



COMPANY UPDATE / TARGET CHANGE ESTIMATE CHANGE

Key Metrics

MSFT - NASDAQ - as of	10/27/17	\$83.81
Price Target		\$86.00
52-Week Range	\$57.28 -	\$86.20
Diluted Shares Outstanding (mil)		7,715
Market Cap. (\$mil)		\$646,559.8
1-Mo. Average Daily Volume		19,169,639
Institutional Ownership		75.4%
Debt/Total Capital (net) %	FQ1'18	0%
ROE	FQ1'18	29%
Book Value / Share		\$11.63
Price / Book Value		7.2x
Indicated Dividend / Yield	\$1.68	2.0%
LTM EBITDA Margin		36.7%

GAAP EPS FY 6/30

	Prior	Current	Prior	Current
	2016A	2017E	2018E	2018E
1Q	\$0.67	\$0.76	\$0.84	\$0.84 A
2Q	\$0.78	\$0.83	\$0.87	\$0.85
3Q	\$0.62	\$0.73	\$0.74	\$0.78
4Q	\$0.69	\$0.98	\$0.77	\$0.87
Year	\$2.76	\$3.31	\$3.20	\$3.34
P/E	30.4x	25.3x		25.1x

Revenue (\$bn)

	Prior	Current	Prior	Current
	2016A	2017E	2018E	2018E
1Q	\$21.7	\$22.3	\$24.5	\$24.5 A
2Q	\$25.7	\$26.1	\$27.5	\$28.2
3Q	\$22.1	\$23.5	\$25.0	\$25.1
4Q	\$22.6	\$24.7	\$26.5	\$27.1
Year	\$92.0	\$96.7	\$103.9	\$104.9

*Figures may not equal due to rounding

Company Description: Redmond, Washington based Microsoft is the world's leading software developer. Microsoft was founded in 1975 and historically benefited from the success of the Windows operating system which currently runs on >90% of all PCs. As of the most recent quarter, the company derived a significant portion of total operating income from Productivity and Business Processes which includes Office and Dynamics. Other highly valued products and services include, Xbox, Azure, Server & cloud services, Surface, Bing, and Enterprise services.

Technology - Software

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Microsoft Corp.

MSFT - NASDAQ – Neutral - 1

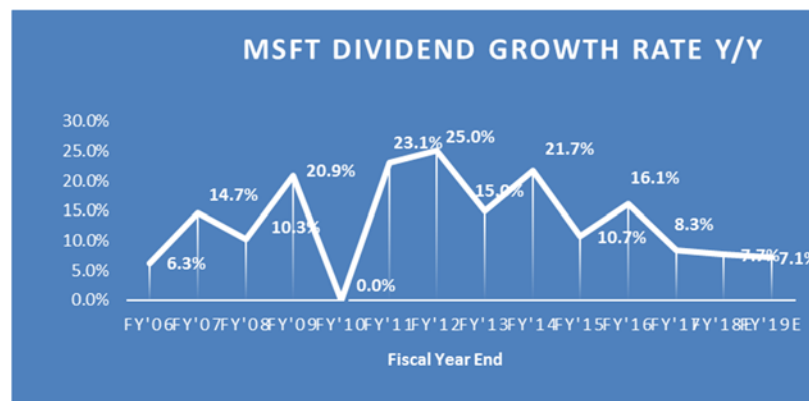
Strong FQ1 Results; Increasing PT to \$86

