DCF

Ticker Date Year-End MSFT 12/20/2023 12/31/2023 Current Share Price Implied Share Price Upside / (Downside) \$370.62 \$381.43 3%

Conservative (Base Case Optimistic Cas

Assumptions		
Switches		Conservative
Revenue		Revenue
Productivity and Business Processes	2	Productivity and Business Processes
Intelligent Cloud	2	Productivity and Business Processes
More Personal Computing	2	Intelligent Cloud
		Intelligent Cloud
<u>EBIT</u>		More Personal Computing
Productivity and Business Processes	2	More Personal Computing
Intelligent Cloud	2	
More Personal Computing	2	<u>EBIT</u>
		Productivity and Business Processes
Other Assumptions		Intelligent Cloud
Taxes	2	More Personal Computing
D&A	2	
CapEx	2	
Change in NWC	2	Other Assumptions
WACC	2	Taxes
TGR	2	D&A
		CapEx
Valuation Assumptions		Change in NWC
WACC	8.6%	WACC
TGR	2.5%	TGR

Income Statement	2016A	2017A	2018A	2019A	2020A
Revenue					
Productivity and Business Processes	28,518	33,177	38,534	43,737	50,251
% growth		16%	16%	14%	15%
Intelligent Cloud	26,285	29,849	35,630	43,647	54,338
% growth		14%	19%	23%	24%
More Personal Computing	39,665	40,539	44,001	46,919	51,263
% growth		2%	9%	7%	9%
Total Revenue	94,469	103,565	118,165	134,303	155,852
% growth		10%	14%	14%	16%
EBIT					
Productivity and Business Processes	12,186	12,423	14,585	17,456	21,586
% of sales		44%	44%	45%	49%
Intelligent Cloud	9,260	10,341	12,732	16,115	22,282
% of sales		39%	43%	45%	51%
More Personal Computing	7,237	9,459	11,724	14,356	17,711
% of sales		24%	29%	33%	38%

x	Total EBIT % of sales	28,683 <i>30%</i>	32,222 31%	39,041 <i>33%</i>	47,927 <i>36%</i>	61,580 <i>40%</i>
^	70 Of Suics	3070	31/0	33/0	3070	40/0
	Taxes					
	Pre-Tax Income	20,071	28,614	39,927	49,853	60,726
	Taxes	3,303	17,026	6,386	5,530	9,416
	Tax Rate	16%	60%	16%	11%	16%
х	Cash Flow Items	2016A	2017A	2018A	2019A	2020A
	D&A	7,599	9,831	11,058	12,024	11,532
	% of sales	8%	9%	9%	9%	7%
	CapEx	9,114	8,696	14,223	13,546	17,592
	% of sales	10%	8%	12%	10%	11%
	Change in NWC	931	14,404	1,841	(303)	(723)
	% of sales	1%	14%	2%	0%	0%
х	Revenue Build	2016A	2017A	2018A	2019A	2020A
	Productivity and Business Processes	28,518	33,177	38,534	43,737	50,251
	% growth		16%	16%	14%	15%
	Conservative					
	Base					
	Optimistic					
	Intelligent Cloud	26,285	29,849	35,630	43,647	54,338
	% growth		14%	19%	23%	24%
	Conservative					
	Base					
	Optimistic					
	More Personal Computing	39,665	40,539	44,001	46,919	51,263
	% growth		2%	9%	7%	9%
	Conservative					
	Base					
	Optimistic					
	Total Revenue	94,469	103,565	118,165	134,303	155,852
X	% growth		10%	14%	14%	16%
Х	EBIT Build	2016A	2017A	2018A	2019A	2020A
	Productivity and Business Processes	12,186	12,423	14,585	17,456	21,586
	% of sales	43%	37%	38%	40%	43%
	Conservative					
	Base					
	Optimistic					
	Intelligent Cloud	9,260	10,341	12,732	16,115	22,282
	% of sales	35%	35%	36%	37%	41%
	Conservative					
	Base					
	Optimistic					
	More Personal Computing	7,237	9,459	11,724	14,356	17,711

