

Rating **OUTPERFORM**  
Price (17-Jan-18, US\$) 90.14  
Target price (US\$) (from 95.00) 115.00  
52-week price range (US\$) 90.14 - 62.30  
Market cap(US\$ m) 695,393  
Target price is for 12 months.

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## Microsoft (MSFT)

**INCREASE TARGET PRICE**

### New CS Survey: Cloud Mo to Continue in 2018; What Will MSFT Do with the Cash? Increase TP

- **CS Survey – Commercial Cloud Momentum to Continue:** Our new, proprietary survey (historically our surveys have been good leading indicators of business trends) suggests that momentum in MSFT's Commercial Cloud businesses should continue throughout 2018, at least. Specifically, AWS / Azure continue to lead the cloud market (81% of respondents name them as preferred vendors, up from 72% six months ago and 70% last yr). Additionally, 47% and 35% have already adopted Office 365 and Windows 10, respectively (a large uptick from six months ago), while 37% still plan to upgrade to O365 within 24 months (also up from 36%), which gives us increased confidence in our O365 MAUs forecast of ~160M by FY19. Interestingly, **>50% indicated they would upgrade to the next O365 subscription pricing tier for better features/products, suggesting monetization of the O365C user base remains in the very early innings.**
- **What MSFT Could Do with the Cash.** If MSFT repatriates some or all of its overseas cash (~\$132B held by foreign subsidiaries, ~\$112B net of tax), it could issue a one-time, \$14+ per share special dividend, although we view something that large as unlikely, and expect a combination of a smaller one-time dividend (\$6-9) combined with an increase in share buybacks. We do not view this as a catalyst for an uptick in M&A activity at MSFT specifically.
- **Top Large Cap Pick:** Our Outperform thesis on MSFT shares is centered on what we view as strong cash flow growth and earnings power potential over the next several yrs, which could be unlocked from (1) significant Commercial Cloud growth, and (2) higher cloud gross margins over time.
- **Microsoft is scheduled to report F2Q18 results on Wed, January 31.**
- **We expect FQ2:** Total revenue of \$28,453M (+10.2% yr/yr) vs. Street of \$28,389M; P&BP of \$8,916M (+24.2%), which includes \$1,200M revs from LinkedIn; IC of \$7,528M (+11.4%); MPC of \$12,008M (+1.0%). We model GM% of 60.7% vs. guide of 60.4-60.8%; EPS of \$0.86, in line with Street.
- **Valuation:** Our new \$115 TP (from \$95) implies a C2018 EV/OCF multiple of 17.6x, EV/FCF multiple of 23.6x, and P/E multiple of 28.6x (excl. SBC).

#### Share price performance



On 17-Jan-2018 the S&P 500 INDEX closed at 2803.23  
Daily Jan17, 2017 - Jan17, 2018, 01/17/17 = US\$62.53

Quarterly EPS	Q1	Q2	Q3	Q4
2017A	0.72	0.80	0.70	1.06
2018E	0.84	0.86	0.76	0.99
2019E	0.90	0.98	0.86	1.12

#### Financial and valuation metrics

Year	6/16A	6/17A	6/18E	6/19E
EPS (Excl. ESO) (US\$)	2.94	3.64	3.84	4.27
EPS (CS adj., )	2.67	3.29	3.45	3.85
Prev. EPS (CS adj., US\$)	-	-	-	-
P/E (CS adj.) (x)	33.7	27.4	26.2	23.4
P/E rel. (CS adj., %)	-	120.0	126.8	126.3
Revenue (US\$ m)	91,154.0	96,571.0	106,370.0	114,329.6
EBITDA (US\$ m)	33,810.0	38,109.0	43,015.2	48,080.8
Net Debt (US\$ m)	-59,779	-46,787	-62,117	-78,584
OCFPS (US\$)	4.16	5.04	5.80	6.49
P/OCF (x)	21.7	17.9	15.5	13.9
Number of shares (m)	7,714.59			6.90
BV/share (Next Qtr., US\$)	11.7			7.6
Net debt (Next Qtr., US\$ m)	-52,454.9			
Dividend yield (%)	0.47			1.7
		Price/Sales (x)		
		P/BVPS (x)		
		Dividend (current, US\$)		

Source: Company data, Thomson Reuters, Credit Suisse estimates

**DISCLOSURE APPENDIX AT THE BACK OF THIS REPORT CONTAINS IMPORTANT DISCLOSURES, ANALYST CERTIFICATIONS, LEGAL ENTITY DISCLOSURE AND THE STATUS OF NON-US ANALYSTS.** US Disclosure: Credit Suisse does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the Firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

# Microsoft (MSFT)

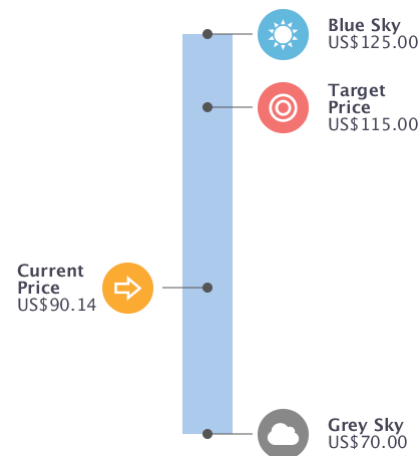
Price (17 Jan 2018): **US\$90.14**; Rating: **OUTPERFORM**; Target Price: (from **US\$95.00**) **US\$115.00**; Analyst: **Michael Nemeroff**

Income Statement	6/16A	6/17A	6/18E	6/19E
Revenue (US\$ m)	91,154.0	96,571.0	106,370.0	114,329.6
Sales	91,154.0	96,571.0	106,370.0	114,329.6
EBITDA	33,810.0	38,109.0	43,015.2	48,080.8
Operating profit	27,188.0	29,331.0	32,326.5	36,660.9
Recurring profit	26,749.0	30,207.0	33,952.5	37,860.9
Cash Flow	6/16A	6/17A	6/18E	6/19E
Cash flow from operations	33,305	39,507	45,195	50,395
CAPEX	(8,756)	(9,978)	(11,402)	(12,935)
Free cashflow to the firm	24,549	29,529	33,793	37,460
Cash flow from investments	(23,950)	(46,781)	(13,804)	(10,135)
Net share issue/(repurchase)	(15,301)	(11,016)	(9,303)	(9,988)
Dividends paid	(11,006)	(11,845)	(12,697)	(13,805)
Issuance (retirement) of debt	18,283	31,459	(925)	0
Other	(2,719)	(14,335)	6,838	(0)
Cashflow from financing activities	(10,743)	(5,737)	(16,087)	(23,793)
Effect of exchange rates	(67)	19	26	0
Changes in Net Cash/Debt	(1,455)	(12,992)	15,330	16,467
Net debt at end	(59,779)	(46,787)	(62,117)	(78,584)
Balance Sheet (\$US)	6/16A	6/17A	6/18E	6/19E
Assets				
Other current assets	112,791	130,421	136,945	137,213
Total current assets	142,188	162,696	179,400	197,612
Total assets	202,897	250,312	266,176	283,103
Liabilities				
Short-term debt	12,904	10,121	9,220	9,220
Total current liabilities	53,102	55,745	61,125	67,177
Long-term debt	40,557	76,073	76,255	76,255
Total liabilities	119,807	162,601	170,070	176,790
Shareholder equity	83,090	87,711	96,107	106,313
Total liabilities and equity	202,897	250,312	266,176	283,103
Net debt	(59,779)	(46,787)	(62,117)	(78,584)
Per share	6/16A	6/17A	6/18E	6/19E
No. of shares (wtd avq)	8,013	7,832	7,789	7,761
CS adj. EPS	2.67	3.29	3.45	3.85
Prev. EPS (US\$)	-	-	-	-
Dividend (US\$)	1.44	1.56	1.68	1.80
Free cash flow per share	3.06	3.77	4.34	4.83
Earnings	6/16A	6/17A	6/18E	6/19E
Sales growth (%)	(2.6)	5.9	10.1	7.5
EBIT growth (%)	(3.5)	7.9	10.2	13.4
Net profit growth (%)	(1.2)	20.1	4.3	11.5
EPS growth (%)	2.7	23.8	5.5	11.2
EBIT margin (%)	29.8	30.4	30.4	32.1
Valuation	6/16A	6/17A	6/18E	6/19E
EV/Sales (x)	6.97	6.72	5.95	5.40
EV/EBIT (x)	23.4	22.1	19.6	16.8
P/E (x)	33.7	27.4	26.2	23.4
Quarterly EPS	Q1	Q2	Q3	Q4
2017A	0.72	0.80	0.70	1.06
2018E	0.84	0.86	0.76	0.99
2019E	0.90	0.98	0.86	1.12

## Company Background

Microsoft provides cloud computing services, desktop and server management tools, productivity software applications, enterprise services, consumer electronics, operating systems, and personal computers to businesses and consumers.

## Blue/Grey Sky Scenario



## Our Blue Sky Scenario (US\$) (from 105.00) 125.00

Better than expected traction in Commercial Cloud, further monetization of its large piracy base, increased penetration in emerging markets, and continued operational efficiencies driven by significant economies of scale result in revenue CAGR of +7.3% from F2020 to F2027 and terminal operating margin of 52.2%. This yields a blue sky scenario of \$125 per share, which implies a C2018 P/E multiple of 34.5x (or 31.1x excl. SBC).

## Our Grey Sky Scenario (US\$) (from 68.00) 70.00

Increased competition, heavier than anticipated pricing discounts, failure to successfully integrated large M&A transactions, and unexpected delays in software upgrades / new product offerings result in revenue CAGR of only +4.5% from F2020 to F2027 and terminal operating margin of 23.4%. This yields a gray sky scenario of \$70 per share, which implies a C2018 P/E multiple of 19.3x (or 17.4x excl. SBC).

## Share price performance



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Daily Jan17, 2017 - Jan17, 2018, 01/17/17 = US\$62.53

Source: Company data, Thomson Reuters, Credit Suisse estimates

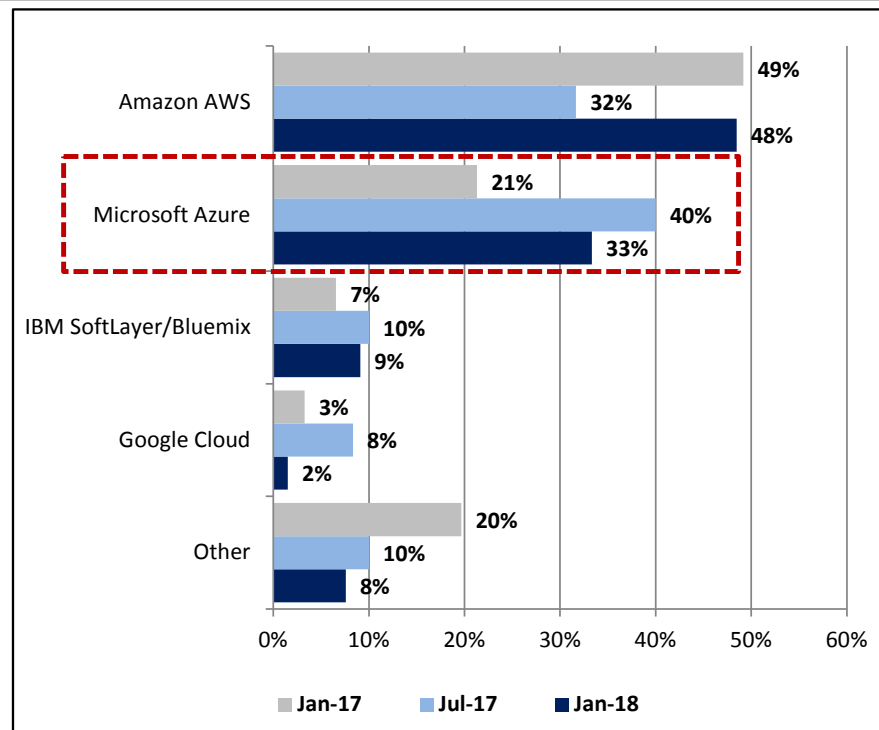
## I. New Enterprise Software Survey: Expect Sustained Strength in Commercial Cloud

We recently conducted an update to our software survey of enterprise executives (CIOs, CTOs, and IT Directors; see page 13 for survey demographics), which suggests that MSFT's Commercial Cloud (Azure, Office 365 Commercial, and Dynamics 365) momentum should continue through 2018, at least (this update surveyed ~70% of the same respondents from the previous survey in July 2017).

Specifically, we note that Microsoft Azure, along with Amazon AWS (Ju, Outperform), continue to command significant mindshare among large enterprises, as 81% of respondents indicated that Azure / AWS was their preferred cloud vendor (up considerably from 72% six months ago and 70% the prior year); this reaffirms our thesis that the market is growing/maturing rapidly and continues to consolidate around the current market leaders (see [The Microsoft Cloud Forms and Grows](#)). While we didn't see the same level of improvement we saw in MSFT six months ago (recall previously that 40% of respondents indicated that Azure was their preferred cloud vendor, up nearly double from 21% in early 2017, which was a good leading indicator of Azure's strength – see [MSFT: CS Survey Suggests Inflection Point for Azure](#) and [MSFT: FQ4 Results Strong with Commercial Cloud Growth \(Azure\) Reaccelerating](#)), our new, proprietary survey data gives us increased confidence that growth in Azure should remain robust over the next several qtrs, at least (CS forecasts Azure to reach \$1.498B revenue (+85.9% yr/yr) in F2Q18 and \$7.006B revenue (+82.7% yr/yr) in F2018. Lastly, we do not expect much upside to Server Products over the next few qtrs (CS ests +1.5% yr/yr in F2Q18 and down -2.5% yr/yr in F3Q18 as MSFT laps tough yr/yr compares). We continue to expect Azure to gain market share in the IaaS/PaaS markets due to its competitive differentiators (i.e., hybrid-cloud platform, enterprise-grade capabilities, and hyperscale infrastructure) and market/product positioning (i.e., open ecosystem, interoperability, and enterprise edge / IoT).