- Results.** Microsoft reported EPS of \$0.84 vs. \$0.76 in the prior year period. This was a penny above our \$0.83 estimate. Revenue totaled \$24.5 billion, up 12% y/y, however this missed our \$24.9 billion estimate. The EPS beat benefitted from lower than expected spending and a 17% tax rate vs. the 19% rate we had modeled. Microsoft's commercial bookings growth slowed considerably, increasing 9% y/y vs. 30% reported last quarter. Commercial unearned revenue increased a strong 20% y/y to \$21.5 billion. Commercial cloud revenue climbed 56% y/y to \$5 billion, while commercial cloud gross margin continues to expand as it gains scale, expanding to 57% vs. 49% last year. Commercial cloud ARR reached \$20.4 billion, surpassing their yearend goal set in 2015.
- Segment Highlights. More Personal Computing** revenue decreased 1% y/y to \$9.38 billion. The segment was negatively impacted by a decrease in Phone revenue. The segment was boosted by strength in Search and Surface revenue. Windows revenue outperformed the PC market on Windows Pro revenue growth of 7%, premium consumer sales, and 6% growth of Windows cloud services. Search revenue increased 15% y/y. Segment operating income of \$2.57 billion grew 26% y/y on lower COGS. **Productivity & Business Processes** revenue of \$8.24 billion increased 28% y/y elevated by the earlier acquisition of LinkedIn. Office commercial & cloud revenue grew 10% y/y; Dynamics revenue grew 12% y/y; and Office consumer and cloud revenue grew 10% y/y as Office 365 subscribers increased to 28 million vs. 27 million last quarter. LinkedIn revenue increased slightly to \$1.1 billion. Segment operating income of \$3.01 billion increased 4% y/y. **The Intelligent Cloud** segment grew revenue 13% y/y to \$6.92 billion on strong server and cloud service revenue growth of 17% y/y, with Azure revenue increasing 89% and server products up 2%. Azure premium services grew triple digits and as we forecasted continues to boost profitability. Operating income jumped 20% y/y as Microsoft leverages premium cloud offerings.
- Opinion.** We maintain our Neutral-1 rating. Our price target increases to \$86 from \$74 (See pg. 3 for additional discussion).

Note Important Disclosures on Pages 7-8
Note Analyst Certification on Page 7

ADDITIONAL DISCUSSION

Cash, cash equivalents, and short & long-term investments totaled \$150.6 billion vs. \$147.4 billion last year. Net cash was \$65.2 billion or \$8.36 per share, compared to \$72.7 billion last year reflecting the \$26.2 billion LinkedIn acquisition. Fiscal Q1 operating cash flow of \$12.4 billion increased 7.7% y/y, while free cash flow of \$10.3 billion jumped 10% y/y. The company repurchased \$2.57 billion of company stock during the quarter, half the amount spent in the prior year period, and paid \$3 billion in dividends, a small increase y/y. Microsoft's free cash flow yield declined slightly to 5% but remains strong; however, this represents a cyclical low, to levels below that of 2006-07, as the stock price climbs to record highs. For reference, Microsoft's free cash flow yield was a record high 11.33% in 2012.



Source: Company reports & Hilliard Lyons estimates

OUTLOOK

Fiscal Q2'18 revenue guidance was provided between \$27.8 billion to \$28.6 billion, above our prior \$27.5 billion view. We maintain our positive opinion of Microsoft's cloud performance and believe it is a competitive advantage setting the company up for continued strength going forward. Our Neutral rating is based on valuation and our opinion that Microsoft will be limited in future operating expense cutting but nonetheless expect margin improvement along with high margin cloud adoption. We believe Microsoft is squarely positioned to outperform enterprise IT peers with Azure and other cloud offerings. We continue to view MSFT shares as a core holding, but note shares trade at a multi-decade high valuation.

Our FY'18 outlook improves but not substantially. We currently expect a slightly higher revenue outlook and continued operating margin expansion. Our expected tax rate is significantly above last year's view which could pressure EPS growth in fiscal 2018. Altogether, these changes result in a slight improvement to our fiscal year outlook. We forecast FQ2'18 EPS of \$0.85 vs. our prior view of \$0.87 and remains conservative compared to the consensus view of \$0.86. Our FY'18 EPS estimate increases by \$0.14 to \$3.34 which is below the Street's \$3.36 view. We increase our revenue forecast from \$103.9 billion to \$104.9 billion vs. the consensus view of \$105.8 billion on faster than expected adoption of Microsoft's commercial cloud. While we expect higher operating expenses resulting from increased investments in

LinkedIn, cloud, and sales teams to support future growth, we believe Microsoft will continue to be able to leverage these high growth businesses to expand margins overall. We inaugurate our FY'19 outlook and expect FY'19 GAAP EPS of \$3.60 on revenue of \$109.6 billion.

