | **90** | **99** | **99** | **108** |
| *-Growth (%)* | *(5.7)* | *12.4* | *10.3* | *(0.2)* | *8.8* |
| *-Net profit margin (%)* | *14.7* | *15.4* | *16.3* | *16.3* | *16.8* |
| Number of Shares (Fully Diluted) in Mn | 6,016 | 6,016 | 5,703 | 5,703 | 5,703 |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 52: Cash flow

| Y/E March (Rsbn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| EBIT | 84 | 100 | 108 | 106 | 112 |
| (Inc.)/dec. in working capital | (17) | 65 | (1) | 1 | (4) |
| Cash flow from operations | 67 | 165 | 106 | 108 | 108 |
| Other income | 24 | 23 | 25 | 27 | 32 |
| Depreciation &amortisation | 17 | 15 | 12 | 14 | 14 |
| Financial expenses | (6) | (7) | (8) | (7) | (7) |
| Tax paid | (22) | (25) | (25) | (26) | (29) |
| Dividends paid | (5) | (7) | 0 | (10) | (11) |
| **Net cash from operations** | **74** | **164** | **110** | **104** | **107** |
| Capital expenditure | 24 | (8) | (15) | (22) | (22) |
| Net cash after capex | 98 | 156 | 95 | 82 | 85 |
| Inc./(dec.) in debt | (4) | (39) | (5) | 0 | 0 |
| (Inc.)/dec. in investments | 42 | 29 | 54 | 0 | 0 |
| Equity issue/(buyback) | (110) | 3 | (105) | 0 | 0 |
| **Cash from financial activities** | **(72)** | **(7)** | **(55)** | **0** | **0** |
| Others | (34) | (36) | 10 | 0 | 1 |
| Opening cash balance | 53 | 45 | 159 | 209 | 291 |
| Closing cash balance | 45 | 158 | 208 | 291 | 377 |
| Change in cash balance | (8) | 113 | 50 | 82 | 86 |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 53: Balance sheet

| Y/E March (Rsbn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| Equity capital | 9 | 12 | 11 | 11 | 11 |
| Reserves & surplus | 476 | 559 | 555 | 644 | 741 |
| Net worth | 485 | 571 | 567 | 656 | 753 |
| Deferred tax liability, net | (4) | (2) | (2) | (2) | (2) |
| Other liabilities | 13 | 16 | 18 | 18 | 18 |
| Total loans | 45 | 28 | 22 | 22 | 22 |
| Lease Liability | - | - | 17 | 17 | 17 |
| **Total liabilities** | **540** | **613** | **621** | **710** | **807** |
| Goodwill | 118 | 117 | 124 | 124 | 124 |
| Other intangible assets | 18 | 14 | 15 | 15 | 15 |
| Net block | 64 | 71 | 81 | 90 | 96 |
| Investments | 258 | 229 | 175 | 175 | 175 |
| Other non-current assets | 34 | 36 | 27 | 27 | 27 |
| Unbilled revenue | 42 | 23 | 25 | 24 | 27 |
| Inventories | 3 | 4 | 2 | 2 | 2 |
| Other current assets | 65 | 71 | 53 | 52 | 55 |
| Debtors | 105 | 105 | 107 | 102 | 113 |
| Cash & bank balance | 45 | 159 | 209 | 291 | 377 |
| Right-of-use Assets | - | - | 16 | 16 | 16 |
| Total current assets | 262 | 362 | 411 | 487 | 590 |
| Total current liabilities | 214 | 214 | 211 | 206 | 219 |
| Net current assets | 48 | 147 | 200 | 281 | 371 |
| **Total assets** | **540** | **613** | **621** | **710** | **807** |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 54: Key ratios

| Y/E March | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| **Per Share (Rs)** | | | | | |
| EPS | 16.8 | 18.6 | 17.0 | 17.4 | 18.9 |
| FDEPS | 16.8 | 18.6 | 17.0 | 17.4 | 18.9 |
| Dividend Per Share | 1.2 | 1.1 | 0.0 | 1.7 | 1.9 |
| Dividend Yield (%) | 0.6 | 0.6 | 0.0 | 0.9 | 1.0 |
| Book Value | 85 | 100 | 100 | 115 | 132 |
| Dividend Payout Ratio | 6.7 | 7.2 | 0.0 | 10.0 | 10.0 |
| **Return ratios (%)** | | | | | |
| RoE | 15.9 | 17.0 | 17.5 | 16.2 | 15.3 |
| RoCE | 12.7 | 15.0 | 15.5 | 14.3 | 13.4 |
| RoIC | 24.5 | 30.4 | 33.7 | 32.2 | 33.0 |
| **Turnover Ratios** | | | | | |
| Asset Turnover Ratio | 0.7 | 0.7 | 0.7 | 0.7 | 0.6 |
| Debtor Days (incl. unbilled Rev) | 99 | 80 | 79 | 76 | 79 |
| Working Capital Cycle Days | 68 | 22 | 22 | 21 | 22 |
| **Valuation ratios (x)** | | | | | |
| P/E | 11.1 | 10.0 | 10.9 | 10.7 | 9.8 |
| P/BV | 2.2 | 1.9 | 1.9 | 1.6 | 1.4 |
| EV/EBITDA | 8.9 | 6.8 | 6.6 | 5.8 | 4.9 |
| EV/Sales | 1.7 | 1.3 | 1.3 | 1.2 | 1.0 |
| M-cap/Sales | 1.9 | 1.8 | 1.7 | 1.7 | 1.6 |

*Source: Company, Nirmal Bang Institutional Equities Research*

## Financials – HCL Technologies

### Exhibit 55: Income statement

| Y/E March (Rsmn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| **Average INR/USD** | **64.5** | **69.9** | **72.0** | **74.0** | **75.2** |
| **Net Sales (USDmn)** | **7,838** | **8,633** | **9,928** | **9,721** | **10,261** |
| ***YoY Growth (%)*** | ***12.4*** | ***10.1*** | ***15.0*** | ***(2.1)*** | ***5.6*** |
| **INR Net Sales** | **505,700** | **604,280** | **704,140** | **719,421** | **771,310** |
| *YoY Growth (%)* | *8.2* | *19.5* | *16.5* | *2.2* | *7.2* |
| Cost of Sales & Services | 332,370 | 392,680 | 444,448 | 446,451 | 472,087 |
| **Gross Margin** | **173,330** | **211,600** | **259,692** | **272,971** | **299,223** |
| *% of sales* | *34.3* | *35.0* | *36.9* | *37.9* | *38.8* |
| **SG&A** | 58,930 | 71,910 | 94,720 | 105,714 | 114,473 |
| *% of sales* | *11.7* | *11.9* | *13.5* | *14.7* | *14.8* |
| **EBITDA** | **114,400** | **139,690** | **164,973** | **167,257** | **184,750** |
| *% of sales* | *22.6* | *23.1* | *23.4* | *23.2* | *24.0* |
| Depreciation and Amortization | 14,520 | 21,480 | 28,103 | 37,977 | 38,330 |
| Dep. and Amortization (as % of sales) | 2.9 | 3.6 | 4.0 | 5.3 | 5.0 |
| **EBIT** | **99,880** | **118,210** | **136,870** | **129,280** | **146,420** |
| ***% of sales*** | ***19.8*** | ***19.6*** | ***19.4*** | ***18.0*** | ***19.0*** |
| Other income(net)(incl. forex gain/loss) | 11,110 | 8,050 | 2,590 | 3,170 | 3,754 |
| PBT | 110,990 | 126,260 | 139,460 | 132,451 | 150,174 |
| Provision for tax | 23,170 | 25,030 | 31,089 | 30,464 | 34,540 |
| *Effective tax rate (%)* | *20.9* | *19.8* | *22.3* | *23.0* | *23.0* |
| Minority Interest | 0 | 0 | 0 | 0 | 0 |
| **Net profit** | **87,820** | **101,230** | **108,292** | **101,987** | **115,634** |
| *-Growth (%)* | *4.0* | *15.3* | *7.0* | *-5.8* | *13.4* |
| *-Net profit margin (%)* | *17.4* | *16.8* | *15.4* | *14.2* | *15.0* |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 57: Balance sheet