**New CS IT Survey:**  
Amazon AWS and  
Microsoft Azure  
continue to lead the  
market, accounting for  
81% of respondents  
(up from 72% in July).

**Figure 1: \*NEW Data\* – Who is your cloud vendor of choice?**

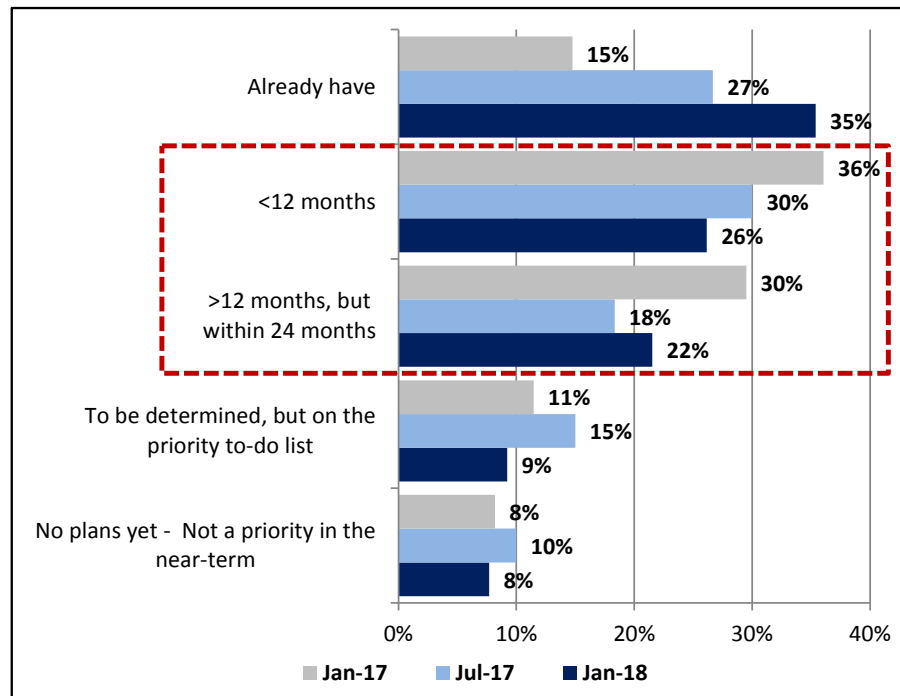


Source: Credit Suisse estimates, GLG.

With regards to the Windows 10 upgrade cycle, 35% of respondents are now on the new operating system (up from 27% six months ago and 15% the prior year) as MSFT continues to make steady progress on Windows 10 penetration at large enterprises. 48% of enterprise respondents plan to upgrade their organization to Windows 10 within the next 24 months (vs. 48% from six months ago and 66% the prior year), while 9% noted that upgrading to Windows 10 was a priority but haven't set a date yet (vs. 15% six months ago and 11% the prior year).

**New CS IT Survey:**  
Steady progress on  
Windows 10 adoption  
with 35% respondents  
on the new OS (up from  
27% six months ago).

**Figure 2: \*NEW Data\* – When do you plan to upgrade your company to Windows 10?**



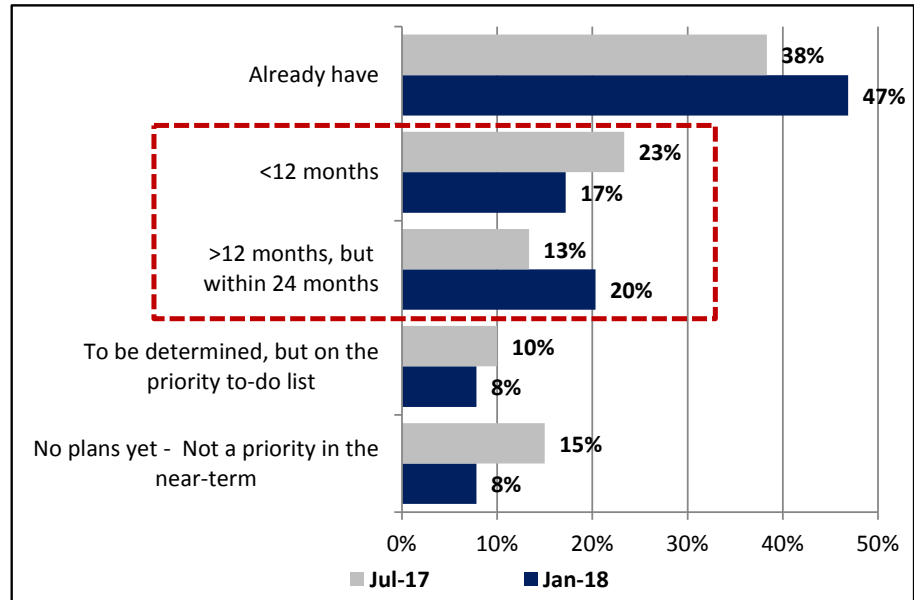
Source: Credit Suisse estimates, GLG.

## Office 365 Penetration to Continue Unabated; Higher Subscription Tiers = Long-term Revenue Opportunity

Regarding Microsoft's Office 365 commercial user penetration, 47% of enterprise respondents have already migrated to Office 365 (up from 38% six months ago), 37% plan to upgrade within the next 24 months (up slightly from 36% six months ago), while 8% noted that upgrading was a priority but haven't set a date yet (down slightly from 10% six months ago). These survey results suggest that Office 365 Commercial penetration continues unabated and give us further confidence in our Office 365 Commercial Monthly Active Users (MAUs) forecasts of ~138M in FY18 and ~160M in FY19 (see Figure 21 for MSFT key operating metrics reference sheet).

While our proprietary bottom-up model suggests that Office 365 Commercial has been one of the leading drivers of gross profit dollar growth over the past few years, we expect that momentum to continue due to (1) increased user penetration over the medium-term (CS ests FY17-19 Office 365 Commercial MAU CAGR of +21%), followed by (2) further monetization / upsell opportunity through higher-tier subscription plans longer-term, as indicated by our new survey work.

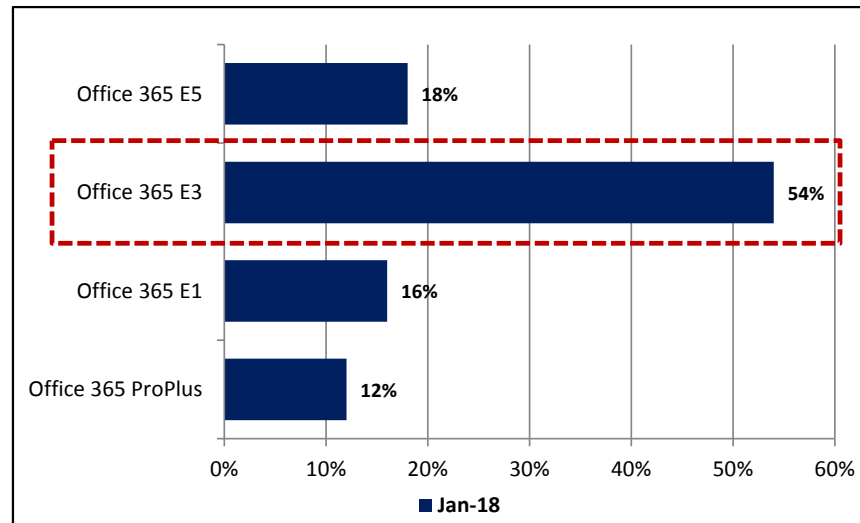
**Figure 3: \*NEW Data\* – When do you plan to upgrade your company to Office 365?**



Source: Credit Suisse estimates, GLG.

Most organizations are on the Office 365 Enterprise E3 plan...

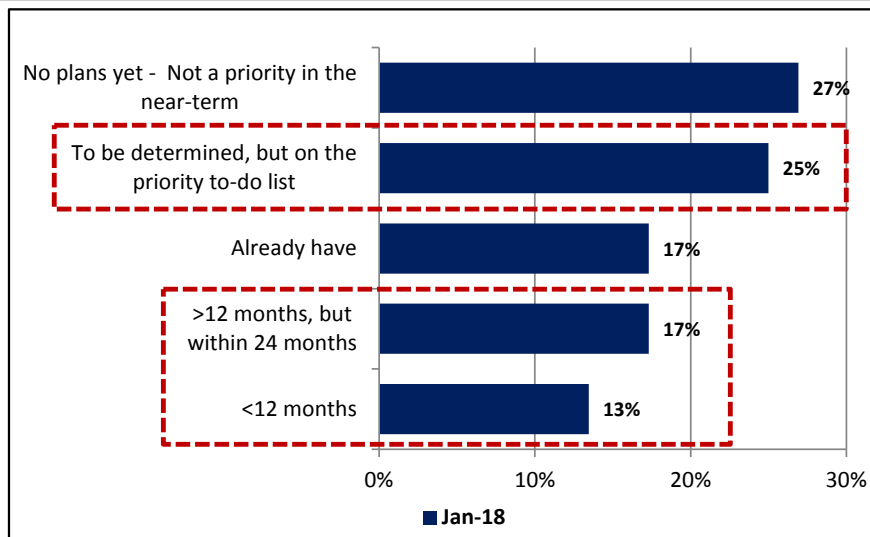
**Figure 4: \*NEW Question\* – Which Office 365 tier are you subscribed to?**



Source: Credit Suisse estimates, GLG.

... but at the same time, >50% of respondents indicated that they would upgrade to the next subscription tier over time.

**Figure 5: \*NEW Question\* – When do you plan to upgrade your Office 365 plan to the next subscription tier for better features and products?**



Source: Credit Suisse estimates, GLG.

**Figure 6: Higher Subscription Tiers (E5+) = Longer-term Office 365 Opportunity**

<p><b>\$12.00</b> user/month (annual commitment)</p> <p>Office 365 ProPlus</p> <p><a href="#">Buy now</a></p> <p><a href="#">Learn more</a> ➔</p> <p>Office applications plus cloud file-storage and sharing. Business email not included.</p>	<p><b>\$8.00</b> user/month (annual commitment)</p> <p>Office 365 Enterprise E1</p> <p><a href="#">Buy now</a></p> <p><a href="#">Learn more</a> ➔</p> <p>Business services—email, file storage and sharing, Office Online, meetings and IM, and more. Office applications not included.</p>	<p><b>\$20.00</b> user/month (annual commitment)</p> <p>Office 365 Enterprise E3</p> <p><a href="#">Buy now</a></p> <p><a href="#">Learn more</a> ➔</p> <p>All the features of Office 365 ProPlus and Office 365 Enterprise E1 plus security and compliance tools, such as legal hold, data loss prevention, and more.</p>	<p><b>\$35.00</b> user/month (annual commitment)</p> <p>Office 365 Enterprise E5</p> <p><a href="#">Contact sales</a></p> <p><a href="#">Learn more</a> ➔</p> <p>All the features of Office 365 Enterprise E3 plus advanced security, analytics, and voice capabilities.</p>
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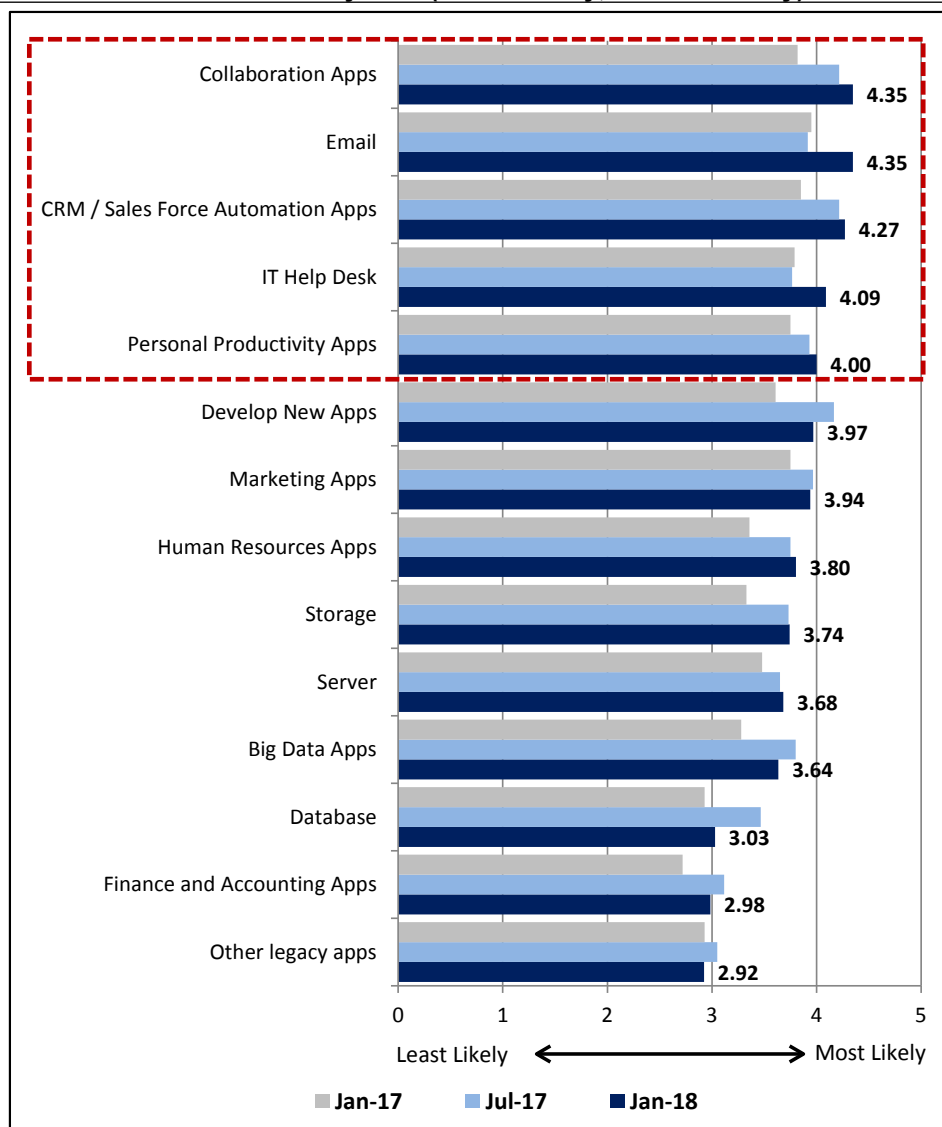
Source: Microsoft, Credit Suisse.