Our Longer-term outlook remains positive as we expect new cross-sell and up-sell opportunities from LinkedIn and premium cloud services to boost Microsoft's customer base, revenue opportunities, and profitability. We note our margin expansion thesis is not based on record margins, our view is based on a normalization of margins to a level still below its historical average. This can be achieved through cloud sales boosting revenue expanding margins over time. While we don't expect operating margin in the high 30s, we do expect mid-30s longer term vs. our FY'19 view of 31.2%. We maintain our positive opinion of the company's industry leadership position and ongoing shift to a cloud services strategy. Microsoft is a well-managed organization deserving of its premium valuation, in our opinion.

VALUATION & OPINION

We increase our price target to \$86 from \$74 based on strong operating performance with continued strong revenue growth, operating expense management, and earnings growth above recent historical rates. We derive our \$86 price target by extending our investment timeframe by 12-months to FYE'19 and multiplying our improved FYE'19 EPS estimate of \$3.60 by a 24x multiple. Our 24x multiple is in line with the sector multiple and below Microsoft's current 25x forward multiple. This is above our prior 23x forward multiple following another quarter of impressive commercial cloud based growth and overall improved operating metrics.

MSFT Forward P/E Multiple vs. Technology Sector



Source: Thomson Reuters

MSFT shares trade at a 14 year high forward P/E multiple of 25x that we view as stretched in the context of MSFT shares specifically on a historical basis, and slightly high relative to their 23% premium valuation vs. the S&P 500 Index. We also calculate our price target using our discounted cash flow model. We believe the Street is now properly discounting Microsoft's future cash flows following FY'17's strong FCF growth based on our DCF model. We view current expectations as achievable based on a FCF growth forecast that we believe is sustainable longer term. However, we do not currently recommend the purchase of shares as a return of +20% would imply compound annual free cash flow growth above that which we find achievable longer term throughout a full economic cycle. As we previously noted above, Microsoft's free cash flow yield of 5% remains strong on a relative basis, but this represents a cyclical low to levels not experienced since 2007 as the stock price has climbed to record highs. For reference, Microsoft's free cash flow yield was a record high 11.33% in 2012. We maintain our Neutral rating on shares of MSFT. We believe Microsoft is a leader in the enterprise cloud and is well positioned among industry peers for future growth. Microsoft's fundamental outlook is strong, in our opinion, providing investors a solid core holding within the Technology sector. We would not argue holding onto shares if currently owned within a well-diversified portfolio. Longer term, beyond our investment timeframe, we believe MSFT shares could trade up to \$100 based on continued improving free cash flow growth and stronger global macroeconomic growth. However, currently, even this aggressive multi-year \$100 view would generate low single-digit investor returns, not sufficient for a buy rating, in our opinion.

SUITABILITY

We assign shares of MSFT a suitability rating of 1 on our scale of 1-4 (1 = most conservative, 4 = most aggressive). A 1 rating is given based on Microsoft's long history as a public company, diverse revenue base, strong operating metrics, solid balance sheet, and significant cash flow generation. We believe a suitability rating of 1 incorporates these attributes. We believe revenue and EPS revisions as a result of restructuring charges, write-downs, acquisitions, and/or accounting changes, as we continue to experience, does not affect our 1-suitability rating as Microsoft's backlog, recurring revenue, cash flows, and cash balance provide a level of safety which we view as secure. Shares of MSFT are suitable for conservative growth oriented investors seeking long-term capital appreciation and income growth, in our view.

RISKS & CONSIDERATIONS

Risks to owning Microsoft shares include but are not limited to:

- Intense competition from other software/hardware/cloud providers. In our view, other competing operating systems on multiple device types could lead to market share losses in Microsoft's traditionally safe PC business. If competitors are successful in marginalizing Microsoft's operating system software this could have an impact on profitability.
- Lack of support, poor execution, and a highly competitive environment for Microsoft's new cloud-based computing model
- Macroeconomic issues, including a decline in business or consumer spending and changes in consumer behavior
- Consumer and business user preference of PCs to other forms of mobile computing devices
- Global piracy issues, including Microsoft's ability to protect intellectual property rights and secure its licensing revenue
- Software security threats could lead to reduced revenues
- Regulatory oversight and continued business scrutiny from the U.S. Department of Justice and the European Commission could lead to less risk taking and slower growth
- The ability of Microsoft management to hire and retain top talent
- Lack of product innovation or timely product development
- Business integration risk following several recent acquisitions and disruptions from suppliers
- Loss of strategic partnerships key to Microsoft, including sales from OEMs