1%

14%

2%

0%

0%

18%

23%

27%

35%

Period

% of sales

Discount Period

Terminal Value

Present Value of Terminal Value

Unlevered Free Cash Flow Present Value of UFCF

Enterprise Value

- (+) Cash
- (-) Debt

Equity Value

Diluted Shares

x Implied Stock Price

\$241.69 "My Base Case" \$414.80 Case \$381.43 "My Optimistic Case" \$454.46 \$569.34 ie Base Metric **Revenue** <u>Year</u> Metric <u>Year</u> 2024 90.0% 2030 8.0% 2024 90.0% 2030 Intelligent Cloud 2030 16.5% 13.5% 2024 90.0% 2030 4.0% More Personal Computing 2030 5.0% **EBIT** <u>Year</u> Metric **Year Metric** 2024-30 (4.0%)2024-30 (4.0%)2024-30 (4.0%)**Other Assumptions** Metric Metric 18.3% **Taxes** 14.8% D&A 10.0% 8.5% 13.5% CapEx 12.0% 2.0% Change in NWC 0.0% WACC 8.6% 9.1% 2.0% **TGR** 2.5% 2021A 2022A 2023E 2024E 2025E 2026E 2027E 58,678 66,343 73,267 82,237 91,674 106,178 123,372 17% 13% 10% 12% 16% 11% 16% 200,481 67,728 81,631 95,652 112,898 133,610 162,216 25% 21% 17% 18% 18% 21% 24% 69,043 64,143 76,290 84,005 56,897 57,174 58,134 11% 0% 2% 10% 8% 10% 10% 183,303 205,149 227,053 259,278 294,327 344,684 407,858 18% 18% 12% 11% 14% 14% 17% 27,041 31,957 36,686 41,709 47,141 53,538 60,576 54% 54% 55% 57% 57% 58% 29,451 35,324 42,414 50,996 60,783 73,651 90,216 54% 52% 52% 53% 54% 55%

20,444

32%

18,577

32%

20,213

39%

18,694

33%

17,250

30%

22,727

33%

23,975

76,705 <i>42%</i>	85,974 <i>42%</i>	96,350 <i>42%</i>	111,282 <i>43%</i>	128,368 <i>44%</i>	149,916 <i>43%</i>	174,767 <i>43%</i>	
12%	12/0	12/0	10/0	11,0	1070	1575	
79,680	82,588						
8,495	15,139						
11%	18%						
2021A	2022A						
12,202	14,190						
7%	7%						
23,216	24,768						
13%	12%						
388	(3,929)						
0%	-2%						
2021A	2022A	2023E	2024E	2025E	2026E	2027E	2028E
58,678	66,343	73,267	82,237	92,304	103,604	116,287	129,079
17%	13%	10%	12%	12%	12%	12%	11%
		10%	11%	11%	10%	10%	9%
		10%	12%	12%	12%	12%	11%
		10%	14%	13%	13%	13%	13%
67,728	81,631	95,652	112,898	132,966	156,262	183,241	214,410
25%	21%	17%	18%	18%	18%	17%	17%
		17%	16%	16%	15%	15%	14%
		17%	18%	18%	18%	17%	17%
		17%	20%	20%	20%	19%	19%
56,897	57,174	58,134	64,143	70,204	76,212	82,056	87,619
11%	0%	2%	10%	9%	9%	82,030	7%
11/0	0/0	2%	9%	8%	8%	7%	6%
		2%	10%	9%	9%	8%	7%
		2%	12%	11%	10%	9%	8%
183,303	205,149	227,053	259,278	295,473	336,077	381,584	431,108
18%	12%	11%	14%	14%	14%	14%	13%
2021A	2022A	2023E	2024E	2025E	2026E	2027E	2028E
27,041	31,957	40,514	46,814	52,546	58,978	66,198	73,480
46%	48%	55%	57%	57%	57%	57%	57%
		55%	55%	55%	55%	55%	55%
		55%	57%	57%	57%	57%	57%
		55%	59%	59%	59%	59%	59%
29,451	35,324	49,699	60,191	70,890	83,310	97,694	114,312
43%	43%	52%	53%	53%	53%	53%	53%
		52%	51%	51%	51%	51%	51%
		52%	53%	53%	53%	53%	53%
		52%	55%	55%	55%	55%	55%
20,213	18,694	17,540	20,497	22,434	24,354	26,221	27,999

