Microsoft Corporation

Global Credit Research GCRE007

FICC Research Dept.

Qualities of a Yokozuna

- Size: over $100 bn revenues, over $250 bn assets, EBITDA margins of 41%
- Speed: 14% total revenue growth, high growth potential in cloud, LinkedIn
- Variety of “techniques”: a platform business with a well-balanced product portfolio
- Strong credit profile supported by high capabilities to generate cash flows, excellent liquidity and debt free on an adjusted basis

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1. Credit Opinion

Like a yokozuna in sumo world, Microsoft has the highest rank as shown by its issuer credit ratings. (Aaa/stable assigned by Moody's(*), AAA/stable assigned by S&P(*))

(*) indicates non-registered domestic rating; please see the disclaimer at the end

Microsoft strength is supported by three qualities: size, speed and a variety of "techniques". The first quality is size. In sumo wrestling, there are three yokozuna at the moment and all of them have a weight of over 150 kilograms and a height of over 185 centimeters. It seems that size matters and this is true not only in sumo world.
Microsoft platform-based ecosystem has a significant size with over $250 bn of assets, over $110 bn of annual revenues and EBITDA margins at 41%. With over $30 bn FOCF and over $130 bn in cash & marketables, Microsoft has an excellent liquidity profile. Establishing significant scale in the marketplace is necessary to achieve and maintain attractive margins. Size also creates beneficial network effects among users, application developers and Microsoft, the platform provider.
The second quality is speed. Size alone is not enough to become a yokozuna. Ichinojo is the heaviest sumo wrestler in the tournament at the moment with a weight of 225 kilograms. However he has hard time fighting yokozuna Hakuhou, who only weights 155 kilograms. It seems that it's not all about size, but speed is also an important factor to reach the title of yokozuna.
Microsoft's speed is reflected in the growth rates of its ecosystem. In FY18, revenues grew 14% with growth in all business segments. We see accelerating growth in cloud business as the whole market is expanding and high growth in LinkedIn. We expect Microsoft to continue making investments and acquire new technologies to expand its business ecosystem. However investments should be moderate and we don't expect a significant deterioration of credit metrics, given its strong cash buffer and conservative financial policy.
The third quality is the variety of "techniques" that you have to master to be become a yokozuna. If you master only a technique you could win a tournament, but you can't be a constant winner to reach the yokozuna rank. Yokozuna usually masters a variety of techniques and is able to switch strategies depending on his opponent.
Similar to sumo, Microsoft doesn't rely on a single "technique" but it has a diversified product portfolio with a strong market position for its core products. It also proves flexibility to adapt its business model to a new business environment. It is currently in a transition period from an on-premise software company to cloud services and it proves to manage well the transition so far. This shift in strategy is credit positive as the cloud market has a high growth potential and the recurring revenue associated with this market makes cash flow more predictable.
We expect the revenues size, the growth potential and the balanced product portfolio to support strong cash flows generation in the future despite aggressive competition that characterizes technology sector, threats of piracy of its software and security issues.
Microsoft is de facto a debt free company with $83.2 bn total debt and $133.8 bn of cash and marketables at hand.

2. Profitability

Overview of FY18 Results

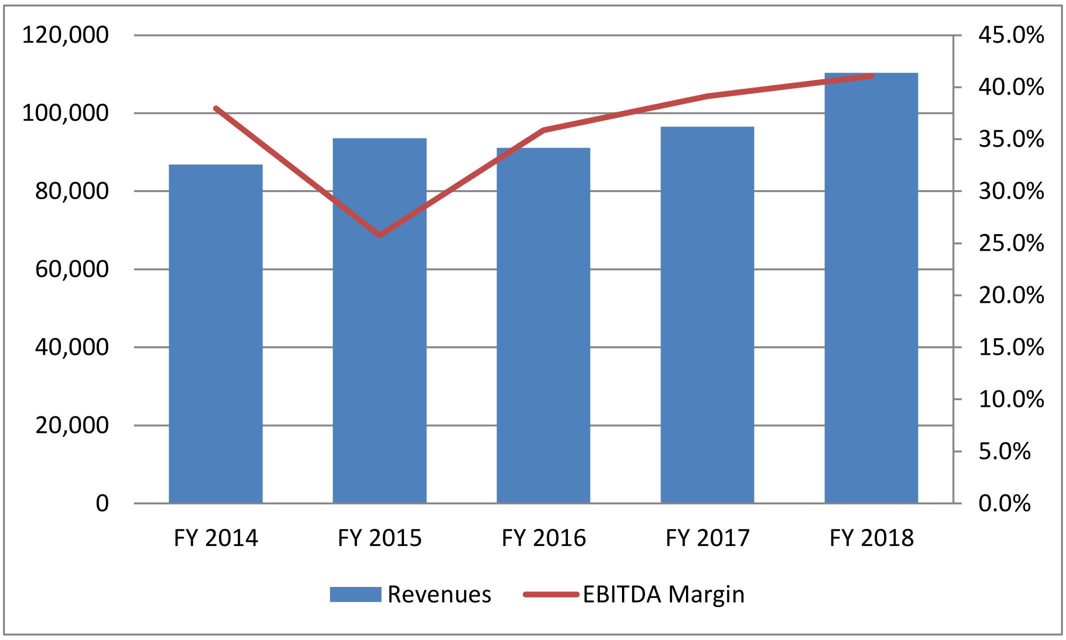
Revenues increased 14.3% y/y to $110.4 bn due to growth in all business segments.
Productivity and Business Processes revenue growth was mainly driven by LinkedIn and higher revenue from Office. Intelligent Cloud revenue increased primarily due to higher revenue from server products and cloud services. More Personal Computing revenue increased driven by Gaming, Windows, Search advertising and Surface offset partially by lower revenues from Phone.