| Y/E March (Rsmn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| Equity capital | 1,392 | 1,356 | 1,356 | 1,356 | 1,356 |
| Minority Interest | 4,260 | 4,540 | 5,060 | 5,060 | 5,060 |
| Reserves & surplus | 366,776 | 416,344 | 514,938 | 603,853 | 703,147 |
| **Net worth** | **368,168** | **422,240** | **516,294** | **605,209** | **704,503** |
| Other liabilities | 12,669 | 15,380 | 21,991 | 21,456 | 23,635 |
| Total loans | 4,371 | 39,860 | 40,860 | 40,860 | 40,860 |
| Lease Liabilites | - | - | 22,990 | 22,990 | 22,990 |
| **Total liabilities** | **385,208** | **477,480** | **607,195** | **695,575** | **797,047** |
| Intangible assets | 144,057 | 176,950 | 0 | 0 | 0 |
| Net block | 51,847 | 58,010 | 358,577 | 422,143 | 426,054 |
| Investments | 5,222 | 3,900 | 400 | 400 | 400 |
| Other non-Current assets | 37,675 | 52,930 | 59,961 | 58,502 | 64,442 |
| Debtors | 122,575 | 146,100 | 172,264 | 168,071 | 185,137 |
| Cash & bank balance | 16,939 | 59,290 | 32,820 | 32,820 | 32,820 |
| Other Current assets | 106,036 | 91,780 | 123,756 | 141,269 | 231,255 |
| Right of use assets | - | - | 24,350 | 24,350 | 24,350 |
| Total Current assets | 245,550 | 297,170 | 353,191 | 366,510 | 473,563 |
| Total Current liabilities | 99,143 | 111,480 | 164,934 | 151,979 | 167,411 |
| Net Current assets | 146,407 | 185,690 | 188,257 | 214,530 | 306,151 |
| **Total assets** | **385,208** | **477,480** | **607,195** | **695,575** | **797,047** |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 56: Cash flow

| Y/E March (Rsmn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| **EBIT** | **99,880** | **118,210** | **136,870** | **129,280** | **146,420** |
| (Inc.)/Dec. in Working Capital | (22,249) | (23,150) | (3,357) | (7,111) | (8,351) |
| **Cash flow from Operations** | **77,631** | **95,060** | **133,514** | **122,169** | **138,068** |
| Other Income | 11,110 | 8,050 | 2,590 | 3,170 | 3,754 |
| Depreciation &Amortisation | 14,520 | 21,480 | 28,103 | 37,977 | 38,330 |
| Tax Paid | (23,170) | (25,030) | (31,089) | (30,464) | (34,540) |
| Dividends Paid | (21,952) | (13,257) | (13,073) | (13,072) | (16,340) |
| **Net Cash from Operations** | **58,139** | **86,303** | **120,045** | **119,781** | **129,273** |
| Capital Expenditure | (49,354) | (60,536) | (151,720) | (101,542) | (42,242) |
| Net Cash after Capex | 8,785 | 25,767 | (31,675) | 18,239 | 87,031 |
| Inc./(dec.) in Debt | (1,046) | 35,489 | 23,990 | 0 | 0 |
| (Inc.)/Dec. in Investments | 28,503 | 12,285 | (4,861) | (17,703) | (89,210) |
| Equity Issue/(Buyback) | (35,002) | (40,000) | 0 | 0 | 0 |
| Cash from Financial Activities | (7,545) | 10,292 | 29,301 | 27,453 | 27,453 |
| Others | 2,534 | 6,292 | (24,515) | (46,180) | (113,298) |
| Opening cash balance | 13,165 | 16,939 | 59,290 | 32,820 | 32,820 |
| Closing cash balance | 16,939 | 59,290 | 32,401 | 32,332 | 34,006 |
| Change in cash balance | 3,774 | 42,351 | (26,889) | (488) | 1,186 |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 58: Key ratios

| Y/E March (Rsmn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| **Per Share (Rs)** | | | | | |
| EPS | 62.7 | 73.6 | 79.9 | 75.2 | 85.3 |
| FDEPS | 31.5 | 36.8 | 39.9 | 37.6 | 42.6 |
| Dividend Per Share | 13.0 | 8.0 | 8.0 | 8.0 | 10.0 |
| Dividend Yield (%) | 3.0 | 1.8 | 1.8 | 1.8 | 2.3 |
| Book Value | 263 | 304 | 381 | 446 | 520 |
| Dividend Payout Ratio (excl DDT) | 41.3 | 10.9 | 10.0 | 10.6 | 11.7 |
| **Return ratios (%)** | | | | | |
| RoE | 25.0 | 25.8 | 23.2 | 18.2 | 17.7 |
| RoCE | 27.1 | 27.4 | 25.2 | 19.8 | 19.6 |
| RoIC | 38.9 | 36.3 | 31.0 | 23.4 | 24.5 |
| **Turnover Ratios** | | | | | |
| Asset Turnover Ratio | 1.0 | 1.0 | 0.9 | 0.8 | 0.8 |
| Debtor Days (incl. unbilled Rev) | 88 | 88 | 89 | 85 | 88 |
| Working Capital Cycle Days | 35 | 43 | 39 | 42 | 43 |
| **Valuation ratios (x)** | | | | | |
| P/E | 13.8 | 11.8 | 10.8 | 11.5 | 10.2 |
| P/BV | 1.6 | 1.4 | 1.1 | 1.0 | 0.8 |
| EV/EBITDA | 9.5 | 7.9 | 7.0 | 6.8 | 5.7 |
| EV/Sales | 2.1 | 1.8 | 1.6 | 1.6 | 1.4 |
| M-cap/Sales | 2.3 | 1.9 | 1.7 | 1.6 | 1.5 |