36%	33%	30%	32%	32%	32%	32%	32%
		30%	31%	31%	31%	31%	31%
		30%	32%	32%	32%	32%	32%
		30%	33%	33%	33%	33%	33%
76,705	85,974	107,753	127,503	145,870	166,642	190,114	215,791
42%	42%	47%	49%	49%	50%	50%	50%
2021A	2022A	2023E	2024E	2025E	2026E	2027E	2028E
183,303	205,149	227,053	259,278	295,473	336,077	381,584	431,108
18%	12%	11%	14%	14%	14%	14%	13%
76,705	85,974	107,753	127,503	145,870	166,642	190,114	215,791
42%	42%	47%	49%	49%	50%	50%	50%
8,495	15,139	15,983	18,912	21,636	24,717	28,199	32,007
11%	18%	15%	15%	15%	15%	15%	15%
	70,835	91,771	108,591	124,233	141,925	161,915	183,784
12,202	14,190	16,580	19,933	23,854	28,427	33,747	39,788
7%	7%	7%	8%	8%	8%	9%	9%
23,216	24,768	27,266	31,136	35,483	40,359	45,823	51,771
13%	12%	12%	12%	12%	12%	12%	12%
388	-3,929	0	0	0	0	0	0
0%	-2%	0%	0%	0%	0%	0%	0%
		2,478	97,387	112,605	129,993	149,838	171,801
		_,-,-					
		2,474	93,228	99,282	105,561	112,066	118,344
		•	-	•	105,561	112,066 5	118,344

Optimistic		
Revenue	<u>Year</u>	<u>Metric</u>
Productivity and Business Processes	2024	112.0%
Productivity and Business Processes	2030	12.0%
Intelligent Cloud	2024	112.0%
Intelligent Cloud	2030	18.5%
More Personal Computing	2024	112.0%
More Personal Computing	2030	6.0%

<u>EBIT</u>	<u>Year</u>	<u>Metric</u>
Productivity and Business Processes	2024-30	4.0%
Intelligent Cloud	2024-30	4.0%
More Personal Computing	2024-30	4.0%

Other Assumptions	<u>Metric</u>
Taxes	14.3%
D&A	11.5%
CapEx	10.5%
Change in NWC	(2.0%)
WACC	8.1%
TGR	3.0%

2029E	2030E
143,277	159,038
11%	11%
9%	8%
11%	11%
12%	12%
250,335	291,640
17%	17%
14%	14%
17%	17%
19%	19%
92,779	97,418
6%	5%
5%	4%
6%	5%
7%	6%
486,391	548,096
13%	13%
2029E	2030E

2029E	2030E
81,563	90,535
57%	57%
55%	55%
57%	57%
59%	59%
133,465	155,487
53%	53%
51%	51%
53%	53%
55%	55%
33/0	33/0

29,648 31,130

32%	32%
31%	31%
32%	32%
33%	33%

244,676	277,152
50%	51%

30%	51%
2029E	2030E
486,391	548,096
13%	13%
244,676	277,152
50%	51%
36,292	41,109
15%	15%
208,384	236,043
46,765	54,810
10%	10%
58,409	65,819
12%	12%
0	0
0%	0%
	1
196,739	225,033
124,820	131,495

7 8 5.53 6.53

> 3,796,793 1,965,961

> 2,753,231 143,951 25,808 2,871,374 7,528 \$381.43

WACC

WACC = % of equity x cost of equity + % of debt x cost of debt x (1 - Tax Rate) Cost of equity = Risk free rate + Beta x Market Risk Premium

WACC	
Market Cap	2,759,600
% of Equity	99.07%
Cost of Equity	8.63%
Risk Free Rate	4.19%
Beta	0.98
Market Risk Premium	4.53%
Debt	25,808
% of Debt	0.93%
Cost of Debt	2.88%
Tax Rate	14.83%
Total	2,785,408
WACC	8.58%

MSFT-US
Product Segments (M)