Gross profit (revenues- cost of revenues) increased 16% y/y to $72 bn with margins improving 0.7pp to 65.2%.
Gross margins increased 0.7pp to 65.2% due to a favorable segment sales mix and margin improvement in More Personal Computing segment. Gross margin included a 7pp improvement in commercial cloud, primarily from Azure.

EBITDA increased 20% y/y to $45.3 bn with margins improving 1.9pp to 41.1%.
Operating income showed double-digits growth across all business segments. LinkedIn operating loss increased $63m to $987m, including $1.5bn of amortization of intangible assets.

Net income decreased ▲35% to $16.6 bn.
Microsoft recorded an estimated net charge of $13.7 bn related to Tax Cuts and Jobs Act (TCJA) of 2017. The one-time transition tax on the deemed repatriation of deferred foreign income is estimated at $17.9 bn. This is offset in part by the $4.2 bn impact of changes in the tax rate primarily on deferred tax assets and liabilities.

Chart 1: Revenues($m) and EBITDA margins



Source: Company materials, Bloomberg; compiled by Daiwa.

Segment Results

Productivity and Business Processes

Productivity and Business Processes revenues increased 20% to $35.9 bn due to revenue growth in LinkedIn, Office products, Dynamics.

LinkedIn revenue increased $3 bn to $5.3 bn primarily due to revenue from Talent Solutions. FY18 includes a full period of LinkedIn results whereas FY17 includes results from the date of acquisition on December 8, 2016.

Office products revenue increased 11% to $28.3 bn. Office 365 commercial revenue increased mainly due to growth both in subscribers and average revenue per user. Office consumer growth was driven mainly by growth in subscribers for Office 365.

Dynamics revenue increased 13% driven by Dynamics 365.

Productivity and Business Processes operating income increased 13% to $12.9 bn mainly due to growth in LinkedIn and Office Commercial.

Operating margins decreased 2.1pp to 36.0% due to an increased mix of cloud offerings and increased operating expenses. Operating expenses increased 25% driven by LinkedIn expenses and investments in commercial sales capacity and cloud engineering.

LinkedIn operating losses increased ▲30m to ▲941m due to aggressive operating expenses. LinkedIn has more than 575m members.

LinkedIn revenue increased $3 bn to $5.3 bn primarily due to revenue from Talent Solutions. FY18 includes a full period of LinkedIn results whereas FY17 includes results from the date of acquisition on December 8, 2016.

LinkedIn cost of revenue increased $818m to $1.7 bn, including $888m of amortization for acquired intangible assets.

Operating expenses increased $2.2 bn to $4.5 bn, including $617m of amortization of acquired intangible assets.

Intelligent Cloud

Intelligent Cloud revenues increased 18% to $32.2 bn driven by Azure and server products licensed on-premises.

Server products and cloud services revenue increased 21% to $26.1 bn. Azure revenue increased 91% with growth in IaaS, PaaS and SaaS.

Enterprise services revenue increased 5% to $5.8 bn driven by higher revenue from Premier Support Services and Microsoft Consulting Services.

Intelligent Cloud operating income increased 26% to $11.5 bn driven by growth in server products and cloud services revenue and cloud services scale and efficiencies.

Operating margins increased 2.5pp to 35.8%. Operating expenses increased 7% driven by investments in commercial sales capacity and cloud engineering.

More Personal Computing

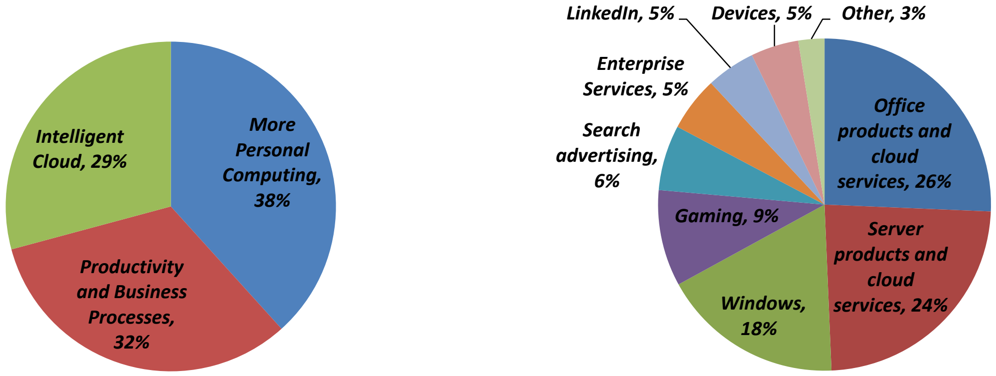
More Personal Computing revenues increased 8% to $42.3 bn mainly due to revenue growth in Gaming, Windows and Search advertisement.