## Favorable End Markets; Microsoft Expected to Gain the Most Wallet Share, According to CS IT Survey

Additionally, we believe that MSFT is one of the few software vendors that has a strong portfolio and presence in all three cloud markets: IaaS, PaaS, and SaaS. (See [The Microsoft Cloud Forms and Grows](#).) Our new survey suggests that collaboration apps, email, CRM/sales force automation apps, IT help desk, and personal productivity apps are the top five most likely use cases that enterprises plan to migrate to the cloud. We believe that MSFT is well-positioned to capture some market share in these growing markets, particularly given its recent product investments and go-to-market efforts to better align with its cloud growth strategy.

Microsoft is leveraged to attractive end markets and is well-positioned to capture market share with its breadth of offerings.

**Figure 7: \*NEW Data\*** Rate the likelihood of migrating the following use cases to the cloud over the next three years. (1 = not likely, 5 = most likely)

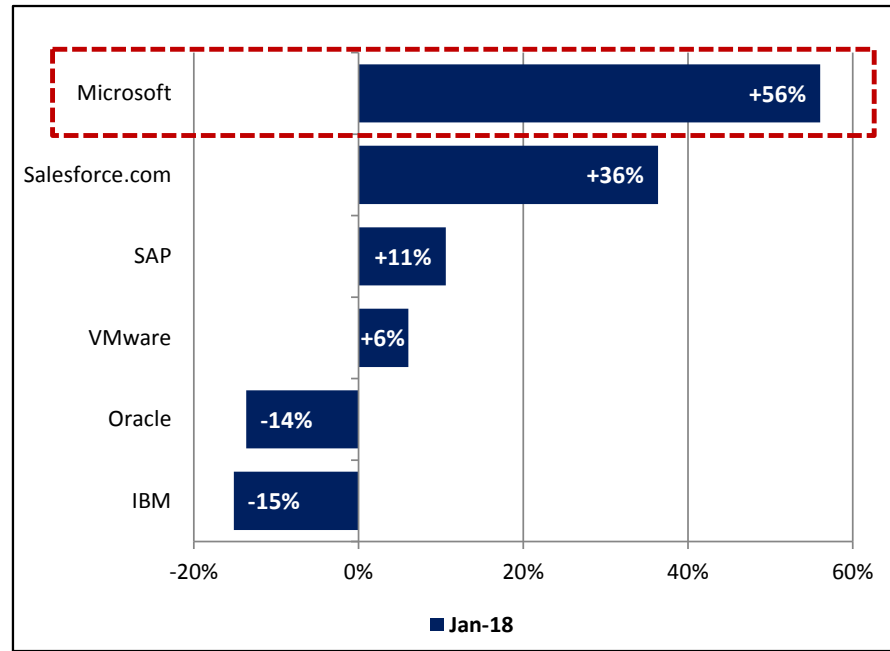


Source: Credit Suisse estimates, GLG.

Lastly, we surveyed respondents regarding which software providers do they expect to gain and lose wallet share (as a percentage of total spend) at their respective organizations. 56% of respondents (net) expect MSFT to gain the most wallet share, the highest among mega cap software providers.

**Microsoft expected to gain the most wallet share among mega cap software providers.**

**Figure 8: Which software providers do you expect to gain (+) / lose (-) wallet share (net) as a percentage of total spend at your firm?**



Source: Credit Suisse estimates, GLG.

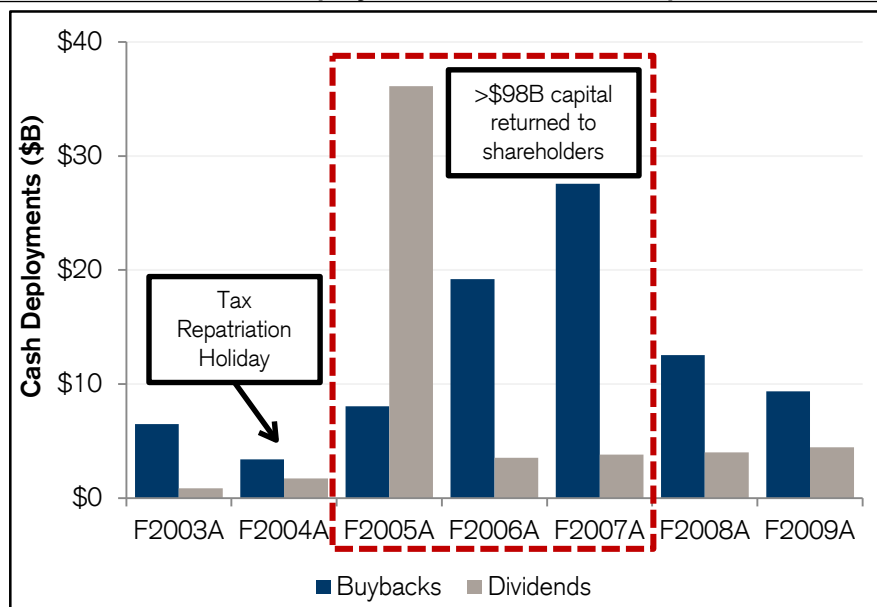


## II. What Will Microsoft Do with All the Overseas Cash it Repatriates, Potentially?

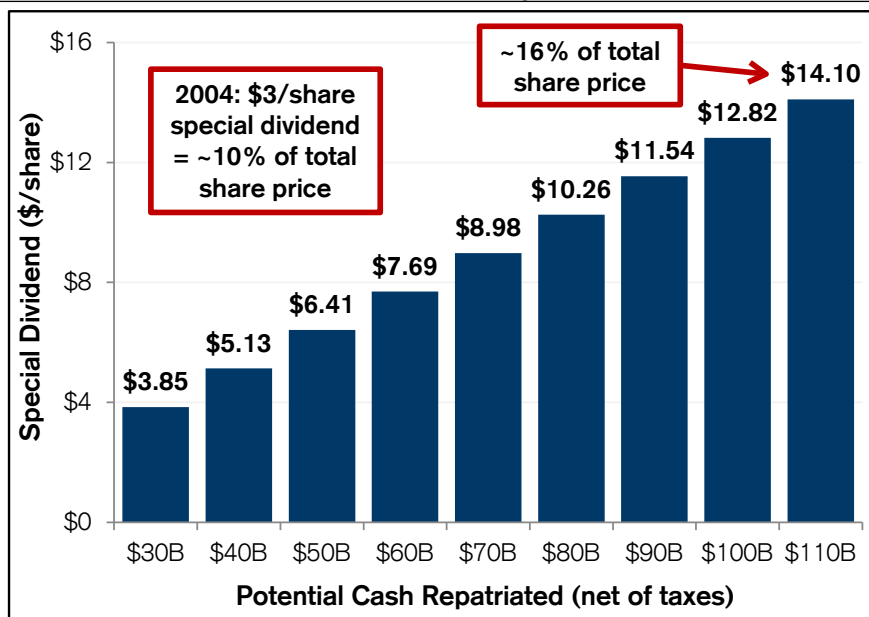
Following the 2004 tax repatriation holiday, MSFT announced (1) a one-time special dividend payment of ~\$32B (\$3 per share), (2) a repurchase program of up to \$30B over the next four years, and (3) that it intended to double its quarterly dividend (worth ~\$3.5B). Using history as our guide, and assuming MSFT will repatriate a portion, or all of its earnings overseas and return some excess cash (currently \$132.1B cash is held by foreign subsidiaries, ~19% of market cap) to shareholders, we think investors could expect similar future actions. (See Figure 9.)

Assuming MSFT repatriates back to the U.S. most of the cash its holding overseas and pays the 15.5% one-time tax to get it here, that would leave ~\$112B, net of tax, or >\$14 per share of cash to potentially return to shareholders, which represents ~16% of the company's share price currently. (See Figure 10.) After the 2004 tax repatriation holiday, MSFT issued a \$3 per share special cash dividend (~\$32B), which at the time represented ~10% of the company's stock price. If MSFT management decides to return 10% of the company's stock price back to shareholders in a one-time special dividend, as the company did back in 2004, that would be \$9 per share, still leaving \$42B to increase their repurchase program over the next few years. Some of our discussions with investors over the last few weeks about this subject suggested that MSFT not issue a special dividend, but increase the regular dividend substantially over a longer period of time so the stock price doesn't pop on the announcement and then slide after the special dividend is potentially paid out. Also recall that MSFT announced that it is renovating its Redmond campus over the next few years, which could cost several billion dollars, but that expenditure would only represent a small portion of the total cash it could potentially repatriate.

One thing we do NOT believe will happen as a result of this tax event is a significant increase or change in MSFT's M&A activity or strategy given (1) its already low cost to borrow, (2) a less programmatic M&A strategy to acquire market share, and (3) previous M&A history (i.e., no 'transformative' acquisitions prior to 2007 with aQuantive), which is also consistent with mgmt's recent commentary. However, we do believe that MSFT will continue to opportunistically acquire smaller cloud assets and relevant Artificial Intelligence (AI) technologies.

**Figure 9: Microsoft's Cash Deployment After 2004 Tax Repatriation Holiday**

Source: Company data, Thomson Reuters, Credit Suisse estimates.

**Figure 10: Microsoft Could Issue a One-time Special Cash Dividend of \$14+/sh**

Source: Company data, Credit Suisse estimates.

■ **CFO Amy Hood (December 5, 2017):**

**"It (tax reform / cash repatriation) won't change how we think about our M&A strategy.** When we see assets that make sense to us, when we feel they're fundamental to growing our business, when we feel we're a better owner than someone else because of where they fit, how they fit, that is what will dictate whether a deal makes sense to us... I don't want to wait for tax reform to buy smart assets, and many assets won't make any more sense or any less sense in a new environment.

### III. Top Large Cap Pick for 2018

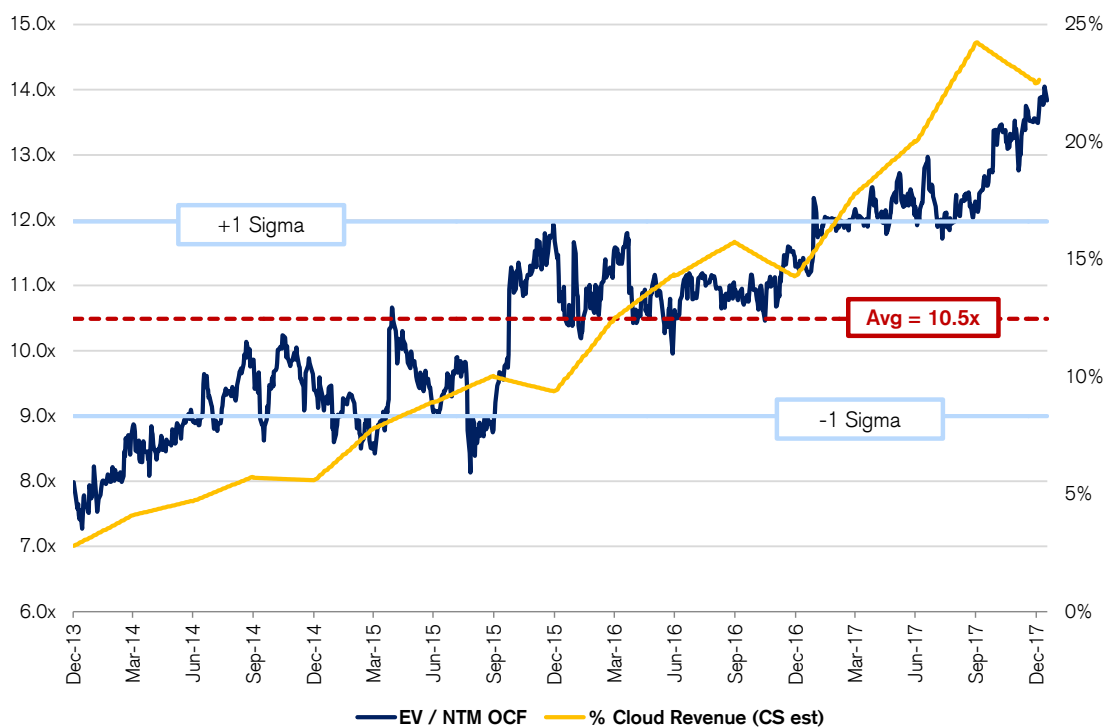
Our bullish thesis on MSFT shares is centered on what we view as strong cash flow growth and earnings power potential over the next several years, which could be unlocked from (1) significant commercial cloud growth (Azure, Office 365 Commercial, Dynamics 365), and (2) higher cloud gross margins over time due to economies of scale, ultimately leading to accelerating gross profit dollar growth and driving our above-consensus EPS estimates.