Microsoft Corp. (MSFT) (\$'s in millions) FYE June

Balance Sheet	FY'05	FY'06	FY'07	FY'08	FY'09	FY'10	FY'11	FY'12	FY'13	FY'14	FY'15	FY'16	Q1'17	Q2'17	Q3'17	Q4'17	FY'17	Q1'18
Assets																		
Current assets																		
Cash & cash equivalents	\$ 4,851	\$ 6,714	\$ 6,111	\$ 10,339	\$ 6,076	\$ 5,505	\$ 9,610	\$ 6,938	\$ 3,804	\$ 8,669	\$ 5,595	\$ 6,510	\$ 13,928	\$ 8,468	\$ 6,713	\$ 7,663	\$ 7,663	\$ 6,884
Short-term investments	32,900	27,447	17,300	13,323	25,371	31,283	43,162	56,102	73,218	77,040	90,931	106,730	123,004	114,313	119,305	125,318	125,318	131,587
Total cash & short-term investments	37,751	34,161	23,411	23,662	31,447	36,788	52,772	63,040	77,022	85,709	96,526	113,240	136,932	122,781	126,018	132,981	132,981	138,471
Accounts receivable, net	7,180	9,316	11,338	13,589	11,192	13,014	14,987	15,780	17,486	19,544	17,908	18,277	11,129	14,343	12,882	19,792	19,792	14,561
Inventories	491	1,478	1,127	985	717	740	1,372	1,137	1,938	2,660	2,902	2,251	3,122	1,961	1,979	2,181	2,181	3,211
Deferred income taxes	1,701	1,940	1,899	2,017	2,213	2,184	2,467	2,035	1,632	1,941	1,915	-	-	-	-	-	-	-
Other	1,614	2,115	2,393	2,989	3,711	2,950	3,320	3,092	3,388	4,392	5,461	5,892	6,726	5,864	5,434	4,897	4,897	4,788
Total current assets	48,737	49,010	40,168	43,242	49,280	55,676	74,918	85,084	101,466	114,246	124,712	139,660	157,909	144,949	146,313	159,851	159,851	161,031
Property & equipment, net	2,346	3,044	4,350	6,242	7,535	7,630	8,162	8,269	9,991	13,011	14,731	18,356	19,224	21,379	21,962	23,734	23,734	24,809
Equity & other investments	11,004	9,232	10,117	6,588	4,933	7,754	10,865	9,776	10,844	14,597	12,053	10,431	10,486	8,912	7,381	6,023	6,023	12,187
Goodwill	3,309	3,866	4,760	12,108	12,503	12,394	12,581	13,452	14,655	20,127	16,939	17,872	17,907	34,524	34,668	35,122	35,122	35,389
Intangible assets, net	499	539	878	1,973	1,759	1,158	744	3,170	3,083	6,981	4,835	3,733	3,522	11,001	10,547	10,106	10,106	9,598
Deferred income taxes	3,621	2,611	1,389	949	279	-	-	-	-	-	-	-	-	-	-	-	-	-
Other long-term assets	1,299	1,295	1,509	1,691	1,599	1,501	1,434	1,520	2,392	3,422	2,953	3,642	3,476	3,845	4,146	6,250	6,250	6,083
Total assets	70,815	69,597	63,171	72,793	77,888	86,113	108,704	121,271	142,431	172,384	176,223	193,694	212,524	224,610	225,017	241,086	241,086	249,097
Liabilities & stockholders' equity																		
Current liabilities																		
Accounts payable	2,086	2,909	3,247	4,034	3,324	4,025	4,197	4,175	4,828	7,432	6,591	6,898	6,296	6,580	6,217	7,390	7,390	6,866