*Source: Company, Nirmal Bang Institutional Equities Research*

## Financials –Tech Mahindra

### Exhibit 59: Income statement

| Y/E March (Rsmn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| **Average INR/USD** | **64.5** | **69.9** | **70.8** | **74.0** | **75.2** |
| **Net Sales (US$mn)** | **4,771** | **4,971** | **5,242** | **5,317** | **5,587** |
| ***-Growth (%)*** | ***9.6*** | ***4.2*** | ***5.5*** | ***1.4*** | ***5.1*** |
| Net Sales | 307,730 | 347,421 | 371,692 | 393,479 | 419,929 |
| *-Growth (%)* | *5.6* | *12.9* | *7.0* | *5.9* | *6.7* |
| Cost of Sales & Services | 215,299 | 233,590 | 261,505 | 276,954 | 294,621 |
| *Gross Profit* | 92,431 | 113,831 | 110,187 | 116,525 | 125,308 |
| *% of sales* | *30.0* | *32.8* | *29.6* | *29.6* | *29.8* |
| SG& A | 45,261 | 50,463 | 50,746 | 54,404 | 54,404 |
| *% of sales* | *14.7* | *14.5* | *13.7* | *13.8* | *13.0* |
| EBITDA | 47,170 | 63,368 | 59,441 | 62,121 | 70,904 |
| *% of sales* | *15.3* | *18.2* | *16.0* | *15.8* | *16.9* |
| *Depreciation* | 10,849 | 11,292 | 14,014 | 14,972 | 16,284 |
| *% of sales* | *3.5* | *3.3* | *3.8* | *3.8* | *3.9* |
| *EBIT* | 36,321 | 52,076 | 45,427 | 47,149 | 54,619 |
| ***% of sales*** | ***11.8*** | ***15.0*** | ***12.2*** | ***12.0*** | ***13.0*** |
| Interest expenses | 1,624 | 1,332 | 1,914 | 1,763 | 1,557 |
| Other income (net) | 14,093 | 5,342 | 11,503 | 11,049 | 13,746 |
| PBT | 48,790 | 56,086 | 55,016 | 56,435 | 66,809 |
| *-PBT margin (%)* | *15.9* | *16.1* | *14.8* | *14.3* | *15.9* |
| Provision for tax | 10,925 | 12,544 | 12,667 | 13,903 | 16,458 |
| *Effective tax rate (%)* | *22.4* | *22.4* | *23.0* | *24.6* | *24.6* |
| Minority Interest | -136 | 120 | 933 | 1,408 | 1,408 |
| Net profit | 38,001 | 42,767 | 41,226 | 40,644 | 48,462 |
| *-Growth (%)* | *35.1* | *12.5* | *-3.6* | *-1.4* | *19.2* |
| *-Net profit margin (%)* | *12.3* | *12.3* | *11.1* | *10.3* | *11.5* |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 60: Cash flow

| Y/E March (Rsmn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| EBIT | 36,321 | 52,076 | 45,427 | 47,149 | 54,619 |
| (Inc.)/dec. in working capital | 8,227 | 13,790 | (18,287) | 251 | (4,596) |
| Cash flow from operations | 44,548 | 65,866 | 27,140 | 47,400 | 50,023 |
| Other income | 14,093 | 5,342 | 11,503 | 11,049 | 13,746 |
| Depreciation &amortisation | 10,849 | 11,292 | 14,014 | 14,972 | 16,284 |
| Financial expenses | (1,624) | (1,332) | (1,914) | (1,763) | (1,557) |
| Tax paid | (10,925) | (12,544) | (12,667) | (13,903) | (16,458) |
| Dividends paid | (14,835) | (14,900) | (17,745) | (17,222) | (20,506) |
| **Net cash from operations** | **42,106** | **53,724** | **20,331** | **40,533** | **41,532** |
| Capital expenditure | (21,142) | (5,608) | (11,636) | (12,176) | (12,176) |
| Net cash after capex | 20,964 | 48,116 | 8,695 | 28,357 | 29,356 |
| Inc./(dec.) in debt | 3,963 | (8,150) | 6,885 | (2,989) | - |
| (Inc.)/dec. in investments | (15,609) | (396) | 1,951 | 191 | (3,500) |
| Equity issue/(buyback) | 29 | (19,560) | (81) | - | - |
| **Cash from financial activities** | **(11,617)** | **(28,106)** | **8,755** | **(2,798)** | **(2,509)** |
| Others | 1,447 | 4,584 | (15,836) | 1,344 | 901 |
| Opening cash | 54,098 | 64,892 | 89,486 | 91,099 | 118,003 |
| Closing cash | 64,892 | 89,486 | 91,099 | 118,002 | 145,751 |
| Change in cash | 10,794 | 24,594 | 1,613 | 26,903 | 27,748 |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 61: Balance sheet

| Y/E March (Rsmn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| Equity capital | 4,417 | 4,437 | 4,356 | 4,356 | 4,356 |
| Reserves & surplus | 184,011 | 198,407 | 218,421 | 245,074 | 276,810 |
| Net worth | 188,428 | 202,844 | 222,777 | 249,430 | 281,166 |
| Minority Interest | 5,091 | 4,777 | 4,949 | 4,949 | 4,949 |
| Other liabilities | 18,246 | 18,441 | 18,988 | 18,988 | 18,988 |
| Total loans | 13,440 | 5,095 | 11,433 | 8,444 | 8,444 |
| **Total liabilities** | **225,205** | **231,157** | **258,147** | **281,811** | **313,547** |
| Goodwill | 27,727 | 28,163 | 29,238 | 29,238 | 29,238 |
| Net block (incl. CWIP) | 50,896 | 45,212 | 43,226 | 40,430 | 36,322 |
| Investments | 15,116 | 12,050 | 5,525 | 5,525 | 5,525 |
| Right of Use Asset | - | - | 9,951 | 9,951 | 9,951 |
| Deferred tax asset - net | 5,766 | 6,091 | 6,285 | 6,285 | 6,285 |
| Other non-current assets | 23,797 | 26,934 | 31,314 | 31,123 | 34,623 |
| Other current assets | 19,623 | 26,770 | 29,375 | 29,196 | 32,479 |
| Debtors | 64,979 | 69,586 | 78,334 | 77,855 | 86,610 |
| Loans & Advances | 30,917 | 29,425 | 37,208 | 36,981 | 41,140 |
| Cash & bank balance | 64,892 | 89,486 | 91,099 | 118,003 | 145,751 |
| Inventory | 659 | 752 | 383 | 383 | 383 |
| Total current assets | 181,070 | 216,019 | 236,399 | 262,417 | 306,361 |
| Total current liabilities | 79,167 | 103,312 | 103,792 | 103,158 | 114,758 |
| Net current assets | 101,903 | 112,707 | 132,607 | 159,259 | 191,604 |
| **Total assets** | **225,205** | **231,157** | **258,147** | **281,811** | **313,547** |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 62: Key ratios

| Y/E March | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| **Per Share (Rs)** | | | | | |
| FDEPS | 42.8 | 48.1 | 47.6 | 46.2 | 55.0 |
| Dividend Per Share | 14.2 | 17.1 | 16.9 | 16.4 | 19.6 |
| Dividend Yield (%) | 2.8 | 3.4 | 3.4 | 3.3 | 3.9 |
| Book Value | 216 | 232 | 255 | 286 | 322 |
| Dividend Payout Ratio (%. Incl DDT) | 39.0 | 34.8 | 43.0 | 42.4 | 42.3 |
| **Return ratios (%)** | | | | | |
| RoE | 21.5 | 21.9 | 19.4 | 17.2 | 18.3 |
| RoCE | 17.2 | 22.8 | 18.6 | 17.5 | 18.3 |
| RoIC | 25.8 | 37.9 | 31.2 | 29.5 | 34.1 |
| **Turnover Ratios** | | | | | |
| Asset Turnover Ratio | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Debtor Days (incl. unbilled Rev) | 77 | 73 | 77 | 72 | 75 |
| Working Capital Cycle Days | 44 | 24 | 41 | 38 | 40 |
| **Valuation ratios (x)** | | | | | |
| P/E | 11.6 | 10.3 | 10.4 | 10.7 | 9.0 |
| P/BV | 2.3 | 2.2 | 2.0 | 1.8 | 1.6 |
| EV/EBITDA | 8.2 | 5.6 | 6.0 | 5.3 | 4.2 |
| EV/Sales | 1.3 | 1.0 | 1.0 | 0.8 | 0.7 |
| M-cap/Sales | 1.4 | 1.3 | 1.2 | 1.1 | 1.0 |