Our new \$115 target price is based on a blended average, using 50% of our discounted cash flow (DCF) valuation (10.9% WACC, 3.0% terminal growth) and 50% of our weighted relative multiple. Our new target price implies a P/E multiple of 31.8x on our C2018 estimate (or 28.6x excluding SBC), a warranted premium to that of the group average given our expectations for sustained growth in Commercial Cloud while generating incremental leverage. However, given the cloud transformation at play, we believe that investors should begin to shift their framework for valuing MSFT shares to a cash flow multiple, rather than only using a P/E multiple as an increasing percentage of its business shifts to recurring sources of revenue (i.e., cloud subscriptions – we estimate that by as early as FY22, >50% of MSFT's revenue will be from recurring sources, and >65% by FY25). (See [MSFT: Beginning to Build the Case for a Higher Cash Flow Multiple](#).) As such, our new \$115 target price implies a C2018 EV/OCF multiple of 17.6x and a EV/FCF multiple of 23.6x. (See Figures 11 to 13.)

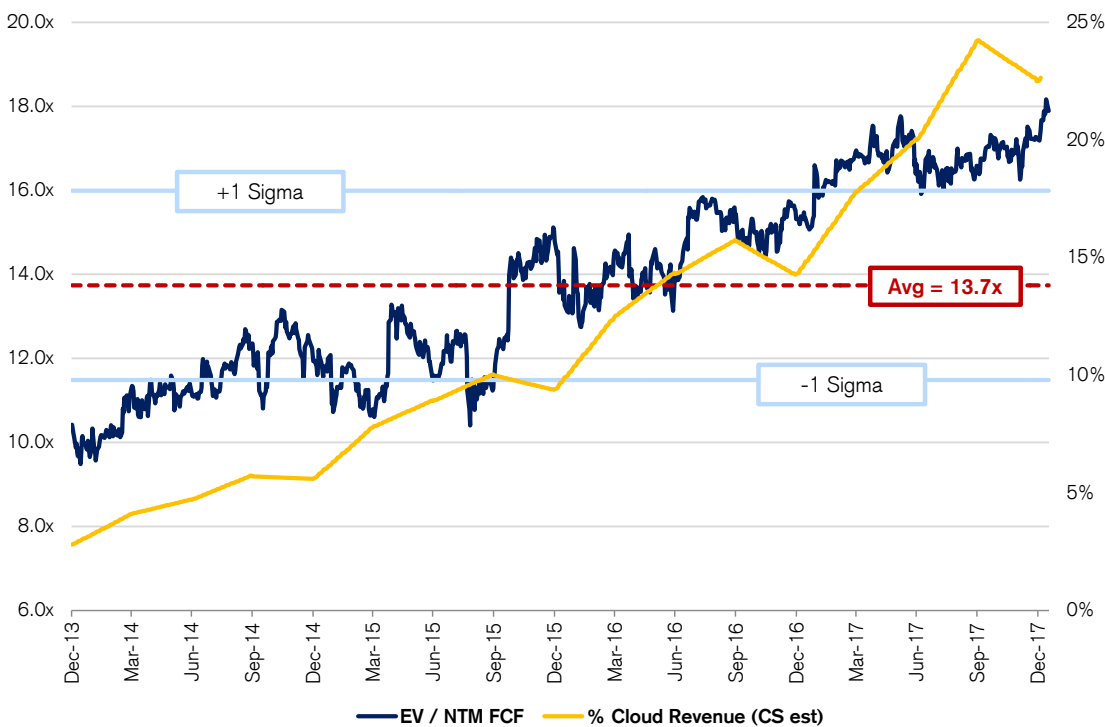
**Figure 11: MSFT – Price/Earnings (NTM) Valuation Index versus % Cloud Revenue**



Source: Thomson Reuters, Credit Suisse estimates.

**Figure 12: MSFT – EV/OCF (NTM) Valuation Index versus % Cloud Revenue**

Source: Thomson Reuters, Credit Suisse estimates.

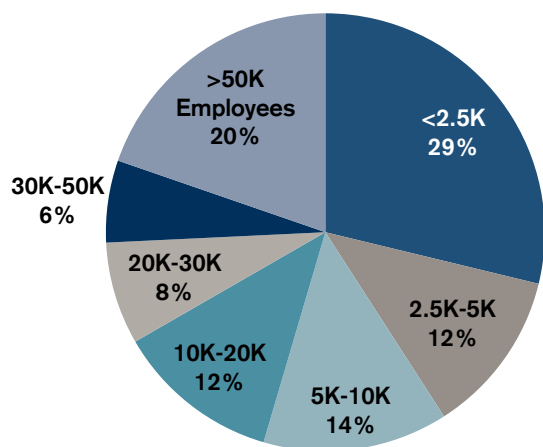
**Figure 13: MSFT – EV/FCF (NTM) Valuation Index versus % Cloud Revenue**

Source: Thomson Reuters, Credit Suisse estimates.

## Credit Suisse Software Survey of Executives at Enterprises

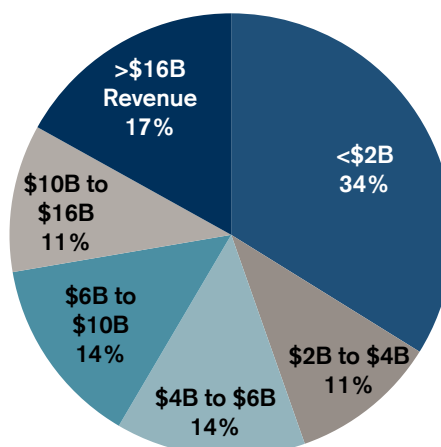
We recently conducted an update to our survey of enterprise executives (CIOs, CTOs, IT Directors) to determine their spending intentions over the next 24 months for MSFT. The Credit Suisse software survey focuses on enterprises of all sizes (~half of the survey respondents have >10K employees and >\$6 revenue) across all geographies and verticals. This update surveyed ~70% of the same respondents we polled from our July 2017 update.

**Figure 14: CS Software Survey Focuses on Enterprises...**



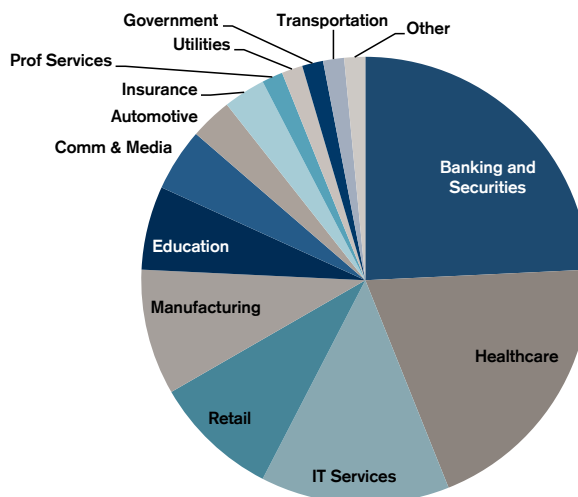
Source: Credit Suisse estimates, GLG.

**Figure 15: ...With Varied Revenue Distributions from <\$2B to >\$16B**



Source: Credit Suisse estimates, GLG.

**Figure 16: From Across All Verticals**



Source: Credit Suisse estimates, GLG.

# Guidance and Estimates

**Figure 17: Quarterly Ests vs. Consensus (F2Q18)**
*USD in millions, unless otherwise stated*

Quarterly Estimates and Guidance Variance Analysis			
	Guidance Dec '17E	Consensus Dec '17E	Credit Suisse Dec '17E
Productivity and Business Processes	8,750-8,950	8,871	8,916
Intelligent Cloud	7,350-7,550	7,505	7,528
More Personal Computing	11,700-12,100	12,022	12,008
<b>Total Revenue</b>	<b>\$27,800-28,600</b>	<b>\$ 28,389</b>	<b>\$ 28,453</b>
Total Cost of Revenue	11,000-11,200	11,117	11,194
<b>Gross Profit</b>		<b>17,272</b>	<b>17,259</b>
• Gross Margin %	60.4-60.8%	60.8%	60.7%
Total Operating Expenses	9,100-9,200	9,121	9,148
<b>Operating Income</b>		<b>8,151</b>	<b>8,111</b>
• Operating Margin %	27.7-28.7%	28.7%	28.5%
Total Other (expense) income, net	450	426	450
<b>Pro forma pretax income</b>		<b>8,577</b>	<b>8,561</b>
Effective tax rate	~22%	22.1%	22.0%
<b>Pro forma Net Income</b>		<b>6,686</b>	<b>6,678</b>
<b>Pro Forma EPS Fully Diluted</b>		<b>\$0.86</b>	<b>\$0.86</b>
Shares Outstanding (fully diluted)		7,777	7,792
<b>Total Unearned Revenue</b>		-	<b>24,356</b>
<b>Cash Flow from Operations</b>		<b>7,639</b>	<b>7,538</b>
<b>Capital Expenditures</b>		<b>2,332</b>	<b>2,200</b>
<b>Free cash flow</b>		<b>5,307</b>	<b>4,738</b>

Source: Thomson Reuters, FactSet, Company data, Credit Suisse estimates.

**Figure 18: Quarterly Ests vs. Consensus (F3Q18)**
*USD in millions, unless otherwise stated*

Quarterly Estimates and Guidance Variance Analysis		
	Consensus Mar '18E	Credit Suisse Mar '18E
Productivity and Business Processes	8,769	8,971
Intelligent Cloud	7,533	7,511
More Personal Computing	9,145	8,994
<b>Total Revenue</b>	<b>\$ 25,473</b>	<b>\$ 25,476</b>
Total Cost of Revenue	9,042	9,216
<b>Gross Profit</b>	<b>16,431</b>	<b>16,260</b>
• Gross Margin %	64.5%	63.8%
Total Operating Expenses	8,996	9,146
<b>Operating Income</b>	<b>7,435</b>	<b>7,114</b>
• Operating Margin %	29.2%	27.9%
Total Other (expense) income, net	359	450
<b>Pro forma pretax income</b>	<b>7,795</b>	<b>7,564</b>
Effective tax rate	23.0%	22.0%
<b>Pro forma Net Income</b>	<b>6,000</b>	<b>5,900</b>
<b>Pro Forma EPS Fully Diluted</b>	<b>\$0.78</b>	<b>\$0.76</b>
Shares Outstanding (fully diluted)	7,726	7,785
<b>Total Unearned Revenue</b>	-	<b>24,160</b>
<b>Cash Flow from Operations</b>	<b>11,641</b>	<b>10,338</b>
<b>Capital Expenditures</b>	<b>2,145</b>	<b>2,300</b>
<b>Free cash flow</b>	<b>9,495</b>	<b>7,438</b>

Source: Thomson Reuters, FactSet, Company data, Credit Suisse estimates.

**Figure 19: Annual Estimates vs. Consensus (F2018)**
*USD in millions, unless otherwise stated*

Annual Estimates and Guidance Variance Analysis			
	Guidance F2018E	Consensus F2018E	Credit Suisse F2018E
Productivity and Business Processes		35,512	35,699
Intelligent Cloud		30,861	30,816
More Personal Computing		40,093	39,855
<b>Total Revenue</b>		<b>\$ 106,350</b>	<b>\$ 106,370</b>
Total Cost of Revenue		38,119	37,962
<b>Gross Profit</b>		<b>68,231</b>	<b>68,408</b>
• Gross Margin %		64.2%	64.3%
Total Operating Expenses		36,164	36,081
<b>Operating Income</b>		<b>32,067</b>	<b>32,327</b>
• Operating Margin %		30.2%	30.4%
Total Other (expense) income, net		1,416	1,626
<b>Pro forma pretax income</b>		<b>33,483</b>	<b>33,953</b>
Effective tax rate	22% (+/- 2%)	21.4%	21.0%
<b>Pro forma Net Income</b>		<b>26,318</b>	<b>26,831</b>
<b>Pro Forma EPS Fully Diluted</b>		<b>\$3.40</b>	<b>\$3.45</b>
Shares Outstanding (fully diluted)		7,750	7,789
<b>Total Unearned Revenue</b>		-	<b>32,247</b>
<b>Cash Flow from Operations</b>		<b>43,129</b>	<b>45,195</b>
<b>Capital Expenditures</b>		<b>9,298</b>	<b>9,032</b>
<b>Free cash flow</b>		<b>33,831</b>	<b>33,793</b>

Source: Thomson Reuters, FactSet, Company data, Credit Suisse estimates.