	CY '16	CY '17	CY '18	CY '19	CY '20	CY '21	CY '22
	Dec '16	Dec '17	Dec '18	Dec '19	Dec '20	Dec '21	Dec '22
Sales	94,531	103,586	118,165	134,303	155,852	183,303	205,149
Productivity and Business Processes	28,518	33,177	38,534	43,737	50,251	58,678	66,343
Intelligent Cloud	26,285	29,849	35,630	43,647	54,338	67,728	81,631
More Personal Computing	39,665	40,539	44,001	46,919	51,263	56,897	57,174
Corporate and Other	-6,697	-3,326	0	0	-	-	-
Operating Income	28,735	32,222	39,041	47,927	61,580	76,705	85,974
Productivity and Business Processes	12,186	12,423	14,585	17,456	21,586	27,041	31,957
Intelligent Cloud	9,260	10,341	12,732	16,115	22,282	29,451	35,324
More Personal Computing	7,237	9,459	11,724	14,356	17,711	20,213	18,694
Corporate and Other	-7,403	-3,478	0	-	-	-	-

CY '23E	CY '24E	CY '25E	CY '26E	CY '27E
Dec '23E	Dec '24E	Dec '25E	Dec '26E	Dec '27E
227,274	260,464	296,482	350,582	412,495
73,267	82,237	91,674	106,178	123,372
95,652	112,898	133,610	162,216	200,481
58,134	64,143	69,043	76,290	84,005
-	-	-	-	-
95,966	111,324	129,208	152,524	176,922
36,686	41,709	47,141	53,538	60,576
42,414	50,996	60,783	73,651	90,216
17,250	18,577	20,444	22,727	23,975
-	-	-	-	-

Microsoft Corporation				
MSFT 594918104 2588173 NASDAQ Common stock Source: FactSet Fundamentals				
	DEC '13	DEC '14	DEC '15	DEC '16
Sales	83,263	93,268	87,314	85,106
Cost of Goods Sold (COGS) incl. D&A	23,787	31,945	31,708	33,446
COGS excluding D&A	19,536	25,999	25,695	25,847
Depreciation & Amortization Expense	4,251	5,946	6,013	7,599
Depreciation	3,355	10,865	4,901	6,523
Amortization of Intangibles	896	1,377	1,112	1,076
Gross Income	59,476	61,323	55,606	51,660
SG&A Expense	31,658	32,925	31,388	31,191
Research & Development	10,938	11,834	11,940	12,294
Other SG&A	20,720	21,091	19,448	18,897
EBIT (Operating Income)	27,818	28,398	24,218	20,469
Nonoperating Income - Net	1,180	1,531	2,275	3,054
Nonoperating Interest Income	750	893	757	1,108
Other Income (Expense)	430	638	1,518	1,946
Interest Expense	482	667	1,016	1,643
Gross Interest Expense	482	667	1,016	1,643
Unusual Expense - Net	482	1,982	9,348	1,809
Impairments	144	75	5,410	199
Goodwill	0	0	5,100	0
Financial Fixed Assets	144	75	310	199
Restructuring Expense	0	1,510	3,528	1,286
Unrealized Valuation Gain/Loss	-338	-397	-410	-324
Investments				
Hedges/Derivatives	-338	-397	-410	-324
Pretax Income	28,034	27,280	16,129	20,071
Income Taxes	5,212	6,605	4,721	3,303
Consolidated Net Income	22,822	20,675	11,408	16,768
Net Income	22,822	20,675	11,408	16,768
Net Income available to Common	22,822	20,675	11,408	16,768
Per Share				
EPS (recurring)	2.76	2.66	2.24	2.30
Basic Shares Outstanding	8,326.00	8,228.00	7,964.00	7,755.00
Total Shares Outstanding	8,300.00	8,218.00	7,925.00	7,730.00
EPS (diluted)	2.71	2.48	1.40	2.12
Diluted Shares Outstanding	8,395.00	8,297.00	8,028.00	7,830.00
Total Shares Outstanding	8,300.00	8,218.00	7,925.00	7,730.00

Earnings Persistence	66.28	69.79	75.59	54.49
Dividends per Share	1.02	1.18	1.34	1.50
Payout Ratio	37.64	47.58	95.71	70.75
EBITDA				
EBITDA	32,069	34,344	30,231	28,068
EBIT	27,818	28,398	24,218	20,469
Depreciation & Amortization Expense	4,251	5,946	6,013	7,599

All figures in millions of U.S. Dollar except per share items.