*Source: Company, Nirmal Bang Institutional Equities Research*

## Financials - Mindtree

### Exhibit 63: Income statement

| Y/E March (Rsmn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| **Average INR/USD** | **64.5** | **69.9** | **70.5** | **74.0** | **75.2** |
| **Net Sales (USDmn)** | **847** | **1,001** | **1,080** | **1,076** | **1,151** |
| ***YoY Growth (%)*** | ***8.6*** | ***18.3*** | ***7.9*** | ***-0.4*** | ***7.0*** |
| Net Sales | 54,628 | 70,215 | 76,649 | 79,597 | 86,549 |
| *YoY Growth (%)* | *4.3* | *28.5* | *9.2* | *3.8* | *8.7* |
| Employee benefits expense | 35,641 | 44,212 | 50,419 | 51,454 | 55,644 |
| *% of sales* | *65.2* | *63.0* | *65.8* | *64.6* | *64.3* |
| Gross Margin | 18987 | 26003 | 26230 | 28143 | 30904 |
| *% of sales* | *34.8* | *37.0* | *34.2* | *35.4* | *35.7* |
| Other expenses | 11,583 | 15,358 | 15,745 | 15,919 | 17,310 |
| *% of sales* | *21.2* | *21.9* | *20.5* | *20.0* | *20.0* |
| **EBITDA** | **7,404** | **10,645** | **10,485** | **12,224** | **13,595** |
| ***% of sales*** | ***13.6*** | ***15.2*** | ***13.7*** | ***15.4*** | ***15.7*** |
| Depreciation &Amortisation | 1,712 | 1,641 | 2,770 | 2,884 | 3,054 |
| EBIT | 5,692 | 9,004 | 7,715 | 9,340 | 10,541 |
| ***% of sales*** | ***10.4*** | ***12.8*** | ***10.1*** | ***11.7*** | ***12.2*** |
| Interest expenses | 169 | 29 | 534 | 532 | 532 |
| Other income (net) | 1,900 | 893 | 1,033 | 908 | 1,066 |
| PBT | 7,423 | 9,868 | 8,214 | 9,716 | 11,075 |
| *-PBT margin (%)* | *13.6* | *14.1* | *10.7* | *12.2* | *12.8* |
| Provision for tax | 1,722 | 2,327 | 2,101 | 2,575 | 2,935 |
| *Effective tax rate (%)* | *23.2* | *23.6* | *25.6* | *26.5* | *26.5* |
| **Net profit** | **5,701** | **7,541** | **6,113** | **7,141** | **8,140** |
| *-Growth (%)* | *37.1* | *32.3* | *-18.9* | *16.8* | *14.0* |
| *-Net profit margin (%)* | *10.4* | *10.7* | *8.0* | *9.0* | *9.4* |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 64: Cash flow

| Y/E March (Rsmn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| EBIT | 5,692 | 9,004 | 7,715 | 9,340 | 10,541 |
| (Inc.)/dec. in working capital | (257) | (4,635) | 549 | (132) | (1,516) |
| **Cash flow from operations** | **5,435** | **4,369** | **8,265** | **9,208** | **9,026** |
| Other income | 1,900 | 893 | 1,033 | 908 | 1,066 |
| Depreciation &amortisation | 1,712 | 1,641 | 2,770 | 2,884 | 3,054 |
| Financial expenses | (169) | (29) | (534) | (532) | (532) |
| Tax paid | (1,722) | (2,327) | (2,101) | (2,575) | (2,935) |
| Dividends paid | (2,188) | (5,342) | (2,968) | (3,957) | (4,749) |
| **Net cash from operations** | **4,968** | **(795)** | **6,464** | **5,936** | **4,930** |
| Capital expenditure | 629 | 1,407 | 652 | 1,200 | 1,200 |
| **Net cash after capex** | **4,339** | **(2,202)** | **5,812** | **4,736** | **3,730** |
| Inc./(dec.) in debt | (220) | 85 | (179) | - | - |
| (Inc.)/dec. in investments | (1,127) | (1,912) | (811) | (4,000) | (4,000) |
| Equity issue/(buyback) | (41) | 3 | 4 | - | - |
| **Cash from financial activities** | **(1,388)** | **(1,824)** | **(986)** | **(4,000)** | **(4,000)** |
| Others | (2,170) | 3,200 | (6,782) | 400 | 400 |
| Opening cash | 2,508 | 3,289 | 2,463 | 507 | 1,643 |
| Closing cash | 3,289 | 2,463 | 507 | 1,643 | 1,773 |
| Change in cash | 781 | (826) | (1,956) | 1,136 | 130 |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 65: Balance sheet

| Y/E March (Rsmn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| Equity capital | 1,639 | 1,642 | 1,646 | 1,646 | 1,646 |
| Reserves & surplus | 25,779 | 31,419 | 29,425 | 32,609 | 36,000 |
| Net worth | 27,418 | 33,061 | 31,071 | 34,255 | 37,646 |
| Other liabilities | 85 | 173 | - | - | - |
| Total loans | 9 | 6 | - | - | - |
| Lease Liabilties | - | - | 5,100 | 5,100 | 5,100 |
| **Total liabilities** | **27,512** | **33,240** | **36,171** | **39,355** | **42,746** |
| Net block | 5,121 | 4,937 | 4,039 | 1,955 | (298) |
| Goodwill | 4,539 | 4,730 | 4,732 | 4,732 | 4,732 |
| Investments | 7,264 | 8,936 | 9,846 | 13,846 | 17,846 |
| Deferred tax asset - net | 318 | 357 | 547 | 547 | 547 |
| Other non-current assets | 2,298 | 2,499 | 2,210 | 2,210 | 2,210 |
| Unbilled revenue | 2,791 | 3,256 | 3,161 | 3,201 | 3,664 |
| Other current assets | 1,590 | 1,839 | 1,831 | 1,853 | 2,107 |
| Debtors | 10,155 | 13,796 | 14,048 | 14,227 | 16,282 |
| Cash & bank balance | 3,289 | 2,463 | 507 | 1,643 | 1,773 |
| Right-of-use Assets | - | - | 5,521 | 5,521 | 5,521 |
| Total current assets | 17,825 | 21,354 | 25,068 | 26,446 | 29,347 |
| Total current liabilities | 9,853 | 9,573 | 10,272 | 10,381 | 11,637 |
| Net current assets | 7,972 | 11,781 | 14,796 | 16,064 | 17,710 |
| **Total assets** | **27,512** | **33,240** | **36,171** | **39,355** | **42,746** |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 66: Key ratios

| Y/E March | *FY18* | *FY19* | *FY20E* | *FY21E* | *FY22E* |
|---|---|---|---|---|---|
| **Per Share (Rs)** | | | | | |
| EPS | *34.7* | *45.9* | *37.2* | *43.5* | *49.6* |
| FDEPS | *34.6* | *45.8* | *37.1* | *43.4* | *49.4* |
| Dividend Per Share | *11.1* | *27.0* | *15.0* | *20.0* | *24.0* |
| Book Value | *166* | *201* | *189* | *208* | *229* |
| Dividend Payout Ratio (incl DDT) | *38* | *71* | *49* | *55* | *58* |
| **Return ratios (%)** | | | | | |
| RoE | *21.4* | *24.9* | *19.1* | *21.9* | *22.6* |
| RoCE | *21.7* | *31.5* | *23.7* | *25.8* | *26.7* |
| RoIC | *32.9* | *46.4* | *32.4* | *37.6* | *44.9* |
| **Turnover Ratios** | | | | | |
| Asset Turnover Ratio | *1.5* | *1.6* | *1.7* | *1.6* | *1.6* |
| Debtor Days (incl. unbilled Rev) | *86* | *89* | *82* | *80* | *84* |
| Working Capital Cycle Days | *30* | *36* | *43* | *41* | *41* |
| **Valuation ratios (x)** | | | | | |
| P/E | *24.2* | *18.1* | *22.4* | *19.1* | *16.8* |
| P/BV | *5.0* | *4.1* | *4.4* | *4.0* | *3.6* |
| EV/EBITDA | *17.1* | *11.8* | *12.1* | *10.0* | *8.7* |
| EV/Sales | *2.3* | *1.8* | *1.7* | *1.5* | *1.4* |
| M-cap/Sales | *2.5* | *1.9* | *1.8* | *1.7* | *1.6* |
| Dividend Yield (%) | *1.3* | *3.3* | *1.8* | *2.4* | *2.9* |