**Figure 20: Annual Estimates vs. Consensus (F2019)**
*USD in millions, unless otherwise stated*

Annual Estimates and Guidance Variance Analysis			
	Guidance F2019E	Consensus F2019E	Credit Suisse F2019E
Productivity and Business Processes		39,335	39,393
Intelligent Cloud		35,039	34,284
More Personal Computing		40,795	40,652
<b>Total Revenue</b>		<b>\$ 115,034</b>	<b>\$ 114,330</b>
Total Cost of Revenue		41,003	39,739
<b>Gross Profit</b>		<b>74,031</b>	<b>74,591</b>
• Gross Margin %		64.4%	65.2%
Total Operating Expenses		37,858	37,930
<b>Operating Income</b>		<b>36,173</b>	<b>36,661</b>
• Operating Margin %		31.4%	32.1%
Total Other (expense) income, net		970	1,200
<b>Pro forma pretax income</b>		<b>37,142</b>	<b>37,861</b>
Effective tax rate		22.0%	21.0%
<b>Pro forma Net Income</b>		<b>28,956</b>	<b>29,910</b>
<b>Pro Forma EPS Fully Diluted</b>		<b>\$3.79</b>	<b>\$3.85</b>
Shares Outstanding (fully diluted)		7,638	7,761
<b>Total Unearned Revenue</b>		-	<b>38,485</b>
<b>Cash Flow from Operations</b>		<b>47,085</b>	<b>50,395</b>
<b>Capital Expenditures</b>		<b>10,219</b>	<b>10,135</b>
<b>Free cash flow</b>		<b>36,866</b>	<b>37,460</b>

Source: Thomson Reuters, FactSet, Company data, Credit Suisse estimates.

# MSFT Key Metrics Summary

Figure 21: MSFT Key Operating Metrics Reference Sheet (CS estimates)

Microsoft Key Metrics Summary (CS ests)						
Amounts in US\$millions, except per share data						
	F2014A Jun '14	F2015A Jun '15	F2016A Jun '16	F2017A Jun '17	F2018E Jun '18	F2019E Jun '19
<b>Commercial Cloud Revenue</b>	<b>2,807</b>	<b>5,770</b>	<b>9,457</b>	<b>14,930</b>	<b>22,487</b>	<b>31,685</b>
• % Change Yr/Yr	116.0%	105.6%	63.9%	57.9%	50.6%	40.9%
• % of Total Revenue	3.2%	6.2%	10.4%	15.5%	21.1%	27.7%
<b>Azure</b>	<b>420</b>	<b>912</b>	<b>1,936</b>	<b>3,835</b>	<b>7,006</b>	<b>11,732</b>
• % Change Yr/Yr	-----	117.2%	112.3%	98.1%	82.7%	67.4%
• % of Commercial Cloud Revenue	15.0%	15.8%	20.5%	25.7%	31.2%	37.0%
<b>Office 365 Commercial</b>	<b>2,191</b>	<b>4,638</b>	<b>7,181</b>	<b>10,497</b>	<b>14,430</b>	<b>18,495</b>
• % Change Yr/Yr	-----	111.7%	54.8%	46.2%	37.5%	28.2%
• % of Commercial Cloud Revenue	78.1%	80.4%	75.9%	70.3%	64.2%	58.4%
<b>Dynamics 365</b>	<b>196</b>	<b>220</b>	<b>340</b>	<b>597</b>	<b>985</b>	<b>1,458</b>
• % Change Yr/Yr	-----	12.2%	54.5%	75.6%	65.1%	48.0%
• % of Commercial Cloud Revenue	7.0%	3.8%	3.6%	4.0%	4.4%	4.6%
<b>Commercial Cloud Gross Profit</b>	<b>413</b>	<b>2,516</b>	<b>4,225</b>	<b>7,453</b>	<b>12,957</b>	<b>19,840</b>
• Commercial Cloud Gross Margin %	14.7%	43.6%	44.7%	49.9%	57.6%	62.6%
• % Change Yr/Yr	-----	509.7%	67.9%	76.4%	73.8%	53.1%
<b>Azure Gross Profit</b>	<b>(939)</b>	<b>(210)</b>	<b>20</b>	<b>279</b>	<b>2,157</b>	<b>5,808</b>
• Azure Gross Margin %	(223.7)%	(23.0)%	1.0%	7.3%	30.8%	49.5%
<b>Office 365 / Dynamics 365 Gross Profit</b>	<b>1,352</b>	<b>2,726</b>	<b>4,205</b>	<b>7,174</b>	<b>10,800</b>	<b>14,032</b>
• Office 365 / Dynamics 365 Gross Margin %	56.6%	56.1%	55.9%	64.7%	70.1%	70.3%
Office 365 Commercial Monthly Active Users (MAUs)	29.8m	51.8m	80.1m	109.3m	137.5m	160.3m
Office 365 Commercial Monthly ASP (\$)	\$ 8.16	\$ 9.48	\$ 9.07	\$ 9.24	\$ 9.74	\$ 10.35
Office 365 Home Subscribers	5.6m	15.2m	23.1m	27.0m	30.4m	33.2m
Office 365 Home Monthly ASP (\$)	\$	\$ 5.70	\$ 5.45	\$ 5.79	\$ 5.85	\$ 5.83
Azure revenue growth (yr/yr)	-----	117.2%	112.3%	98.1%	82.7%	67.4%
Server products revenue growth (yr/yr)	11.4%	7.0%	(1.8)%	3.8%	1.0%	(7.1)%
<b>Windows</b>	<b>20,424</b>	<b>17,359</b>	<b>16,488</b>	<b>17,478</b>	<b>17,570</b>	<b>17,599</b>
• % Change Yr/Yr	-----	(15.0)%	(5.0)%	6.0%	0.5%	0.2%
• % of Total Revenue	23.5%	18.5%	18.1%	18.1%	16.5%	15.4%
Windows OEM Pro revenue growth (yr/yr)	12.0%	(15.0)%	(6.0)%	3.4%	2.6%	1.0%
Windows OEM non-Pro revenue growth (yr/yr)	(17.0)%	(16.0)%	7.0%	2.9%	(1.2)%	(1.4)%

Source: Company data, Credit Suisse estimates.

# MSFT Financial Model

**Figure 22: Historical and Projected Income Statement and Growth Analysis**

US\$ in millions, unless otherwise stated

	Fiscal 2017 by Quarter				Fiscal 2018 by Quarter				Fiscal 2019 by Quarter				Fiscal Year Ends June				
	Sep '16	Dec '16	Mar '17	Jun '17	Sep '17	Dec '17E	Mar '18E	Jun '18E	Sep '18E	Dec '18E	Mar '19E	Jun '19E	2015	2016	2017	2018E	2019E
<b>Total Revenue</b>	\$ 21,928	\$ 25,826	\$ 23,212	\$ 25,605	\$ 24,538	\$ 28,453	\$ 25,476	\$ 27,903	\$ 26,428	\$ 30,457	\$ 27,424	\$ 30,021	\$ 93,580	\$ 91,154	\$ 96,571	\$ 106,370	\$ 114,330
Productivity and Business Processes	6,436	7,179	7,707	8,548	8,238	8,916	8,971	9,574	9,144	9,853	9,913	10,483	26,431	25,792	29,870	35,699	39,393
Intelligent Cloud	6,097	6,758	6,730	7,822	6,922	7,528	7,511	8,855	7,718	8,357	8,337	9,873	23,715	24,952	27,407	30,816	34,284
More Personal Computing	9,395	11,889	8,775	9,235	9,378	12,008	8,994	9,475	9,566	12,248	9,174	9,665	42,953	40,410	39,294	39,855	40,652
<b>Operating expenses:</b>																	
Gross Profit	\$ 14,084	\$ 15,925	\$ 15,152	\$ 17,149	\$ 16,260	\$ 17,259	\$ 16,260	\$ 18,629	\$ 17,524	\$ 18,846	\$ 17,815	\$ 20,406	60,542	58,374	62,310	68,408	74,591
% of revenue	64.2%	61.7%	65.3%	67.0%	66.3%	60.7%	63.8%	66.8%	66.3%	61.9%	65.0%	68.0%	64.7%	64.0%	64.5%	64.3%	65.2%
Research and development	3,106	3,062	3,355	3,514	3,574	3,528	3,694	3,627	3,770	3,685	3,894	3,873	12,046	11,988	13,037	14,424	15,222
% of revenue	14.2%	11.9%	14.5%	13.7%	14.6%	12.4%	14.5%	13.0%	14.3%	12.1%	14.2%	12.9%	12.9%	13.2%	13.5%	13.6%	13.3%
Sales and marketing	3,218	4,079	3,872	4,292	3,812	4,410	4,204	4,325	4,026	4,629	4,443	4,563	15,713	14,635	15,461	16,751	17,662
% of revenue	14.7%	15.8%	16.7%	16.8%	15.5%	15.5%	16.5%	15.5%	15.2%	15.2%	16.2%	15.2%	16.8%	16.1%	16.0%	15.7%	15.4%
General and administrative	1,045	879	1,202	1,355	1,166	1,209	1,248	1,284	1,203	1,234	1,289	1,321	4,611	4,563	4,481	4,907	5,046
% of revenue	4.8%	3.4%	5.2%	5.3%	4.8%	4.3%	4.9%	4.6%	4.6%	4.1%	4.7%	4.4%	4.9%	5.0%	4.6%	4.6%	4.4%
<b>Total Operating Expenses</b>	7,369	8,020	8,429	9,161	8,552	9,148	9,146	9,236	8,999	9,548	9,626	9,757	32,370	31,186	32,979	36,081	37,930
<b>Operating Income</b>	6,715	7,905	6,723	7,988	7,708	8,111	7,114	9,393	8,524	9,298	8,189	10,649	28,172	27,188	29,331	32,327	36,661
Operating Margin %	30.6%	30.6%	29.0%	31.2%	31.4%	28.5%	27.9%	33.7%	32.3%	30.5%	29.9%	35.5%	30.1%	29.8%	30.4%	30.4%	32.1%
Stock options compensation expense	703	767	883	913	973	967	994	977	1,022	1,005	1,042	1,021	2,574	2,668	3,266	3,911	4,089
% of revenue	3.2%	3.0%	3.8%	3.6%	4.0%	3.4%	3.9%	3.5%	3.9%	3.3%	3.8%	3.4%	2.8%	2.9%	3.4%	3.7%	3.6%
Interest and other, net	112	117	371	276	276	450	450	450	300	300	300	300	346	(439)	876	1,626	1,200
Pretax income	6,827	8,022	7,094	8,264	7,984	8,561	7,564	9,843	8,824	9,598	8,489	10,949	28,518	26,749	30,207	33,953	37,661
Pro forma taxes	1,160	1,755	1,608	(48)	1,408	1,883	1,664	2,166	1,853	2,016	1,783	2,299	6,831	5,315	4,475	7,121	7,951
Effective tax rate	17.0%	21.9%	22.7%	-0.6%	17.6%	22.0%	22.0%	22.0%	21.0%	21.0%	21.0%	21.0%	24.0%	19.9%	14.8%	21.0%	21.0%
<b>Pro forma net income</b>	\$ 5,667	\$ 6,267	\$ 5,486	\$ 8,312	\$ 6,576	\$ 6,678	\$ 5,900	\$ 7,678	\$ 6,971	\$ 7,582	\$ 6,707	\$ 8,650	\$ 21,687	\$ 21,434	\$ 25,732	\$ 26,831	\$ 29,910
Pro forma net margin	25.8%	24.3%	23.6%	32.5%	26.8%	23.5%	23.2%	27.5%	26.4%	24.9%	24.5%	28.8%	23.2%	23.5%	26.6%	25.2%	26.2%
<b>Pro forma EPS (fully-diluted)</b>	\$0.72	\$0.80	\$0.70	\$1.06	\$0.84	\$0.86	\$0.76	\$0.99	\$0.90	\$0.98	\$0.86	\$1.12	\$2.63	\$2.67	\$3.29	\$3.45	\$3.85