Short-term debt	-	-	-	-	2,000	1,000	-	1,231	2,999	2,000	7,484	12,904	14,536	25,664	7,786	10,121	10,121	9,220
Accrued compensation	1,662	1,938	2,325	2,934	3,156	3,283	3,575	3,875	4,117	4,797	5,096	5,264	3,621	3,982	4,604	5,819	5,819	4,108
Income taxes	2,020	1,557	1,040	3,248	725	1,074	580	789	592	782	606	580	720	508	654	718	718	920
Short-term unearned revenue	7,502	9,138	10,779	13,397	13,003	13,652	15,722	18,653	20,639	23,150	23,223	27,468	26,304	26,085	26,518	34,102	34,102	22,778
Securities lending payable	-	3,117	2,741	2,614	1,684	182	1,208	814	645	558	92	294	210	1,280	201	97	97	203
Other	3,607	3,783	3,622	3,659	3,142	2,931	3,492	3,151	3,597	6,906	6,766	5,949	7,123	6,688	6,025	6,280	6,280	7,520
Total current liabilities	16,877	22,442	23,754	29,886	27,034	26,147	28,774	32,688	37,417	45,625	49,858	59,357	58,810	70,787	52,005	64,527	64,527	51,615
Long-term debt	-	-	-	-	3,746	4,939	11,921	10,713	12,601	20,645	27,808	40,783	60,154	59,306	76,222	76,073	76,073	76,255
Long-term unearned revenue	1,665	1,764	1,867	1,900	1,281	1,178	1,398	1,406	1,760	2,008	2,095	6,441	7,284	8,595	9,215	10,377	10,377	2,126
Deferred income taxes	-	-	-	-	-	229	1,456	1,893	1,709	2,728	2,835	696	1,564	1,133	465	531	531	5,513
Other long-term liabilities	4,158	5,287	6,453	4,721	6,269	7,445	8,072	8,208	10,000	11,594	13,544	14,420	14,340	15,980	17,381	17,184	17,184	23,941
Total liabilities	22,700	29,493	32,074	36,507	38,330	39,938	51,621	54,908	63,487	82,600	96,140	121,697	142,152	155,801	155,288	168,692	168,692	159,450
Commitments & contingencies																		
Stockholders' equity																		
Common stock & paid in capital	60,413	59,005	60,557	62,849	62,382	62,856	63,415	65,797	67,306	68,366	68,465	68,178	67,747	68,177	68,554	69,315	69,315	69,419
Retained earnings (deficit)	(12,298)	(18,901)	(29,460)	(26,563)	(22,824)	(16,681)	(6,332)	566	9,895	17,710	9,096	2,282	944	120	531	2,648	2,648	19,702
Accumulated other comprehensive income	-	-	-	-	-	229	1,456	1,893	1,709	2,728	2,835	696	1,681	512	644	431	431	526
Total stockholders' equity	48,115	40,104	31,097	36,286	39,558	46,175	57,083	66,363	78,944	89,784	80,083	71,997	70,372	68,809	69,729	72,394	72,394	89,647
Total liabilities & stockholders' equity	\$ 70,815	\$ 69,597	\$ 63,171	\$ 72,793	\$ 77,888	\$ 86,113	\$ 108,704	\$ 121,271	\$ 142,431	\$ 172,384	\$ 176,223	\$ 193,694	\$ 212,524	\$ 224,610	\$ 225,017	\$ 241,086	\$ 241,086	\$ 249,097