DEC '17	DEC '18	DEC '19	DEC '20	DEC '21	DEC '22
98,425	118,224	134,088	153,284	184,903	204,094
36,134	41,648	43,346	48,510	57,642	64,984
26,303	30,590	31,322	36,482	44,654	50,794
9,831	11,058	12,024	12,028	12,988	14,190
7,519	8,912	10,348	10,511	11,298	11,823
2,312	2,146	1,676	1,517	1,690	2,367
62,291	76,576	90,742	104,774	127,261	139,110
33,565	37,927	41,580	44,619	48,633	56,295
13,604	15,695	17,997	19,926	22,248	26,627
19,961	22,232	23,583	24,693	26,385	29,668
28,726	38,649	49,162	60,155	78,628	82,815
4,925	3,838	2,846	2,595	2,074	2,245
1,786	2,596	2,789	2,383	2,039	2,412
3,139	1,242	57	212	35	-167
2,634	2,709	2,631	2,460	2,250	1,989
2,634	2,709	2,631	2,460	2,250	1,989
2,403	-149	-476	-436	-1,228	483
46		52	105	13	122
0	0	0	0	0	0
46		52	105	13	122
1,853	0	0	0	0	0
-504	176	528	541	1,241	-361
		343	440	1,224	-119
-504	-15	185	101	17	-242
28,614	39,927	49,853	60,726	79,680	82,588
17,026	6,386	5,530	9,416	8,495	15,139
11,588	33,541	44,323	51,310	71,185	67,449
11,588	33,541	44,323	51,310	71,185	67,449
11,588	33,541	44,323	51,310	71,185	67,449
1.72	4.30	5.72	6.70	9.31	9.07
7,710.00	7,692.00	7,621.00	7,555.00	7,505.00	7,451.00
7,705.00	7,683.00	7,611.00	7,546.00	7,500.00	7,447.00
1.46	4.31	5.74	6.71	9.40	8.99
7,710.00	7,768.00	7,691.00	7,616.00	7,555.00	7,473.00
7,705.00	7,683.00	7,611.00	7,546.00	7,500.00	7,447.00

76.65	70.33	79.16	79.92	75.78	75.64
1.62	1.76	1.94	2.14	2.36	2.60
110.96	40.84	33.77	31.87	25.11	28.91
38,557	49,707	61,186	72,183	91,616	97,005
28,726	38,649	49,162	60,155	78,628	82,815
9,831	11,058	12,024	12,028	12,988	14,190

Microsoft Corporation				
MSFT 594918104 2588173 NASDAQ Common stock				
Source: FactSet Fundamentals				
	DEC '13	DEC '14	DEC '15	DEC '16
Operating Activities				
Net Income / Starting Line	22,822	20,675	11,408	17,070
Depreciation, Depletion & Amortization	4,251	5,946	6,013	7,599
Depreciation and Depletion		4,569	4,863	6,522
Amortization of Intangible Assets	896	1,377	1,150	1,077
Deferred Taxes & Investment Tax Credit	31	56	-565	-66
Deferred Taxes	31	56	-565	-66
Other Funds	2,030	3,200	13,368	11,441
Funds from Operations	29,134	29,877	30,224	36,044
Changes in Working Capital	-947	2,430	354	931
Receivables	-1,733	387	1,465	675
Inventories	66	64	-692	698
Accounts Payable	745	-375	-298	-490
Income Taxes Payable				
Other Assets/Liabilities	-25	2,354	-121	48
Net Operating Cash Flow	28,187	32,307	30,578	36,975
Investing Activities				
Capital Expenditures	-5,687	-5,294	-6,552	-9,114
Capital Expenditures (Fixed Assets)	-5,687	-5,294	-6,552	-9,114
Net Assets from Acquisitions	-282	-8,718	-1,559	-25,406
Purchase/Sale of Investments	-13,896	-11,316	-10,841	-15,099
Purchase of Investments	73,078	88,048	127,797	161,394
Sale/Maturity of Investments	59,182	76,732	116,956	146,295
Other Funds	624	-319	10	842
Other Uses	624	-216	-337	0
Other Sources		-103	347	842
Net Investing Cash Flow	-19,138	-25,647	-18,942	-48,777
Financing Activities				
Cash Dividends Paid	-8,094	-9,485	-10,371	-11,487
Common Dividends	-8,094	-9,485	-10,371	-11,487
Change in Capital Stock	-5,682	-7,424	-17,212	-14,791
Repurchase of Common & Preferred Stk.	-6,371	-8,048	-17,845	-15,495
Sale of Common & Preferred Stock	689	624	633	704
Proceeds from Sale of Stock	689	624	633	704
Issuance/Reduction of Debt, Net	8,567	5,997	16,601	39,604
Change in Current Debt	0	8,297	-5,457	2,191