	Fiscal 2017 by Quarter				Fiscal 2018 by Quarter				Fiscal 2019 by Quarter				Fiscal Year Ends June				
	Sep '16	Dec '16	Mar '17	Jun '17	Sep '17	Dec '17E	Mar '18E	Jun '18E	Sep '18E	Dec '18E	Mar '19E	Jun '19E	2015	2016	2017	2018E	2019E
<b>Sequential growth</b>																	
Revenue	(6.6)%	17.8%	(10.1)%	10.3%	(4.2)%	16.0%	(10.5)%	9.5%	(5.3)%	15.2%	(10.0)%	9.5%	7.8%	(2.6)%	5.9%	10.1%	7.5%
Productivity and Business Processes	(9.4)%	11.5%	7.4%	10.9%	(3.6)%	8.2%	0.6%	6.7%	(4.5)%	7.7%	0.8%	5.8%	(2.0)%	(2.4)%	15.8%	19.5%	10.3%
Intelligent Cloud	(15.2)%	10.8%	(0.4)%	16.2%	(11.5)%	8.8%	(0.2)%	17.9%	(12.8)%	8.3%	(0.2)%	18.4%	9.1%	5.2%	9.8%	12.4%	11.3%
More Personal Computing	2.3%	26.5%	(26.2)%	5.2%	1.5%	28.0%	(25.1)%	5.3%	1.0%	28.0%	(25.1)%	5.3%	11.8%	(5.9)%	(2.8)%	1.4%	2.0%
Gross Profit	(9.1)%	13.1%	(4.9)%	13.2%	(5.2)%	6.1%	(5.8)%	14.6%	(5.9)%	7.5%	(5.5)%	14.5%	1.1%	(3.6)%	6.7%	9.8%	9.0%
Research and development	(1.3)%	(1.4)%	9.6%	4.7%	1.7%	(1.3)%	4.7%	(1.8)%	3.9%	(2.2)%	5.7%	(0.6)%	5.8%	(0.5)%	8.8%	10.6%	5.5%
Sales and marketing	(18.4)%	26.8%	(5.1)%	10.8%	(11.2)%	15.7%	(4.7)%	2.9%	(6.9)%	15.0%	(4.0)%	2.7%	(0.6)%	(6.9)%	5.6%	8.3%	5.4%
General and administrative	(19.7)%	(15.9)%	36.7%	12.7%	(13.9)%	3.7%	3.2%	2.8%	(6.3)%	2.5%	4.5%	2.5%	(4.4)%	(1.0)%	(1.8)%	9.5%	2.8%
Total operating expenses	(12.2)%	8.8%	5.1%	8.7%	(6.6)%	7.0%	(0.0)%	1.0%	(2.6)%	6.1%	0.8%	1.4%	1.1%	(3.7)%	5.7%	9.4%	5.1%
Operating income	(5.5)%	17.7%	(15.0)%	18.8%	(3.5)%	5.2%	(12.3)%	32.0%	(9.2)%	9.1%	(11.9)%	30.0%	1.0%	(3.5)%	7.9%	10.2%	13.4%
Pro forma pretax income	(7.1)%	17.5%	(11.6)%	16.5%	(3.4)%	7.2%	(11.6)%	30.1%	(10.4)%	8.8%	(11.6)%	29.0%	2.0%	(6.2)%	12.9%	12.4%	11.5%
Pro forma net income	(7.4)%	10.6%	(12.5)%	51.5%	(20.9)%	1.5%	(11.6)%	30.1%	(9.2)%	8.8%	(11.6)%	29.0%	(4.2)%	(1.2)%	20.1%	4.3%	11.5%
Pro forma EPS (fully-diluted)	(6.8)%	11.2%	(12.3)%	51.6%	(20.8)%	1.6%	(11.6)%	30.2%	(9.1)%	8.9%	(11.5)%	29.1%	(2.7)%	1.8%	22.8%	4.9%	11.9%
<b>Year-over-year growth</b>																	
Revenue	4.9%	2.3%	7.9%	9.1%	11.9%	10.2%	9.8%	9.0%	7.7%	7.0%	7.6%	7.6%					
Productivity and Business Processes	7.3%	10.8%	24.2%	20.3%	28.0%	24.2%	16.4%	12.0%	11.0%	10.5%	10.5%	9.5%					
Intelligent Cloud	9.2%	8.0%	13.6%	8.9%	13.5%	11.4%	11.6%	13.2%	11.5%	11.0%	11.0%	11.5%					
More Personal Computing	0.7%	(5.0)%	(6.5)%	0.6%	(0.2)%	1.0%	2.5%	2.6%	2.0%	2.0%	2.0%	2.0%					
Gross Profit	2.8%	3.5%	9.8%	10.7%	15.5%	8.4%	7.3%	8.6%	7.8%	9.2%	9.6%	9.5%					
Research and development	4.9%	5.6%	12.6%	11.7%	15.1%	15.2%	10.1%	3.2%	5.5%	4.5%	5.4%	6.8%					
Sales and marketing	(3.7)%	3.2%	13.9%	8.9%	18.5%	8.1%	8.6%	0.8%	5.6%	5.0%	5.7%	5.5%					
General and administrative	(3.6)%	(15.3)%	5.4%	4.2%	11.8%	37.6%	3.9%	(5.3)%	3.2%	2.0%	3.3%	2.9%					
Total operating expenses	(0.2)%	1.6%	12.1%	9.2%	16.1%	14.1%	8.5%	0.8%	5.2%	4.4%	5.2%	5.6%					
Operating income	6.3%	5.6%	7.1%	12.4%	14.8%	2.6%	5.8%	17.6%	10.6%	14.6%	15.1%	13.4%					
Pro forma pretax income	13.4%	9.7%	17.0%	12.4%	16.9%	6.7%	6.6%	19.1%	10.5%	12.1%	12.2%	11.2%					
Pro forma net income	11.8%	5.5%	27.4%	35.8%	16.0%	6.6%	7.5%	(7.6)%	6.0%	13.6%	13.7%	12.7%					
Pro forma EPS (fully-diluted)	14.7%	8.5%	30.2%	37.9%	17.2%	7.1%	7.9%	(7.3)%	6.4%	14.0%	14.1%	13.1%					

Source: Company data, Credit Suisse estimates.



**Figure 23: Historical and Projected Cash Flow Statement**

US\$ in millions, unless otherwise stated

	Fiscal 2017 by Quarter				Fiscal 2018 by Quarter				Fiscal 2019 by Quarter				Fiscal Year Ends June				
	Sep '16	Dec '16	Mar '17	Jun '17	Sep '17	Dec '17E	Mar '18E	Jun '18E	Sep '18E	Dec '18E	Mar '19E	Jun '19E	2015	2016	2017	2018E	2019E
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>																	
Net Income (GAAP)	4,690	5,200	4,801	6,513	6,576	6,678	5,900	7,678	6,971	7,582	6,707	8,650	12,193	16,778	21,204	26,832	29,910
Depreciation, amortization, and other	1,816	2,166	2,453	2,343	2,499	2,618	2,726	2,846	2,797	2,741	2,880	3,002	5,957	6,622	8,778	10,689	11,420
Stock-based compensation	703	767	883	913	973	967	994	977	1,022	1,005	1,042	1,021	2,574	2,668	3,266	3,911	4,089
Net recognized losses (gains) on investments	(311)	(652)	(590)	(520)	(523)	-	-	-	-	-	-	-	(443)	(223)	(2,073)	(523)	-
Excess tax benefits from stock-based compensation	-	-	-	-	-	-	-	-	-	-	-	-	(524)	(20)	-	-	-
Deferred income taxes	15	(587)	(777)	(1,947)	(53)	-	-	-	-	-	-	-	224	(448)	(3,296)	(53)	-
Deferral of unearned revenue	12,583	14,141	15,995	24,992	-	-	-	-	-	-	-	-	45,072	57,072	67,711	-	-
Recognition of unearned revenue	(12,904)	(13,645)	(14,941)	(16,245)	(1,806)	-	-	-	-	-	-	-	(44,920)	(48,498)	(57,735)	(1,806)	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	7,498	630	-	-	-
Changes in working capital	4,957	(1,097)	2,836	(5,044)	4,774	(2,725)	719	3,378	3,711	(3,180)	53	4,393	1,513	(1,276)	1,652	6,145	4,976
<b>Cash Flow from Operations</b>	<b>11,549</b>	<b>6,293</b>	<b>10,660</b>	<b>11,005</b>	<b>12,440</b>	<b>7,538</b>	<b>10,338</b>	<b>14,878</b>	<b>14,500</b>	<b>8,148</b>	<b>10,682</b>	<b>17,065</b>	<b>29,144</b>	<b>33,305</b>	<b>39,507</b>	<b>45,195</b>	<b>50,395</b>
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>																	
Capital Expenditures	(2,163)	(1,988)	(1,695)	(2,283)	(2,132)	(2,200)	(2,300)	(2,400)	(2,382)	(2,465)	(2,519)	(2,769)	(5,944)	(8,343)	(8,129)	(9,032)	(10,135)
Capital Leases	(267)	(498)	(296)	(788)	(570)	(600)	(600)	(600)	(700)	(700)	(700)	(700)	-	(413)	(1,849)	(2,370)	(2,800)
<b>Free Cash Flow</b>	<b>9,119</b>	<b>3,807</b>	<b>8,669</b>	<b>7,934</b>	<b>9,738</b>	<b>4,738</b>	<b>7,438</b>	<b>11,878</b>	<b>11,418</b>	<b>4,983</b>	<b>7,463</b>	<b>13,596</b>	<b>23,200</b>	<b>24,549</b>	<b>29,529</b>	<b>33,793</b>	<b>37,460</b>
Acquisitions, net of cash	(24)	(24,760)	(802)	(358)	(179)	-	-	-	-	-	-	-	(3,723)	(1,393)	(25,944)	(179)	-
Purchases of investments	(57,181)	(46,775)	(43,918)	(29,031)	(32,961)	-	-	-	-	-	-	-	(98,729)	(129,758)	(176,905)	(32,961)	-
Maturities of investments	8,659	8,715	4,860	5,810	5,226	-	-	-	-	-	-	-	15,013	22,054	28,044	5,226	-
Sales of investments	32,323	48,987	36,444	18,596	23,036	-	-	-	-	-	-	-	70,848	93,287	136,350	23,036	-
Securities lending payable	(84)	1,070	(1,080)	(103)	106	-	-	-	-	-	-	-	(466)	203	(197)	106	-
<b>Cash Flow from Investing</b>	<b>(18,470)</b>	<b>(14,751)</b>	<b>(6,191)</b>	<b>(7,369)</b>	<b>(6,904)</b>	<b>(2,200)</b>	<b>(2,300)</b>	<b>(2,400)</b>	<b>(2,382)</b>	<b>(2,465)</b>	<b>(2,519)</b>	<b>(2,769)</b>	<b>(23,001)</b>	<b>(23,950)</b>	<b>(46,781)</b>	<b>(13,804)</b>	<b>(10,135)</b>
<b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>																	
Proceeds (repayments) of short-term debt, net	(3,390)	(3,755)	(1,302)	3,484	(3,710)	-	-	-	-	-	-	-	4,481	7,195	(4,963)	(3,710)	-
Proceeds from debt, maturities longer than 90 days	24,977	17,069	547	1,751	3,954	-	-	-	-	-	-	-	10,680	13,884	44,344	3,954	-
Repayments of debt, maturities longer than 90 days	(225)	(4,118)	(211)	(3,368)	(1,169)	-	-	-	-	-	-	-	(1,500)	(2,796)	(7,922)	(1,169)	-
Common stock issued	241	131	179	221	307	-	-	-	-	-	-	-	634	668	772	307	-
Common stock repurchased	(4,362)	(3,599)	(2,062)	(1,765)	(2,570)	(2,645)	(2,159)	(2,236)	(2,364)	(2,536)	(2,498)	(2,591)	(14,443)	(15,969)	(11,788)	(9,610)	(9,988)
Common stock cash dividends paid	(2,800)	(3,024)	(3,012)	(3,009)	(3,003)	(3,234)	(3,231)	(3,229)	(3,456)	(3,453)	(3,450)	(3,447)	(9,882)	(11,006)	(11,845)	(12,697)	(13,805)
Excess tax benefits from stock-based compensation	-	-	-	-	-	-	-	-	-	-	-	-	524	20	-	-	-
Other	(112)	312	(375)	(15)	(150)	-	-	-	-	-	-	-	362	(369)	(190)	(150)	-
<b>Cash Flow from Financing</b>	<b>14,329</b>	<b>3,016</b>	<b>(6,236)</b>	<b>(2,701)</b>	<b>(6,341)</b>	<b>(5,879)</b>	<b>(5,390)</b>	<b>(5,465)</b>	<b>(5,820)</b>	<b>(5,988)</b>	<b>(5,948)</b>	<b>(6,037)</b>	<b>(9,144)</b>	<b>(8,373)</b>	<b>8,408</b>	<b>(23,075)</b>	<b>(23,793)</b>
Foreign currency exchange rate impact on cash	10	(18)	12	15	26	-	-	-	-	-	-	-	(73)	(67)	19	26	-
<b>Net Increase in Cash and Cash Equivalents</b>	<b>7,418</b>	<b>(5,460)</b>	<b>(1,755)</b>	<b>950</b>	<b>(779)</b>	<b>(541)</b>	<b>2,648</b>	<b>7,014</b>	<b>6,299</b>	<b>(306)</b>	<b>2,215</b>	<b>8,259</b>	<b>(3,074)</b>	<b>915</b>	<b>1,153</b>	<b>8,342</b>	<b>16,467</b>
Cash and Cash Equivalents, beginning of period	6,510	13,928	8,468	6,713	7,663	6,884	6,343	8,991	16,005	22,303	21,998	24,213	8,669	5,595	6,510	7,663	16,005
Cash and Cash Equivalents, end of period	13,928	8,468	6,713	7,663	6,884	6,343	8,991	16,005	22,303	21,998	24,213	32,472	5,595	6,510	7,663	16,005	32,472

Source: Company data, Credit Suisse estimates.