*Source: Company, Nirmal Bang Institutional Equities Research*

## Financials –Persistent Systems

### Exhibit 67: Income statement

| Y/E March (Rsmn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| **Average INR/USD** | **64.5** | **70.0** | **71.0** | **74.0** | **75.2** |
| **Net Sales (USDmn)** | **471** | **481** | **504** | **489** | **512** |
| ***YoY Growth (%)*** | ***9.7*** | ***2.2*** | ***4.8*** | ***-3.0*** | ***4.7*** |
| Net Sales | 30,337 | 33,659 | 35,780 | 36,173 | 38,455 |
| *YoY Growth (%)* | *5.4* | *11.0* | *6.3* | *1.1* | *6.3* |
| Cost of Sales & Services | 19,704 | 21,378 | 23,671 | 24,032 | 25,354 |
| *% of sales* | *65.0* | *63.5* | *66.2* | *66.4* | *65.9* |
| *Gross Margin* | 10,633 | 12,281 | 12,109 | 12,141 | 13,100 |
| *% of sales* | *35.0* | *36.5* | *33.8* | *33.6* | *34.1* |
| SG& A | 5,946 | 6,476 | 7,213 | 7,342 | 7,342 |
| *% of sales* | *19.6* | *19.2* | *20.2* | *20.3* | *19.1* |
| **EBITDA** | **4,687** | **5,805** | **4,897** | **4,799** | **5,758** |
| *% of sales* | *15.4* | *17.2* | *13.7* | *13.3* | *15.0* |
| Depreciation | 1,585 | 1,573 | 1,673 | 1,795 | 1,888 |
| **EBIT** | **3,102** | **4,233** | **3,223** | **3,004** | **3,870** |
| ***% of sales*** | ***10.2*** | ***12.6*** | ***9.0*** | ***8.3*** | ***10.1*** |
| Other income (net) | 1,190 | 631 | 1,331 | 1,550 | 1,807 |
| PBT | 4,292 | 4,863 | 4,554 | 4,554 | 5,677 |
| *-PBT margin (%)* | *14.1* | *14.4* | *12.7* | *12.6* | *14.8* |
| Provision for tax | 1,062 | 1,347 | 1,121 | 1,148 | 1,431 |
| *Effective tax rate (%)* | *24.7* | *27.7* | *24.6* | *25.2* | *25.2* |
| **Net profit** | **3,231** | **3,517** | **3,433** | **3,406** | **4,247** |
| *-Growth (%)* | *7.2* | *8.9* | *-2.4* | *-0.8* | *24.7* |
| *-Net profit margin (%)* | *10.6* | *10.4* | *9.6* | *9.4* | *11.0* |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 69: Balance sheet

| Y/E March (Rsmn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| Equity capital | 800 | 791 | 764 | 764 | 764 |
| Reserves & surplus | 20,472 | 22,656 | 22,925 | 25,305 | 28,273 |
| Net worth | 21,272 | 23,447 | 23,690 | 26,070 | 29,037 |
| Deferred tax liability | - | - | - | - | - |
| Other liabilities | 160 | 253 | 190 | 190 | 190 |
| Total loans | 17 | 12 | 8 | 8 | 8 |
| **Total liabilities** | **21,448** | **23,712** | **23,888** | **26,268** | **29,235** |
| Goodwill | 77 | 81 | 91 | 91 | 91 |
| Net block (incl CWIP) | 5,097 | 4,242 | 3,813 | 2,850 | 1,794 |
| Investments | 8,797 | 7,641 | 6,093 | 6,093 | 6,093 |
| Deferred tax asset | 372 | 405 | 765 | 765 | 765 |
| Other non-current assets | 129 | 418 | 911 | 911 | 911 |
| Other current assets | 4,585 | 4,122 | 4,228 | 4,023 | 4,471 |
| Debtors | 4,847 | 4,923 | 5,606 | 5,324 | 5,942 |
| Cash & bank balance | 2,414 | 6,724 | 7,209 | 10,795 | 14,285 |
| Total current assets | 11,846 | 15,769 | 17,043 | 20,143 | 24,698 |
| Total current liabilities | 4,870 | 4,844 | 4,829 | 4,586 | 5,118 |
| Net current assets | 6,976 | 10,924 | 12,214 | 15,557 | 19,580 |
| **Total assets** | **21,448** | **23,712** | **23,888** | **26,268** | **29,235** |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 68: Cash flow

| Y/E March (Rsmn) | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| EBIT | 3,102 | 4,233 | 3,223 | 3,004 | 3,870 |
| (Inc.)/dec. in working capital | (570) | 362 | (805) | 244 | (533) |
| Cash flow from operations | 2,532 | 4,595 | 2,418 | 3,247 | 3,337 |
| Other income | 1,190 | 631 | 1,331 | 1,550 | 1,807 |
| Depreciation &amortisation | 1,585 | 1,573 | 1,673 | 1,795 | 1,888 |
| Tax paid | (1,062) | (1,347) | (1,121) | (1,148) | (1,431) |
| Dividends paid | (800) | (1,059) | (1,034) | (1,026) | (1,279) |
| **Net cash from operations** | **3,445** | **4,392** | **3,268** | **4,419** | **4,322** |
| Capital expenditure | 1,027 | 718 | 1,244 | 832 | 832 |
| Net cash after capex | 2,419 | 3,675 | 2,023 | 3,586 | 3,490 |
| Inc./(dec.) in debt | (136) | (5) | (3) | - | - |
| (Inc.)/dec. in investments | (1,145) | 927 | 631 | - | - |
| Equity issue/(buyback) | - | (571) | (1,679) | - | - |
| Cash from financial activities | (1,280) | 352 | (1,052) | - | - |
| Others | (234) | 284 | (487) | - | - |
| Opening cash balance | 1,510 | 2,414 | 6,724 | 7,209 | 10,795 |
| Closing cash balance | 2,414 | 6,724 | 7,209 | 10,795 | 14,285 |
| Change in cash balance | 904 | 4,310 | 485 | 3,586 | 3,490 |

*Source: Company, Nirmal Bang Institutional Equities Research*

### Exhibit 70: Key ratios

| Y/E March | FY18 | FY19 | FY20E | FY21E | FY22E |
|---|---|---|---|---|---|
| **Per Share (Rs)** | | | | | |
| EPS | 40.4 | 44.1 | 44.8 | 44.4 | 55.4 |
| FDEPS | 40.4 | 44.1 | 44.8 | 44.4 | 55.4 |
| Dividend Per Share | 10.0 | 11.1 | 11.2 | 11.1 | 13.8 |
| Book Value | 266 | 296 | 309 | 340 | 379 |
| Dividend Payout Ratio (%) | 25 | 30 | 30 | 30 | 30 |
| **Return ratios (%)** | | | | | |
| RoE | 15.4 | 18.9 | 13.7 | 12.1 | 14.0 |
| RoCE | 15.3 | 18.9 | 13.7 | 12.1 | 14.0 |
| RoIC | 29.7 | 44.2 | 33.1 | 30.7 | 43.3 |
| **Turnover Ratios** | | | | | |
| Asset Turnover Ratio | 1.4 | 1.4 | 1.5 | 1.4 | 1.3 |
| Debtor Days (incl. unbilled Rev) | 58 | 53 | 57 | 54 | 56 |
| Working Capital Cycle Days | 51 | 48 | 47 | 49 | 48 |
| **Valuation ratios (x)** | | | | | |
| P/E | 13.5 | 12.3 | 12.2 | 12.3 | 9.8 |
| P/BV | 2.0 | 1.8 | 1.8 | 1.6 | 1.4 |
| EV/EBITDA | 8.8 | 6.3 | 7.1 | 6.4 | 4.8 |
| EV/Sales | 1.4 | 1.1 | 1.0 | 0.9 | 0.7 |
| M-cap/Sales | 1.4 | 1.3 | 1.2 | 1.2 | 1.1 |
| Dividend Yield (%) | 1.8 | 2.0 | 2.1 | 2.0 | 2.5 |