Change in Long-Term Debt	8,567	-2,300	22,058	37,413
Issuance of Long-Term Debt	11,501	1,500	23,929	42,681
Reduction in Long-Term Debt	-2,934	-3,800	-1,871	-5,268
Other Funds	215	855	200	-228
Other Uses	-33	0	-243	-126
Other Sources	248	855	443	-102
Net Financing Cash Flow	-4,994	-10,057	-10,782	13,098
All Activities				
Exchange Rate Effect	-13	-236	-95	-13
Net Change in Cash	4,042	-3,633	759	1,283
Free Cash Flow	22,500	27,013	24,026	27,861
Free Cash Flow per Share	3	3	3	4
Free Cash Flow Yield (%)	7.16	7.01	5.39	5.73

All figures in millions of U.S. Dollar except per share items.

DEC '17 DEC '18 DEC '19 DEC '20 DEC '21 DEC '22

11,588	33,541	44,323	51,310	71,185	67,449
9,831	11,058	12,024	11,532	12,202	14,190
7,533	8,497	10,297	10,016	10,478	11,775
2,298	2,561	1,727	1,516	1,724	2,415
-5,082	-3,205	-6,273	213	-5,909	-2,411
-5,082	-3,205	-6,273	213	-5,909	-2,411
11,239	2,891	4,355	5,696	6,043	9,087
27,576	44,285	54,429	68,751	83,521	88,315
14,404	1,841	-303	-723	388	-3,929
-1,347	-1,105	-3,723	-1,417	-6,373	-3,212
-33	51	137	-90	-1,100	22
956	-218	513	3,920	2,214	-446
	393	277	-3,175	1,638	-2,353
-1,807	2,720	2,493	39	4,009	2,060
41,980	46,126	54,126	68,028	83,909	84,386
-8,696	-14,223	-13,546	-17,592	-23,216	-24,768
-8,696	-14,223	-13,546	-17,592	-23,216	-24,768
-1,366	-2,520	-1,092	-2,875	-10,069	-21,010
-9,479	10,791	-1,794	12,013	8,009	13,076
151,064	95,674	63,689	64,461	46,066	30,254
141,585	106,465	61,895	76,474	54,075	43,330
-1,254	-27	0	-2,997	328	-3,480
-268	-27	0	-2,997	328	-3,480
-986	0	0	0	0	0
-20,795	-5,979	-16,432	-11,451	-24,948	-36,182
-12,262	-13,222	-14,443	-15,827	-17,293	-18,964
-12,262	-13,222	-14,443	-15,827	-17,293	-18,964
-7,509	-15,234	-18,261	-24,599	-27,475	-26,855
-8,405	-16,300	-19,504	-26,128	-29,224	-28,611
896	1,066	1,243	1,529	1,749	1,756
896	1,066	1,243	1,529	1,749	1,756
3,637	-15,937	-3,518	-6,250	-5,326	-5,947
2,231	-7,373	0	0	0	0

1,406	-8,564	-3,518	-6,250	-5,326	-5,947
9,481	0	0	0	0	0
-8,075	-8,564	-3,518	-6,250	-5,326	-5,947
-696	-1,904	811	-4,154	-2,731	-1,080
-496	-1,904	564	-3,907	-2,731	-1,080
-200	0	247	-247	0	0
-16,830	-46,297	-35,411	-50,830	-52,825	-52,846
36	-71	-57	-179	36	-316
4,391	-6,221	2,226	5,568	6,172	-4,958
33,284	31,903	40,580	50,436	60,693	59,618
4	4	5	7	8	8
5.05	4.04	3.35	2.98	2.39	3.33