**Figure 24: Historical and Projected Balance Sheet**

US\$ in millions, unless otherwise stated

	Fiscal 2017 by Quarter				Fiscal 2018 by Quarter				Fiscal 2019 by Quarter				Fiscal Year Ends June				
	Sep '16	Dec '16	Mar '17	Jun '17	Sep '17	Dec '17E	Mar '18E	Jun '18E	Sep '18E	Dec '18E	Mar '19E	Jun '19E	2015	2016	2017	2018E	2019E
Current assets																	
Cash and cash equivalents	13,928	8,468	6,713	7,663	6,884	6,343	8,991	16,005	22,303	21,998	24,213	32,472	5,595	6,510	7,663	16,005	32,472
Short-term investments	123,004	114,313	119,305	125,318	131,587	131,587	131,587	131,587	131,587	131,587	131,587	131,587	90,931	106,730	125,318	131,587	131,587
Accounts receivable, net	13,479	16,737	15,364	22,431	14,561	18,336	16,701	24,183	14,976	18,951	17,673	25,684	17,908	20,636	22,431	24,183	25,684
Inventories	3,122	1,961	1,979	2,181	3,211	2,239	2,150	2,267	3,265	2,064	2,135	2,243	2,902	2,251	2,181	2,267	2,243
Deferred income taxes	-	-	-	-	-	-	-	-	-	-	-	-	1,915	-	-	-	-
Other current assets	6,893	6,040	5,616	5,103	4,788	4,832	5,897	5,358	5,027	5,074	6,192	5,626	5,461	6,061	5,103	5,358	5,626
Total current assets	160,426	147,519	148,977	162,696	161,031	163,337	165,326	179,400	177,159	179,674	181,799	197,612	124,712	142,188	162,696	179,400	197,612
Long-term investments																	
Property and equipment, net	19,224	21,379	21,962	23,734	24,809	24,391	23,965	23,519	23,104	22,828	22,467	22,234	14,731	18,356	23,734	23,519	22,234
Operating lease right-of-use assets	5,216	6,371	6,714	6,555	6,844	6,844	6,844	6,844	6,844	6,844	6,844	6,844	-	5,198	6,555	6,844	6,844
Equity and other investments	10,486	8,912	7,381	6,023	5,343	5,343	5,343	5,343	5,343	5,343	5,343	5,343	12,053	10,431	6,023	5,343	5,343
Goodwill	17,907	34,524	34,668	35,122	35,389	35,389	35,389	35,389	35,389	35,389	35,389	35,389	16,939	17,872	35,122	35,389	35,389
Intangible assets, net	3,522	11,001	10,547	10,106	9,598	9,598	9,598	9,598	9,598	9,598	9,598	9,598	4,835	3,733	10,106	9,598	9,598
Deferred income taxes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other long-term assets	5,227	5,592	5,767	6,076	6,083	6,083	6,083	6,083	6,083	6,083	6,083	6,083	2,953	5,119	6,076	6,083	6,083
Total assets	222,008	235,298	236,016	250,312	249,097	250,985	252,548	266,176	263,520	265,759	267,524	283,103	176,223	202,897	250,312	266,176	283,103
Current liabilities																	
Accounts payable	6,296	6,580	6,217	7,390	6,866	7,463	7,065	8,141	7,420	7,741	7,367	8,440	6,591	6,898	7,390	8,141	8,440
Short-term debt	14,536	25,664	7,786	10,121	9,220	9,220	9,220	9,220	9,220	9,220	9,220	9,220	7,484	12,904	10,121	9,220	9,220
Accrued compensation	3,621	3,982	4,604	5,819	4,108	4,181	4,834	6,110	4,231	4,307	4,979	6,293	5,096	5,264	5,819	6,110	6,293
Income taxes	720	508	654	718	920	920	920	920	920	920	920	920	606	580	718	920	920
Short-term unearned revenue	18,653	18,066	18,136	24,013	22,778	21,981	21,988	29,011	27,424	26,375	26,295	34,581	23,223	20,177	24,013	29,011	34,581
Other	8,409	9,259	7,591	7,684	7,723	7,723	7,723	7,723	7,723	7,723	7,723	7,723	6,858	7,279	7,684	7,723	7,723
Total current liabilities	52,235	64,059	44,988	55,745	51,615	51,488	51,750	61,125	56,938	56,286	56,504	67,177	49,858	53,102	55,745	61,125	67,177
Long-term liabilities																	
Long-term debt	60,154	59,306	76,222	76,073	76,255	76,255	76,255	76,255	76,255	76,255	76,255	76,255	27,808	40,557	76,073	76,255	76,255
Long-term unearned revenue	1,717	1,925	1,768	2,643	2,126	2,374	2,172	3,236	2,593	2,886	2,631	3,905	2,095	2,016	2,643	3,236	3,905
Deferred income taxes	6,929	7,080	6,761	5,734	5,513	5,513	5,513	5,513	5,513	5,513	5,513	5,513	2,835	6,313	5,734	5,513	5,513
Operating lease liabilities	4,249	5,242	5,532	5,372	5,768	5,768	5,768	5,768	5,768	5,768	5,768	5,768	-	4,257	5,372	5,768	5,768
Other long-term liabilities	14,262	15,857	17,254	17,034	18,173	18,173	18,173	18,173	18,173	18,173	18,173	18,173	13,544	13,562	17,034	18,173	18,173
Total liabilities	139,546	153,469	152,525	162,601	159,450	159,572	159,632	170,070	165,241	164,880	164,844	176,790	96,140	119,807	162,601	170,070	176,790
Total stockholders' equity	82,462	81,829	83,491	87,711	89,647	91,413	92,917	96,107	98,279	100,878	102,679	106,313	80,083	83,090	87,711	96,107	106,313
Total liabilities and stockholders' equity	222,008	235,298	236,016	250,312	249,097	250,985	252,548	266,176	263,520	265,759	267,524	283,103	176,223	202,897	250,312	266,176	283,103

# MSFT Valuation

**Figure 25: MSFT Discounted Cash Flow**

US\$ in millions, unless otherwise stated

	F2017	F2018E	F2019E	F2020E	F2021E	F2022E	F2023E	F2024E	F2025E	F2026E	F2027E	10-Year CAGR
Total revenue	\$96,571	\$106,370	\$114,330	\$122,799	\$131,805	\$141,375	\$151,537	\$162,321	\$173,756	\$185,875	\$198,709	7.5%
% growth y-o-y		10.1%	7.5%	7.4%	7.3%	7.3%	7.2%	7.1%	7.0%	7.0%	6.9%	
EBITDA	\$38,109	\$43,015	\$48,081	\$53,498	\$59,507	\$66,170	\$73,555	\$81,738	\$90,801	\$100,836	\$111,943	11.4%
EBITDA margin	39.5%	40.4%	42.1%	43.6%	45.1%	46.8%	48.5%	50.4%	52.3%	54.2%	56.3%	
% growth y-o-y		12.9%	11.8%	11.3%	11.2%	11.2%	11.2%	11.1%	11.1%	11.1%	11.0%	
EBIT	\$29,331	\$32,327	\$36,661	\$41,232	\$46,342	\$52,048	\$58,418	\$65,524	\$73,445	\$82,270	\$92,095	12.1%
Operating margin	30.4%	30.4%	32.1%	33.6%	35.2%	36.8%	38.6%	40.4%	42.3%	44.3%	46.3%	
% growth y-o-y		10.2%	13.4%	12.5%	12.4%	12.3%	12.2%	12.2%	12.1%	12.0%	11.9%	
Cash tax rate	14.8%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	
EBIT * (1-Tax)	\$24,986	\$25,546	\$28,962	\$32,573	\$36,610	\$41,118	\$46,151	\$51,764	\$58,022	\$64,993	\$72,755	11.3%
+ D&A	8,778	10,689	11,420	12,266	13,165	14,121	15,136	16,214	17,356	18,566	19,848	
% of revenue	9.1%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	
- CapEx and Capital Leases	(9,978)	(11,402)	(12,935)	(13,279)	(13,594)	(13,874)	(14,114)	(14,307)	(14,446)	(14,524)	(14,533)	
% of revenue	10.3%	10.7%	11.3%	10.8%	10.3%	9.8%	9.3%	8.8%	8.3%	7.8%	7.3%	
+ Δ WC	1,652	6,145	4,976	5,283	5,605	5,941	6,292	6,659	7,041	7,439	7,854	
% of revenue	1.7%	5.8%	4.4%	4.3%	4.3%	4.2%	4.2%	4.1%	4.1%	4.0%	4.0%	
uFCF	\$25,438	\$30,979	\$32,423	\$36,843	\$41,786	\$47,306	\$53,466	\$60,330	\$67,973	\$76,475	\$85,924	12.9%
% growth y-o-y		21.8%	4.7%	13.6%	13.4%	13.2%	13.0%	12.8%	12.7%	12.5%	12.4%	
Shares	7,832	7,789	7,761	7,733	7,705	7,677	7,649	7,621	7,593	7,565	7,537	
% growth y-o-y (dilution rate)		8.1%	7.3%	6.8%	6.3%	5.8%	5.4%	5.0%	4.7%	4.4%	4.1%	
uFCF/share	\$3.25	\$3.98	\$4.18	\$4.76	\$5.42	\$6.16	\$6.99	\$7.92	\$8.95	\$10.11	\$11.40	13.4%
% growth y-o-y		22.5%	5.0%	14.0%	13.8%	13.6%	13.4%	13.3%	13.1%	12.9%	12.8%	
		F2018E	F2019E	F2020E	F2021E	F2022E	F2023E	F2024E	F2025E	F2026E	F2027E	
Last Reported Quarter	F2018 Q1				Discount multiplier with WACC = 10.3%							
Quarter	September	0.0000	0.9069	0.8225	0.7459	0.6764	0.6135	0.5563	0.5045	0.4576	0.4150	
Quarter	December	0.9759	0.8850	0.8026	0.7279	0.6601	0.5986	0.5429	0.4924	0.4465	0.4049	
Quarter	March	0.9523	0.8636	0.7832	0.7103	0.6442	0.5842	0.5298	0.4805	0.4357	0.3952	
Quarter	June	0.9293	0.8428	0.7643	0.6932	0.6286	0.5701	0.5170	0.4689	0.4252	0.3856	
Year		1	2	3	4	5	6	7	8	9	10	
PV of uFCF		\$22,130	\$28,357	\$29,222	\$30,057	\$30,860	\$31,630	\$32,368	\$33,073	\$33,746	\$34,385	
Price Per Share	F2018 Q1											
Total PV of Projected FCF		\$305,828										
PV of Terminal Value		\$447,683										
Total PV of Operations (Enterprise Value)		\$753,511										
Plus: Cash		\$138,471										
Less: Debt (mrq)		-\$85,475										
Equity Value		\$806,507										
Shares Outstanding		7,799										
Current Value Per Share		\$103.41										
12-month Price Per Share			\$114.79									
Current Share Price		\$90.14										
Discount / Premium to Current Value		14.7%	27.3%									
Cost of Equity	F2018 Q1	F2027E										
Risk Free Rate	0.20%	2.00%										
Beta	1.08	1.00										
Risk Premium	10.00%	10.00%										
Cost of Equity	11.00%	12.00%										
WACC	F2018 Q1	F2027E										
Equity Value (M)	\$705,999											
Debt	\$85,475											
Debt / Equity	12%	15.00%										
Cost of Debt	6.00%	6.00%										
Tax Rate	17.6%	21.0%										
Net Cost of Debt	4.94%	4.74%										
WACC	10.27%	10.91%										
Terminal Multiple	F2027E											
Perpetual Growth Rate	3.00%											
WACC	10.91%											
Terminal Multiple (1/(WACC-g))		12.6x										
1-year Forward Multiples												
EV / Revenue	7.1x											
EV / EBITDA	17.5x											
EV / uFCF	24.3x											
uFCF Yield	4.41%											

Source: Thomson Reuters, Company data, Credit Suisse estimates.

# Multiples Analysis and Sensitivity

Figure 26: Multiples Analysis and Sensitivity

Dollars and Shares in Millions						
Calendar Year Ended:	Valuation @ Current Price \$90.14			Valuation @ 12- Month Multiple Price \$115.00		
	2016A	2017E	2018E	2017E	2018E	
	Dec '16	Dec '17	Dec '18	Dec '17	Dec '18	
Price	\$90.14	\$90.14	\$90.14	\$115.00	\$115.00	
Fully Diluted Shares	7,799	7,799	7,799	7,799	7,799	
Market Capitalization	\$703,002	\$703,002	\$703,002	\$896,885	\$896,885	
Less: Net Cash	(52,996)	(52,996)	(52,996)	(52,996)	(52,996)	
• Net Cash / Share	(\$6.80)	(\$6.80)	(\$6.80)	(\$6.80)	(\$6.80)	
Enterprise Value	\$650,006	\$650,006	\$650,006	\$843,889	\$843,889	
• EV / Share	\$83.34	\$83.34	\$83.34	\$108.20	\$108.20	
Revenue	\$92,745	\$101,808	\$110,264	\$101,808	\$110,264	
• % Change Yr/Yr	3.0%	9.8%	8.3%	9.8%	8.3%	
EV / Revenue	7.0x	6.4x	5.9x	8.3x	7.7x	
Recurring Revenue	\$27,349	\$38,800	\$49,739	\$38,800	\$49,739	
• % Change Yr/Yr	73.1%	41.9%	28.2%	41.9%	28.2%	
EV / Recurring Revenue	23.8x	16.8x	13.1x	21.7x	17.0x	
EBITDA	\$35,602	\$40,443	\$45,440	\$40,443	\$45,440	
EV / EBITDA	18.3x	16.1x	14.3x	20.9x	18.6x	
EPS (PF)	\$2.83	\$3.47	\$3.62	\$3.47	\$3.62	
• % Change Yr/Yr	8.2%	22.5%	4.4%	22.5%	4.4%	
P/E Multiple	31.8x	26.0x	24.9x	33.2x	31.8x	
EPS (PF, Excl. ESO)	\$3.11	\$3.87	\$4.02	\$3.87	\$4.02	
• % Change Yr/Yr	8.3%	24.4%	3.9%	24.4%	3.9%	
P/E Multiple (Excl. SBC)	29.0x	23.3x	22.4x	29.7x	28.6x	
PEG Ratio	3.9x	1.2x	5.7x	1.5x	7.3x	
Operating Cash Flow	\$36,673	\$41,643	\$47,865	\$41,643	\$47,865	
• Operating Cash Flow / Share	\$4.70	\$5.34	\$6.14	\$5.34	\$6.14	
EV / Operating Cash Flow	17.7x	15.6x	13.6x	20.3x	17.6x	
Free Cash Flow	\$26,381	\$31,079	\$35,718	\$31,079	\$35,718	
• Free Cash Flow / Share	\$3.38	\$3.98	\$4.58	\$3.98	\$4.58	
EV / Free Cash Flow	24.6x	20.9x	18.2x	27.2x	23.6x	
EV / Free Cash Flow / Growth	3.0x	1.2x	1.2x	1.5x	1.6x	
FCF Yield	3.8%	4.4%	5.1%	3.5%	4.0%	