Source: Company data

Microsoft Corp. (MSFT) (\$'s in millions) FYE Jun.

Income Statement Analysis	FY'06	FY'07	FY'08	FY'09	FY'10	FY'11	FY'12	FY'13	FY'14	FY'15	FY'16	FY'17	Q1'18	Q2'18E	Q3'18E	Q4'18E	FY'18E	FY'19E
Revenue (adjusted)	\$44,282	\$51,122	\$60,420	\$58,437	\$62,484	\$69,943	\$73,723	\$77,849	\$86,833	\$93,580	\$92,071	\$96,657	\$24,538	\$28,200	\$25,100	\$27,100	\$104,938	\$109,650
Cost of Revenue	7,650	10,693	11,598	12,155	12,395	\$15,577	17,530	20,249	\$26,934	\$33,038	\$32,780	\$34,261	8,278	11,150	8,650	9,200	\$37,278	\$38,560
Gross Profit	36,632	40,429	48,822	46,282	50,089	54,366	56,193	57,600	59,899	60,542	59,291	62,396	16,260	17,050	16,450	17,900	67,660	71,090
Operating Expenses																		
Research & Development	6,584	7,121	8,164	9,010	8,714	9,043	9,811	10,411	11,381	12,046	11,988	13,037	3,574	3,550	3,550	3,475	14,149	14,220
Sales & Marketing	9,818	11,455	13,260	12,879	13,214	13,940	13,857	15,276	15,811	15,713	14,697	15,539	3,812	4,400	4,120	4,550	16,882	17,450
General & Administrative	3,758	3,329	5,127	4,030	4,063	4,222	4,569	5,149	4,821	4,611	4,563	4,481	1,166	1,100	1,250	1,400	4,916	5,200
Restructuring and other charges							6,193	-	127	10,011	6,751	306	-	-	-	-	-	-
Total Operating Expenses	20,160	21,905	26,551	25,919	25,991	27,205	28,237	30,836	32,013	42,381	37,999	33,363	8,552	9,050	8,920	9,425	35,947	36,870
Operating Income	16,472	18,524	22,271	20,363	24,098	27,161	27,956	26,764	27,886	18,161	21,292	29,033	7,708	8,000	7,530	8,475	31,713	34,220
Other Investment Income (expense)	1,790	1,577	1,543	(542)	915	910	504	288	61	346	(431)	823	276	450	200	200	1,126	800
Income before income taxes	\$18,262	\$20,101	\$23,814	\$19,821	\$25,013	\$28,071	\$28,460	\$27,052	\$27,820	\$18,507	\$20,861	\$29,856	\$7,984	\$8,450	\$7,730	\$8,675	\$32,839	\$35,020
Provision for income taxes	5,663	6,036	6,133	5,252	6,253	4,921	5,289	5,189	5,746	6,314	(1,251)	4,864	1,408	1,859	1,701	1,909	6,876	7,217
Net income	\$12,599	\$14,065	\$17,681	\$14,569	\$18,760	\$23,150	\$23,171	\$21,863	\$22,074	\$12,193	\$22,112	\$24,992	\$6,576	\$6,591	\$6,029	\$6,767	\$25,963	\$27,803
Earnings per share:																		
GAAP EPS (diluted)	\$ 1.20	\$ 1.42	\$ 1.87	\$ 1.62	\$ 2.10	\$ 2.65	\$ 2.00	\$ 2.59	\$ 2.63	\$ 1.48	\$ 2.06	\$ 2.71	\$ 0.84	\$ 0.85	\$ 0.78	\$ 0.87	\$ 3.34	\$ 3.60
Earnings per share: (adjusted diluted)							\$ 2.79	\$ 2.70	\$ 2.67	\$ 2.67	\$ 2.76	\$ 3.31	\$ 0.84	\$ 0.85	\$ 0.78	\$ 0.87	\$ 3.34	\$ 3.60
Weighted average shares outstanding:																		
Diluted	10,531	9,886	9,470	8,996	8,927	8,593	8,460	8,450	8,385	8,237	8,002	7,831	7,799	7,780	7,765	7,755	7,775	7,724