*Source: Company, Nirmal Bang Institutional Equities Research*

## Rating track - TCS

| Date | Rating | Market price (Rs) | Target price (Rs) |
|---|---|---|---|
| 13 April 2015 | Sell | 2,619 | 2,314 |
| 17 April 2015 | Sell | 2,574 | 2,325 |
| 10 July 2015 | Sell | 2,529 | 2,173 |
| 9 September 2015 | Sell | 2,540 | 2,173 |
| 5 October 2015 | Sell | 2,641 | 2,217 |
| 14 October 2015 | Sell | 2,599 | 2,248 |
| 8 January 2016 | Under Review | 2,398 | - |
| 13 January 2016 | Under Review | 2,327 | - |
| 14 March 2016 | Sell | 2,360 | 2,055 |
| 20 April 2016 | Sell | 2,520 | 2,089 |
| 15 July 2016 | Sell | 2,521 | 2,075 |
| 14 September 2016 | Sell | 2,359 | 2,041 |
| 14 October 2016 | Sell | 2,329 | 2,073 |
| 10 January 2017 | Sell | 2,304 | 1,952 |
| 13 January 2017 | Sell | 2,344 | 1,956 |
| 14 February 2017 | Sell | 2,414 | 1,983 |
| 21 February 2017 | Sell | 2,502 | 1,983 |
| 2 March 2017 | Sell | 2,477 | 1,983 |
| 19 April 2017 | Sell | 2,309 | 1,996 |
| 21 June 2017 | Sell | 2,443 | 1,923 |
| 14 July 2017 | Sell | 2,446 | 1,930 |
| 28 September 2017 | Sell | 2,475 | 1,908 |
| 13 October 2017 | Sell | 2,548 | 1,913 |
| 26 December 2017 | Under Review | 2,647 | - |
| 12 January 2018 | Under Review | 2,792 | - |
| 17 March 2018 | Accumulate | 2,829 | 3,155 |
| 20 April 2018 | Accumulate | 3,191 | 3,176 |
| 26 June 2018* | Accumulate | 1,818 | 1,812 |
| 11 July 2018 | Accumulate | 1,876 | 1,862 |
| 05October 2018 | Accumulate | 2,063 | 2,145 |
| 12October 2018 | Accumulate | 1,980 | 2,120 |
| 27 December 2018 | Sell | 1,892 | 1,712 |
| 7 January 2019 | Sell | 1,877 | 1,533 |
| 11 January 2019 | Sell | 1,883 | 1,545 |
| 18 March 2019 | Sell | 2,040 | 1,607 |
| 19 March 2019 | Sell | 2,023 | 1,607 |
| 15 April 2019 | Sell | 2,015 | 1,614 |
| 10 July 2019 | Sell | 2,120 | 1,601 |
| 23 September 2019 | Sell | 2,020 | 1,615 |
| 10 October 2019 | Sell | 2,004 | 1,593 |
| 2 January 2020 | Under Review | 2,170 | - |
| 20 January 2020 | Under Review | 2,220 | - |
| 30 March 2020 | Sell | 1,850 | 1,393 |

* Post 1:1 Bonus

## Rating track - Infosys

| 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 |
| 21 August 2017 | Sell | 923 | 794 |
| 28 August 2017 | Sell | 912 | 836 |
| 11 September 2017 | Sell | 884 | 836 |
| 28 September 2017 | Sell | 906 | 833 |
| 25 October 2017 | Sell | 924 | 873 |
| 26 December 2017 | Under Review | 1,039 | - |
| 15 January 2018 | Under Review | 1,079 | - |
| 17 March 2018 | Accumulate | 1,170 | 1,154 |
| 14 April 2018 | Accumulate | 1,171 | 1,157 |
| 24 April 2018 | Accumulate | 1,188 | 1,157 |
| 3 July 2018 | Accumulate | 1,307 | 1,314 |
| 14 July 2018 | Accumulate | 1,317 | 1,328 |
| 5 October 2018** | Accumulate | 711 | 752 |
| 17 October 2018 | Accumulate | 695 | 756 |
| 27 December 2018 | Accumulate | 644 | 688 |
| 7 January 2019 | Sell | 661 | 620 |
| 14 January 2019 | Sell | 684 | 603 |
| 19 March 2019 | Sell | 710 | 620 |
| 15 April 2019 | Sell | 748 | 601 |
| 27 June 2019 | Sell | 739 | 601 |
| 15 July 2019 | Sell | 727 | 596 |
| 23 September 2019 | Sell | 765 | 607 |
| 14 October 2019 | Sell | 815 | 625 |
| 22 October 2019 | Sell | 768 | 625 |
| 8 November 2019 | Sell | 708 | 625 |
| 2 January 2020 | Under Review | 737 | - |
| 13 January 2020 | Under Review | 740 | - |
| 31 March 2020 | Sell | 654 | 550 |

## Rating track – HCL Technologies

| Date | Rating | Market price (Rs) | Target price (Rs) |
|---|---|---|---|
| 13 April 2015 | Accumulate | 959 | 1,013 |
| 22 April 2015 | Accumulate | 895 | 1,014 |
| 4 August 2015 | Accumulate | 938 | 1,008 |
| 1 October 2015 | Accumulate | 982 | 991 |
| 5 October 2015 | Accumulate | 859 | 991 |
| 20 October 2015 | Buy | 859 | 989 |
| 8 January 2016 | Under Review | 828 | - |
| 20 January 2016 | Under Review | 841 | - |
| 14 March 2016 | Sell | 824 | 737 |
| 29 April 2016 | Sell | 799 | 719 |
| 4 August 2016 | Sell | 826 | 745 |
| 24 October 2016 | Sell | 832 | 718 |
| 10 January 2017 | Sell | 838 | 712 |
| 25 January 2017 | Sell | 849 | 718 |
| 14 February 2017 | Sell | 827 | 740 |
| 12 May 2017 | Sell | 839 | 743 |
| 21 June 2017 | Sell | 854 | 713 |
| 28 July 2017 | Sell | 899 | 764 |
| 28 September 2017 | Sell | 874 | 744 |
| 26October 2017 | Sell | 903 | 763 |
| 26 December 2017 | Under Review | 887 | - |
| 22 January 2018 | Under Review | 958 | - |
| 17 March 2018 | Accumulate | 968 | 1,048 |
| 16 April 2018 | Accumulate | 991 | 1,048 |
| 3 May 2018 | Accumulate | 1,001 | 1,041 |
| 3 July 2018 | Buy | 926 | 1,131 |
| 30 July 2018 | Buy | 963 | 1,172 |
| 5 October 2018 | Buy | 1,081 | 1,281 |
| 24 October 2018 | Buy | 952 | 1,277 |
| 11 December 2018 | Buy | 942 | 1,329 |
| 27 December 2018 | Accumulate | 942 | 1,072 |
| 7 January 2019 | Accumulate | 932 | 958 |
| 30 January 2019 | Accumulate | 988 | 1,054 |
| 19 March 2019 | Accumulate | 1,012 | 1,076 |
| 10 May 2019 | Accumulate | 1,139 | 1,090 |
| 13 August 2019 | Accumulate | 1,083 | 1,127 |
| 23 August 2019 | Accumulate | 1,026 | 1,150 |
| 24 October 2019 | Accumulate | 1,102 | 1,153 |
| 13 November 2020 | Accumulate | 1,146 | 1,153 |
| 2 January 2020* | Under Review | 572 | - |
| 20 January 2020 | Under Review | 601 | - |
| 31 March 2020 | Accumulate | 433 | 483 |