Note: Pro forma, excluding stock compensation expense, amortization of acquired intangibles, and other

MSFT.O Valuation Sensitivity Analysis Based on Target Multiple										
				Target Multiple: 28.6x		Multiple Price: \$115.00				
				Dec '18 P/E Multiple						
				22.6x	24.6x	26.6x	28.6x	30.6x	32.6x	34.6x
Dec '18 EPS (PF)	+15%: \$4.63			\$104	\$114	\$123	\$132	\$142	\$151	\$160
	+10%: \$4.42			\$100	\$109	\$118	\$127	\$135	\$144	\$153
	+5%: \$4.22			\$95	\$104	\$112	\$121	\$129	\$138	\$146
	CS Revenue Est.: \$4.02			\$91	\$99	\$107	\$115	\$123	\$131	\$139
	-5%: \$3.82			\$86	\$94	\$102	\$109	\$117	\$125	\$132
	-10%: \$3.62			\$82	\$89	\$96	\$104	\$111	\$118	\$125
	-15%: \$3.42			\$77	\$84	\$91	\$98	\$105	\$111	\$118

*\*EPS excludes stock-based compensation*

\*EPS excludes stock-based compensation

MSFT.O Valuation Sensitivity Analysis Based on Target Price								
				Target Price: \$115.00				
				Dec '18 Target Price				
				\$85	\$95	\$105	\$115	\$125 \$135 \$145
Dec '18 EPS (PF)	+15%: \$4.63			18.4x	20.5x	22.7x	24.9x	27.0x 29.2x 31.3x
	+10%: \$4.42			19.2x	21.5x	23.7x	26.0x	28.3x 30.5x 32.8x
	+5%: \$4.22			20.1x	22.5x	24.9x	27.2x	29.6x 32.0x 34.3x
	CS Revenue Est.: \$4.02			21.1x	23.6x	26.1x	28.6x	31.1x 33.6x 36.0x
	-5%: \$3.82			22.2x	24.9x	27.5x	30.1x	32.7x 35.3x 37.9x
	-10%: \$3.62			23.5x	26.2x	29.0x	31.8x	34.5x 37.3x 40.1x
	-15%: \$3.42			24.9x	27.8x	30.7x	33.6x	36.6x 39.5x 42.4x

\*EPS excludes stock-based compensation

Source: Thomson Reuters, Company data, Credit Suisse estimates.

# Comparables

Figure 27: Microsoft Software Comparables

		Current	Market	2017E	2018E	2017E Rev	2018E Rev	EV / Revenue		2017E OCF	2018E OCF	EV / OCF		2017E FCF	2018E FCF	EV / FCF	
Company		Price	Cap (M)	Rev. (M)	Rev. (M)	Gr. (yr/yr)	Gr. (yr/yr)	2017E	2018E	Gr. (yr/yr)	Gr. (yr/yr)	2017E	2018E	Gr. (yr/yr)	Gr. (yr/yr)	2017E	2018E
On-Premise Comparables																	
Akamai	AKAM	\$65.40	\$11,216	\$2,489	\$2,689	6.4%	8.1%	4.5x	4.1x	(6.6%)	6.3%	13.7x	12.9x	(26.2%)	2.0%	27.4x	26.9x
CA Inc	CA	\$34.47	\$14,340	\$4,176	\$4,277	3.5%	2.4%	3.4x	3.3x	6.4%	3.1%	13.0x	12.6x	6.1%	3.9%	13.6x	13.1x
Cisco	CSCO	\$41.20	\$205,753	\$48,214	\$48,928	(1.1%)	1.5%	3.5x	3.5x	2.5%	4.1%	12.1x	11.6x	3.2%	3.9%	13.1x	12.6x
Check Point	CHKP	\$103.57	\$17,208	\$1,857	\$1,974	6.7%	6.3%	8.5x	8.0x	13.6%	3.5%	15.0x	14.5x	13.1%	5.7%	15.4x	14.6x
Citrix Systems	CTXS	\$91.19	\$14,100	\$2,824	\$2,882	(17.4%)	2.0%	5.0x	4.9x	(11.6%)	(1.9%)	14.2x	14.5x	(2.3%)	(2.8%)	14.6x	15.0x
Intuit	INTU	\$164.29	\$42,551	\$5,345	\$5,990	10.2%	12.1%	8.0x	7.1x	15.8%	25.5%	26.7x	21.3x	25.0%	28.9%	30.5x	23.6x
Microsoft	MSFT	\$90.14	\$703,002	\$101,808	\$110,264	9.8%	8.3%	6.4x	5.9x	13.6%	14.9%	15.6x	13.6x	17.8%	14.9%	20.9x	18.2x
Oracle	ORCL	\$50.27	\$215,306	\$39,019	\$40,652	3.9%	4.2%	5.2x	5.0x	7.1%	7.1%	13.7x	12.8x	5.5%	9.0%	15.8x	14.5x
Open Text	OTEX	\$33.70	\$8,924	\$2,515	\$2,790	22.2%	10.9%	4.5x	4.1x	16.1%	37.2%	20.2x	14.7x	19.6%	43.5%	23.2x	16.2x
Red Hat	RHT	\$126.60	\$23,568	\$2,827	\$3,289	20.2%	16.4%	8.0x	6.9x	15.0%	15.7%	25.4x	22.0x	5.9%	22.4%	30.1x	24.6x
SAP	SAP	\$111.19	\$133,317	\$28,800	\$30,505	21.7%	5.9%	4.7x	4.4x	26.7%	8.6%	21.5x	19.8x	29.1%	14.5%	26.9x	23.5x
Splunk	SPLK	\$90.57	\$12,717	\$1,217	\$1,531	31.4%	25.8%	9.6x	7.6x	31.2%	30.9%	44.9x	34.3x	45.6%	36.3%	51.6x	37.8x
IBM	IBM	\$168.65	\$157,389	\$78,624	\$78,802	(1.6%)	0.2%	2.4x	2.4x	4.0%	0.0%	12.0x	12.0x	4.7%	(5.7%)	15.8x	16.8x
Verisign	VRSN	\$114.00	\$14,144	\$1,165	\$1,208	2.0%	3.7%	12.2x	11.7x	(0.7%)	7.1%	21.4x	20.0x	(0.8%)	7.2%	22.2x	20.7x
Simple Average			\$112,395	\$22,920	\$23,984	8.4%	7.7%	6.1x	5.6x	9.5%	11.6%	19.3x	16.9x	10.4%	13.1%	22.9x	19.9x
Market Cap Weighted Average						7.4%	6.0%	5.4x	5.1x	11.1%	10.5%	15.7x	14.2x	13.3%	10.9%	19.7x	17.6x
Median			\$20,388	\$3,501	\$3,783	6.5%	6.1%	5.1x	4.9x	10.3%	7.1%	15.3x	14.5x	6.0%	8.1%	21.6x	17.5x

Source: Thomson Reuters, Company data, Credit Suisse estimates.

**Companies Mentioned** (Price as of 17-Jan-2018)

**Akamai Technologies, Inc.** (AKAM.OQ, \$65.4)  
**Alphabet** (GOOGL.OQ, \$1139.1)  
**Amazon.com Inc.** (AMZN.OQ, \$1295.0)  
**CA Inc.** (CA.OQ, \$34.47)  
**Check Point Software Technologies Ltd.** (CHKP.OQ, \$103.57)  
**Cisco Systems Inc.** (CSCO.OQ, \$41.2)  
**Citrix Systems Inc.** (CTXS.OQ, \$91.19)  
**International Business Machines Corp.** (IBM.N, \$168.65)  
**Intuit Inc.** (INTU.OQ, \$164.29)  
**Microsoft** (MSFT.OQ, \$90.14, OUTPERFORM, TP \$115.0)  
**Open Text Corporation** (OTEX.OQ, \$33.7)  
**Oracle Corporation** (ORCL.N, \$50.27)  
**Red Hat, Inc.** (RHT.N, \$126.6)  
**SAP** (SAPG.F, €90.7)  
**Salesforce.com** (CRM.N, \$110.04)  
**Splunk, Inc.** (SPLK.OQ, \$90.57)  
**VMware Inc.** (VMW.N, \$135.33)  
**VeriSign Inc.** (VRSN.OQ, \$114.0)

## Disclosure Appendix

**Analyst Certification**

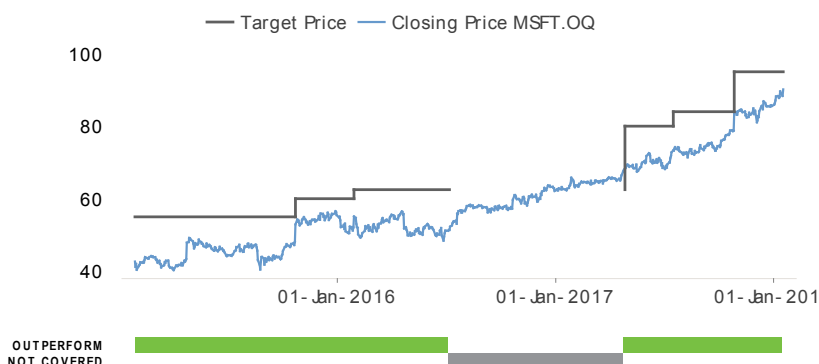
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**3-Year Price and Rating History for Microsoft (MSFT.OQ)**

MSFT.OQ	Closing Price	Target Price	
Date	(US\$)	(US\$)	Rating
27-Jan-15	42.66	55.00	O
23-Oct-15	52.87	60.00	
29-Jan-16	55.09	62.50	
07-Jul-16	51.38		NC
27-Apr-17	68.27	80.00	O *
17-Jul-17	73.35	84.00	
27-Oct-17	83.81	95.00	

\* Asterisk signifies initiation or assumption of coverage.

Effective July 3, 2016, NC denotes termination of coverage.



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**Outperform (O)** : The stock's total return is expected to outperform the relevant benchmark\* over the next 12 months.

**Neutral (N)** : The stock's total return is expected to be in line with the relevant benchmark\* over the next 12 months.

**Underperform (U)** : The stock's total return is expected to underperform the relevant benchmark\* over the next 12 months.

\*Relevant benchmark by region: As of 10th December 2012, Japanese ratings are based on a stock's total return relative to the analyst's coverage universe which consists of all companies covered by the analyst within the relevant sector, with Outperforms representing the most attractive, Neutrals the less attractive, and Underperforms the least attractive investment opportunities. As of 2nd October 2012, U.S. and Canadian as well as European ratings are based on a stock's total return relative to the analyst's coverage universe which consists of all companies covered by the analyst within the relevant sector, with Outperforms representing the most attractive, Neutrals the less attractive, and Underperforms the least attractive investment opportunities. For Latin American and Asia stocks (excluding Japan and Australia), ratings are based on a stock's total return relative to the average total return of the relevant country or regional benchmark (India - S&P BSE Sensex Index); prior to 2nd October 2012 U.S. and Canadian ratings were based on (1) a stock's absolute total return potential to its current share price and (2) the relative attractiveness of a stock's total return potential within an analyst's coverage universe. For Australian and New Zealand stocks, the expected total return (ETR) calculation includes 12-month rolling dividend yield. An Outperform rating is assigned where an ETR is greater than or equal to 7.5%; Underperform where an ETR less than or equal to 5%. A Neutral may be assigned where the ETR is between -5% and 15%. The overlapping rating range allows analysts to assign a rating that puts ETR in the context of associated risks. Prior to 18 May 2015, ETR ranges for Outperform and Underperform ratings did not overlap with Neutral thresholds between 15% and 7.5%, which was in operation from 7 July 2011.

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Restricted	2%	

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#### Target Price and Rating

##### Valuation Methodology and Risks: (12 months) for Microsoft (MSFT.OQ)

**Method:** Our \$115 target price and Outperform rating for MSFT is based on the average of our discounted cash flow (DCF) and relative comparable multiple to its peers. For our DCF, we use a weighted average cost of capital (WACC) of 10.9% and 3% terminal growth rate. This valuation is supported by a 28.6 times price to estimated earnings multiple using our C2018 (excluding stock-based compensation) estimate (P/E). We believe that this target price and multiple are warranted, given our expectations for sustained growth in Commercial Cloud while generating incremental leverage. In addition, we believe that as more of MSFT's revenue stems from recurring sources (e.g., subscription / transactional revenue), this could lead to further multiple expansion. Thus, we rate the shares Outperform.

**Risk:** Risks to our \$115 target price and Outperform rating for MSFT are (1) competitive landscape, (2) acquisitions and potential impairment of goodwill / intangibles, (3) macroeconomic uncertainty, (4) server outages and disruption to online services, (5) cyber-attacks and security vulnerabilities, and (6) piracy / protecting intellectual property rights.

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