Cash Dividend per share	\$ 0.34	\$ 0.39	\$ 0.43	\$ 0.52	\$ 0.52	\$ 0.64	\$ 0.80	\$ 0.92	\$ 1.12	\$ 1.24	\$ 1.44	\$ 1.56	\$ 0.42	\$ 0.42	\$ 0.42	\$ 0.42	\$ 1.68	\$ 1.80
Year/Year Growth Rates																		
Adjusted Revenue	11.3%	15.4%	18.2%	-3.3%	6.9%	11.9%	5.4%	5.6%	11.5%	7.8%	-1.6%	5.0%	9.9%	8.2%	6.6%	9.7%	8.6%	4.5%
Cost of Revenue	26.8%	39.8%	8.5%	4.8%	2.0%	25.7%	12.5%	15.5%	33.0%	22.7%	-0.8%	4.5%	5.5%	12.6%	7.3%	8.8%	8.8%	3.4%
Gross Profit	8.5%	10.4%	20.8%	-5.2%	8.2%	8.5%	3.4%	2.5%	4.0%	1.1%	-2.1%	5.2%	12.2%	5.5%	6.1%	10.2%	8.4%	5.1%
R&D Expense	8.0%	8.2%	14.6%	10.4%	-3.3%	3.8%	8.5%	6.1%	9.3%	5.8%	-0.5%	8.8%	15.1%	15.9%	5.8%	-1.1%	8.5%	0.5%
Sales & Marketing	14.7%	16.7%	15.8%	-2.9%	2.6%	5.5%	-0.6%	10.2%	3.5%	-0.6%	-6.5%	5.7%	17.9%	8.1%	6.2%	4.5%	8.6%	3.4%
General & Administrative	-17.2%	-11.4%	54.0%	-21.4%	0.8%	3.9%	8.2%	12.7%	-6.4%	-4.4%	-1.0%	-1.8%	11.6%	25.1%	4.0%	3.3%	9.7%	5.8%
Total Operating Expenses	5.0%	8.7%	21.2%	-2.4%	0.3%	4.7%	3.8%	9.2%	3.8%	32.4%	-10.3%	-12.2%	15.8%	13.0%	5.7%	-1.1%	7.7%	2.6%
Operating Income	13.1%	12.5%	20.2%	-8.6%	18.3%	12.7%	2.9%	-4.3%	4.2%	-34.9%	17.2%	36.4%	8.5%	-1.9%	6.6%	26.2%	9.2%	7.9%
Net Income	2.8%	11.6%	25.7%	-17.6%	28.8%	23.4%	0.1%	-5.6%	1.0%	-44.8%	81.3%	13.0%	0.1%	1.2%	5.5%	-11.7%	3.9%	7.1%
Earnings Per Share	6.5%	18.9%	31.2%	-13.3%	29.8%	25.9%	5.4%	-3.3%	-1.1%	0.1%	3.4%	19.8%	10.9%	1.8%	6.2%	-11.1%	1.0%	7.8%
Diluted Shares Outstanding	-3.4%	-6.1%	-4.2%	-5.0%	-0.8%	-3.7%	-1.5%	-0.1%	-0.8%	-1.8%	-2.8%	-2.1%	-1.0%	-0.6%	-0.6%	-0.7%	-0.7%	-0.7%
Percentage of Revenue																		
Cost of Revenue	17.3%	20.9%	19.2%	20.8%	19.8%	22.3%	23.8%	26.0%	31.0%	35.3%	35.6%	35.4%	33.7%	39.5%	34.5%	33.9%	35.5%	35.2%
R&D Expense	14.9%	13.9%	13.5%	15.4%	13.9%	12.9%	13.3%	13.4%	13.1%	12.9%	13.0%	13.5%	14.6%	12.6%	14.1%	12.8%	13.5%	13.0%
Sales & Marketing	22.2%	22.4%	21.9%	22.0%	21.1%	19.9%	18.8%	19.6%	18.2%	16.8%	16.0%	16.1%	15.5%	15.6%	16.4%	16.8%	16.1%	15.9%
General & Administrative	8.5%	6.5%	8.5%	6.9%	6.5%	6.0%	6.2%	6.6%	5.6%	4.9%	5.0%	4.6%	4.8%	3.9%	5.0%	5.2%	4.7%	4.7%
Total Operating Expenses	45.5%	42.8%	43.9%	44.4%	41.6%	38.9%	38.3%	39.6%	36.9%	45.3%	41.3%	34.5%	34.9%	32.1%	35.5%	34.8%	34.3%	33.6%
Margin Analysis																		
Gross Profit	82.7%	79.1%	80.8%	79.2%	80.2%	77.7%	76.2%	74.0%	69.0%	64.7%	64.4%	64.6%	66.3%	60.5%	65.5%	66.1%	64.5%	64.8%
Operating Income	37.2%	36.2%	36.9%	34.8%	38.6%	38.8%	37.9%	34.4%	32.1%	19.4%	23.1%	30.0%	31.4%	28.4%	30.0%	31.3%	30.2%	31.2%
Net Income	28.5%	27.5%	29.3%	24.9%	30.0%	33.1%	31.4%	28.1%	25.4%	13.0%	24.0%	25.9%	26.8%	23.4%	24.0%	25.0%	24.7%	25.4%