* Post 1:1 Bonus issue

## Rating track – Wipro

| Date | Rating | Market price (Rs) | Target price (Rs) |
|---|---|---|---|
| 13 April 2015 | Sell | 618 | 576 |
| 22 April 2015 | Sell | 588 | 546 |
| 24 July 2015 | Sell | 588 | 548 |
| 30 September 2015 | Sell | 587 | 546 |
| 23 October 2015 | Sell | 578 | 544 |
| 8 January 2016 | Under Review | 556 | - |
| 19 January 2016 | Under Review | 549 | - |
| 14 March 2016 | Sell | 540 | 498 |
| 21 April 2016 | Sell | 601 | 489 |
| 20 July 2016 | Sell | 549 | 478 |
| 24 October 2016 | Sell | 499 | 436 |
| 10 January 2017 | Sell | 472 | 410 |
| 27 January 2017 | Sell | 474 | 413 |
| 14 February 2017 | Sell | 474 | 427 |
| 26 April 2017 | Sell | 495 | 437 |
| 21 June 2017* | Sell | 254 | 197 |
| 21 July 2017 | Sell | 269 | 235 |
| 28 September 2017 | Sell | 290 | 228 |
| 18 October 2017 | Sell | 290 | 244 |
| 26 December 2017 | Under Review | 302 | - |
| 22 January 2018 | Under Review | 329 | - |
| 17 March 2018 | Accumulate | 296 | 302 |
| 26 April 2018 | Accumulate | 287 | 303 |
| 3 July 2018 | Buy | 262 | 335 |
| 23 July 2018 | Buy | 282 | 323 |
| 5 October 2018 | Buy | 325 | 377 |
| 17 October 2018 | Buy | 309 | 364 |
| 27 December 2018 | Sell | 326 | 297 |
| 7 January 2019 | Sell | 324 | 268 |
| 21 January 2019 | Sell | 347 | 277 |
| 19 March 2019** | Sell | 258 | 209 |
| 18 April 2019 | Sell | 282 | 219 |
| 18 July 2019 | Sell | 260 | 212 |
| 23 September 2019 | Sell | 239 | 222 |
| 15 October 2019 | Sell | 244 | 221 |
| 2 January 2020 | Under review | 248 | - |
| 15 January 2020 | Under review | 256 | - |
| 31 March 2020 | Accumulate | 186 | 186 |

* Post 1:1 bonus share issue, **Post 1:3 bonus share issue

## Rating track – Tech Mahindra

| Date | Rating | Market price (Rs) | Target price (Rs) |
|---|---|---|---|
| 13 April 2015 | Sell | 660 | 593 |
| 28 May 2015 | Sell | 549 | 511 |
| 19 June 2015 | Sell | 541 | 470 |
| 28 July 2015 | Sell | 520 | 470 |
| 28 September 2015 | Sell | 567 | 474 |
| 4 November 2015 | Sell | 557 | 472 |
| 15 December 2015 | Sell | 543 | 471 |
| 8 January 2016 | Under Review | 522 | - |
| 2 February 2016 | Under Review | 497 | - |
| 14 March 2016 | Sell | 459 | 395 |
| 25 May 2016 | Sell | 480 | 409 |
| 21 June 2016 | Sell | 544 | 421 |
| 3 August 2016 | Sell | 499 | 400 |
| 28 October 2016 | Sell | 414 | 385 |
| 10 January 2017 | Sell | 473 | 368 |
| 31 January 2017 | Sell | 472 | 383 |
| 14 February 2017 | Sell | 500 | 388 |
| 7 March 2017 | Sell | 501 | 408 |
| 29 May 2017 | Sell | 429 | 403 |
| 21 June 2017 | Sell | 395 | 367 |
| 1 August 2017 | Sell | 385 | 360 |
| 28 September 2017 | Sell | 447 | 358 |
| 2 November 2017 | Sell | 478 | 387 |
| 11 December 2017 | Sell | 496 | 426 |
| 26 December 2017 | Under Review | 493 | - |
| 30 January 2018 | Under Review | 605 | - |
| 17 March 2018 | Accumulate | 635 | 608 |
| 28 May 2018 | Accumulate | 703 | 721 |
| 3 July 2018 | Accumulate | 655 | 716 |
| 31 July 2018 | Accumulate | 658 | 718 |
| 5 October 2018 | Buy | 696 | 845 |
| 31 October 2018 | Accumulate | 685 | 731 |
| 27 November 2018 | Accumulate | 695 | 731 |
| 27 December 2018 | Sell | 695 | 590 |
| 7 January 2019 | Sell | 681 | 525 |
| 6 February 2019 | Sell | 751 | 561 |
| 19 March 2019 | Sell | 789 | 587 |
| 6 June 2019 | Sell | 750 | 562 |
| 31 July 2019 | Sell | 641 | 535 |
| 9 September 2019 | Sell | 684 | 544 |
| 23 September 2019 | Sell | 688 | 563 |
| 5 November 2019 | Sell | 775 | 575 |
| 19 December 2019 | Sell | 787 | 614 |
| 2 January 2020 | Under Review | 762 | - |
| 3 February 2020 | Under Review | 807 | - |
| 31 March 2020 | Accumulate | 501 | 540 |

## Rating track - Mindtree

| Date | Rating | Market price (Rs) | Target price (Rs) |
|---|---|---|---|
| 7June 2017 | Sell | 547 | 424 |
| 21June 2017 | Sell | 519 | 382 |
| 20 July 2017 | Sell | 506 | 382 |
| 22 August 2017 | Sell | 461 | 382 |
| 28 September 2017 | Sell | 471 | 396 |
| 26 October 2017 | Sell | 507 | 426 |
| 26 December 2017 | Under Review | 600 | - |
| 18 January 2018 | Under Review | 622 | - |
| 17 March 2018 | Sell | 812 | 574 |
| 26 October 2017 | Sell | 867 | - |
| 26 December 2017 | Under Review | 600 | - |
| 18 January 2018 | Under Review | 622 | - |
| 17 March 2018 | Sell | 812 | 574 |
| 19 April 2018 | Sell | 867 | 577 |
| 3 July 2018 | Sell | 986 | 716 |
| 19 July 2018 | Sell | 1,062 | 803 |
| 4 September 2018 | Sell | 1,100 | 803 |
| 5 October 2018 | Sell | 1,063 | 986 |
| 19 October 2018 | Sell | 978 | 778 |
| 27 December 2018 | Sell | 855 | 631 |
| 7 January 2019 | Sell | 815 | 552 |
| 17 January 2019 | Sell | 835 | 553 |
| 19 March 2019 | Sell | 963 | 554 |
| 20 March 2019 | Sell | 943 | 554 |
| 18 April 2019 | Sell | 972 | 563 |
| 18 July 2019 | Sell | 751 | 531 |
| 23 September 2019 | Sell | 711 | 567 |
| 17 October 2019 | Sell | 744 | 532 |
| 2 January 2020 | Under Review | 812 | - |
| 15 January 2020 | Under Review | 863 | - |
| 31 March 2020 | Sell | 830 | 522 |