Source: Company data and Hilliard Lyons estimates

Additional information is available upon request.

Analyst Certification

I, Stephen Turner, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject company(ies) and its (their) securities. I also certify that I have not been, am not, and will not be receiving direct or indirect compensation in exchange for expressing the specific recommendation(s) in this report.

Important Disclosures

Hilliard Lyons' analysts receive bonus compensation based on Hilliard Lyons' profitability. They do not receive direct payments from investment banking activity.

Suitability Ratings

- 1 - A large cap, core holding with a solid history
- 2 - A historically secure company which could be cyclical, has a shorter history than a "1" or is subject to event driven setbacks
- 3 - An above average risk/reward ratio could be due to small size, lack of product diversity, sporadic earnings or high leverage
- 4 - Speculative, due to small size, inconsistent profitability, erratic revenues, volatility, low trading volume or a narrow customer or product base

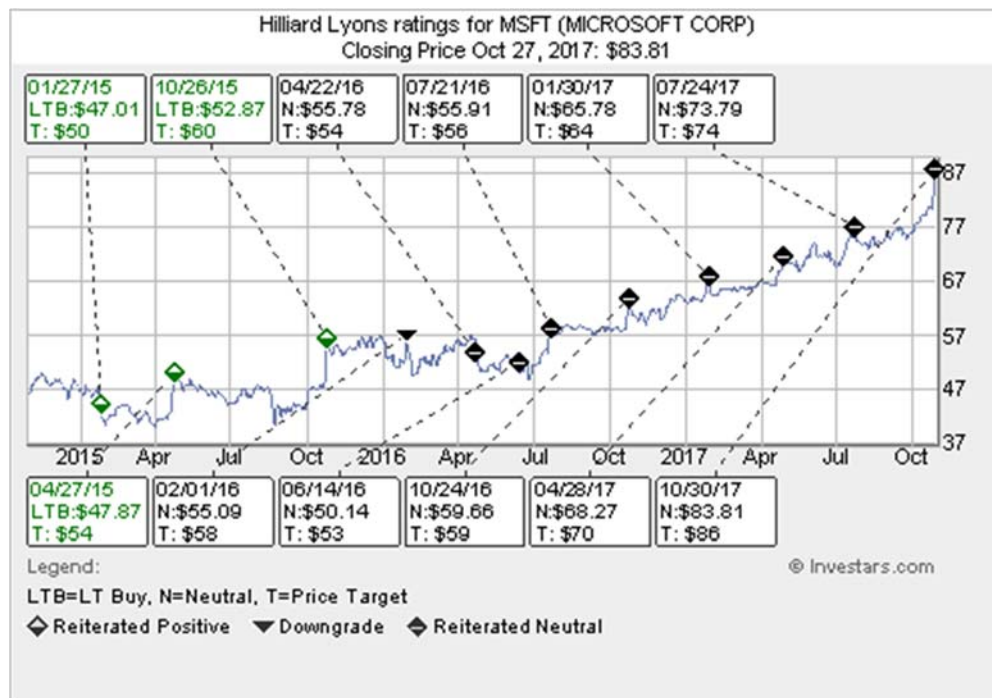
Investment Ratings

Buy - We believe the stock has significant total return potential in the coming 12 months.

Long-term Buy - We believe the stock is an above average holding in its sector, and expect solid returns to be realized over a longer time frame than our Buy rated issues, typically 2-3 years.

Neutral - We believe the stock is an average holding in its sector, is currently fully valued, and may be used as a source of funds if better opportunities arise.

Underperform - We believe the stock is vulnerable to a price setback in the next 12 months.



	Hilliard Lyons Recommended Issues		Investment Banking Provided in Past 12 Mo.	
	# of Stocks Covered	% of Stocks Covered	Banking	No Banking
Rating				
Buy	39	32%	8%	92%
Hold/Neutral	74	60%	9%	91%
Sell	8	7%	0%	100%
Restriction	2	2%	100%	0%

As of 5 October 2017

Other Disclosures

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