## Rating track– Persistent Systems

| Date | Rating | Market price (Rs) | Target price (Rs) |
|---|---|---|---|
| 21 September 2015 | Sell | 685 | 562 |
| 27 October 2015 | Sell | 669 | 553 |
| 7 December 2015 | Sell | 663 | 544 |
| 8 January 2016 | Under Review | 630 | - |
| 27 January 2016 | Under Review | 609 | - |
| 14 March 2016 | Sell | 599 | 522 |
| 22 March 2016 | Sell | 741 | 555 |
| 26 April 2016 | Sell | 719 | 558 |
| 22 June 2016 | Sell | 697 | 558 |
| 26 July 2016 | Sell | 665 | 562 |
| 26 October 2016 | Sell | 660 | 573 |
| 19 December 2016 | Sell | 613 | 573 |
| 10 January 2017 | Sell | 636 | 557 |
| 24 January 2017 | Sell | 612 | 548 |
| 14 February 2017 | Sell | 624 | 574 |
| 27 April 2017 | Sell | 568 | 534 |
| 21 June 2017 | Sell | 681 | 516 |
| 24 July 2017 | Sell | 659 | 526 |
| 28 September 2017 | Sell | 651 | 540 |
| 17 October 2017 | Sell | 663 | 566 |
| 4 December 2017 | Sell | 654 | 566 |
| 26 December 2017 | Under Review | 650 | - |
| 30 January 2018 | Under Review | 788 | - |
| 17 March 2018 | Sell | 816 | 698 |
| 25 April 2018 | Accumulate | 726 | 717 |
| 3 July 2018 | Accumulate | 811 | 847 |
| 31 July 2018 | Accumulate | 828 | 867 |
| 5 October 2018 | Buy | 718 | 909 |
| 23 October 2018 | Accumulate | 560 | 622 |
| 12 December 2018 | Accumulate | 611 | 622 |
| 27 December 2018 | Sell | 630 | 504 |
| 7 January 2019 | Sell | 577 | 455 |
| 29 January 2019 | Sell | 567 | 481 |
| 19 March 2019 | Sell | 658 | 489 |
| 2 May 2019 | Sell | 642 | 558 |
| 14 June 2019 | Accumulate | 622 | 604 |
| 29 July 2019 | Accumulate | 561 | 602 |
| 23 September 2019 | Sell | 610 | 525 |
| 8 November 2019 | Sell | 612 | 554 |
| 2 January 2020 | Under Review | 706 | - |
| 31 January 2020 | Under Review | 689 | - |
| 31 March 2020 | Sell | 544 | 502 |

## DISCLOSURES

This Report is published by Nirmal Bang Equities Private Limited (hereinafter referred to as "NBEPL") for private circulation. NBEPL is a registered Research Analyst under SEBI (Research Analyst) Regulations, 2014 having Registration no. INH000001436. NBEPL is also a registered Stock Broker with National Stock Exchange of India Limited and BSE Limited in cash and derivatives segments.

NBEPL has other business divisions with independent research teams separated by Chinese walls, and therefore may, at times, have different or contrary views on stocks and markets.

NBEPL or its associates have not been debarred / suspended by SEBI or any other regulatory authority for accessing / dealing in securities Market. NBEPL, its associates or analyst or his relatives do not hold any financial interest in the subject company. NBEPL or its associates or Analyst do not have any conflict or material conflict of interest at the time of publication of the research report with the subject company. NBEPL or its associates or Analyst or his relatives do not hold beneficial ownership of 1% or more in the subject company at the end of the month immediately preceding the date of publication of this research report.

NBEPL or its associates / analyst has not received any compensation / managed or co-managed public offering of securities of the company covered by Analyst during the past twelve months. NBEPL or its associates have not received any compensation or other benefits from the company covered by Analyst or third party in connection with the research report. Analyst has not served as an officer, director or employee of Subject Company and NBEPL / analyst has not been engaged in market making activity of the subject company.

**Analyst Certification:** I, Mr. Girish Pai, research analyst, is the author of this report, hereby certifies that the views expressed in this research report accurately reflects my personal views about the subject securities, issuers, products, sectors or industries. It is also certified that no part of the compensation of the analyst(s) was, is, or will be directly or indirectly related to the inclusion of specific recommendations or views in this research. The analyst(s) principally responsible for the preparation of this research report and has taken reasonable care to achieve and maintain independence and objectivity in making any recommendations.

## -Disclaimer

**Stock Ratings Absolute Returns**

BUY > 15%

ACCUMULATE -5% to15%

SELL < -5%

This report is for the personal information of the authorized recipient and does not construe to be any investment, legal or taxation advice to you. NBEPL is not soliciting any action based upon it. Nothing in this research shall be construed as a solicitation to buy or sell any security or product, or to engage in or refrain from engaging in any such transaction. In preparing this research, we did not take into account the investment objectives, financial situation and particular needs of the reader.

This research has been prepared for the general use of the clients of NBEPL and must not be copied, either in whole or in part, or distributed or redistributed to any other person in any form. If you are not the intended recipient you must not use or disclose the information in this research in any way. Though disseminated to all the customers simultaneously, not all customers may receive this report at the same time. NBEPL will not treat recipients as customers by virtue of their receiving this report. This report is not directed or intended for distribution to or use by any person or entity resident in a state, country or any jurisdiction, where such distribution, publication, availability or use would be contrary to law, regulation or which would subject NBEPL & its group companies to registration or licensing requirements within such jurisdictions.

The report is based on the information obtained from sources believed to be reliable, but we do not make any representation or warranty that it is accurate, complete or up-to-date and it should not be relied upon as such. We accept no obligation to correct or update the information or opinions in it. NBEPL or any of its affiliates or employees shall not be in any way responsible for any loss or damage that may arise to any person from any inadvertent error in the information contained in this report. NBEPL or any of its affiliates or employees do not provide, at any time, any express or implied warranty of any kind, regarding any matter pertaining to this report, including without limitation the implied warranties of merchantability, fitness for a particular purpose, and non-infringement. The recipients of this report should rely on their own investigations.

This information is subject to change without any prior notice. NBEPL reserves its absolute discretion and right to make or refrain from making modifications and alterations to this statement from time to time. Nevertheless, NBEPL is committed to providing independent and transparent recommendations to its clients, and would be happy to provide information in response to specific client queries.

Before making an investment decision on the basis of this research, the reader needs to consider, with or without the assistance of an adviser, whether the advice is appropriate in light of their particular investment needs, objectives and financial circumstances. There are risks involved in securities trading. The price of securities can and does fluctuate, and an individual security may even become valueless. International investors are reminded of the additional risks inherent in international investments, such as currency fluctuations and international stock market or economic conditions, which may adversely affect the value of the investment. Opinions expressed are subject to change without any notice. Neither the company nor the director or the employees of NBEPL accept any liability whatsoever for any direct, indirect, consequential or other loss arising from any use of this research and/or further communication in relation to this research. Here it may be noted that neither NBEPL, nor its directors, employees, agents or representatives shall be liable for any damages whether direct or indirect, incidental, special or consequential including lost revenue or lost profit that may arise from or in connection with the use of the information contained in this report.

Copyright of this document vests exclusively with NBEPL.

Our reports are also available on our website www.nirmalbang.com

**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 6273 8017 / 18 |
| **Dealing** | | | |
| Ravi Jagtiani | Dealing Desk | ravi.jagtiani@nirmalbang.com | +91 22 6273 8230, +91 22 6636 8833 |
| Michael Pillai | Dealing Desk | michael.pillai@nirmalbang.com | +91 22 6273 8102/8103, +91 22 6636 8830 |

**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 6273 8000/1; Fax. : 022 6273 8010