Windows revenue increased 5% to $19.5 bn driven by growth in Windows Commercial and Windows OEM. Gaming revenue increased 14% to $10.4 bn driven by Xbox software and services revenue growth, mainly from third-party title strength. Search advertising revenue increased 13% to $7.0 bn driven by growth in Bing, due to higher revenue per search and search volume. Surface revenue increased 16% to $4.5 bn driven by a higher mix of premium devices and an increase in volumes sold, due to the latest editions of Surface.

More Personal Computing operating income increased 20% to $10.6 bn driven by growth in Windows, Surface, Search and Gaming.

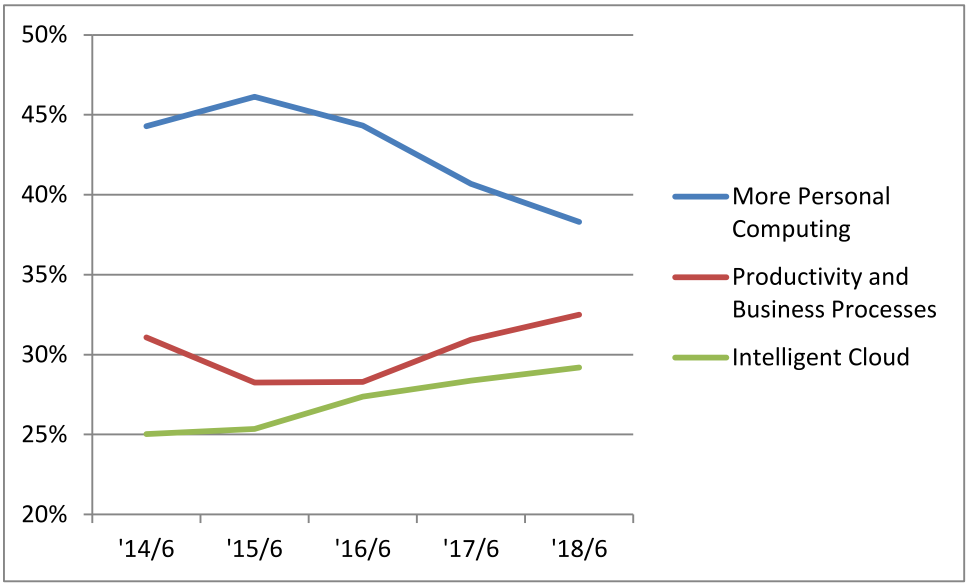
Operating margins increased 2.7pp to 25.1%. Operating expenses increased 3% driven by investments in Search, AI and Gaming engineering and commercial sales capacity.

Chart 2: Revenue breakdown by segment/ product at end of FY18



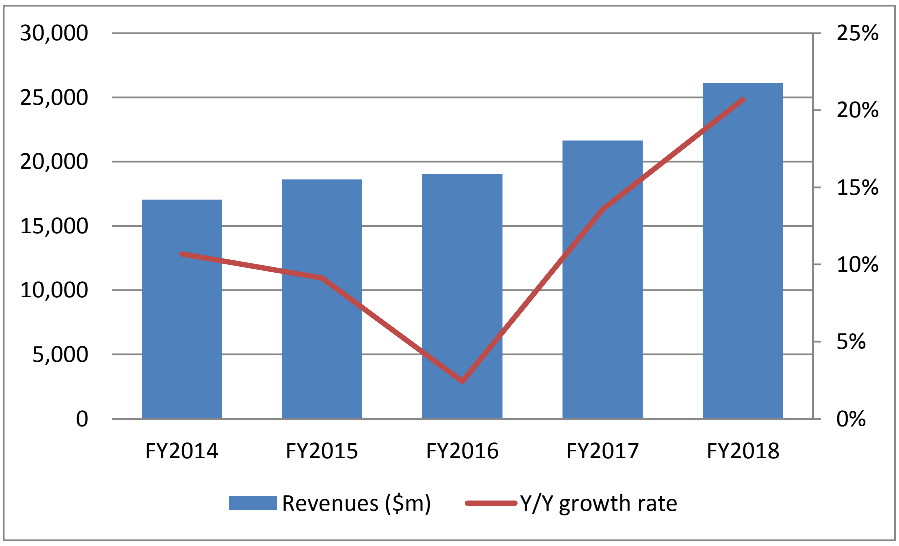
Source: Company materials, Bloomberg; compiled by Daiwa.

Chart 3: Trends in segment portfolio (share in total revenues)



Source: Company materials, Bloomberg; compiled by Daiwa.

Chart 4: Revenue growth accelerating in Server products and cloud services



Source: Company materials, Bloomberg; compiled by Daiwa.

3. Leverage

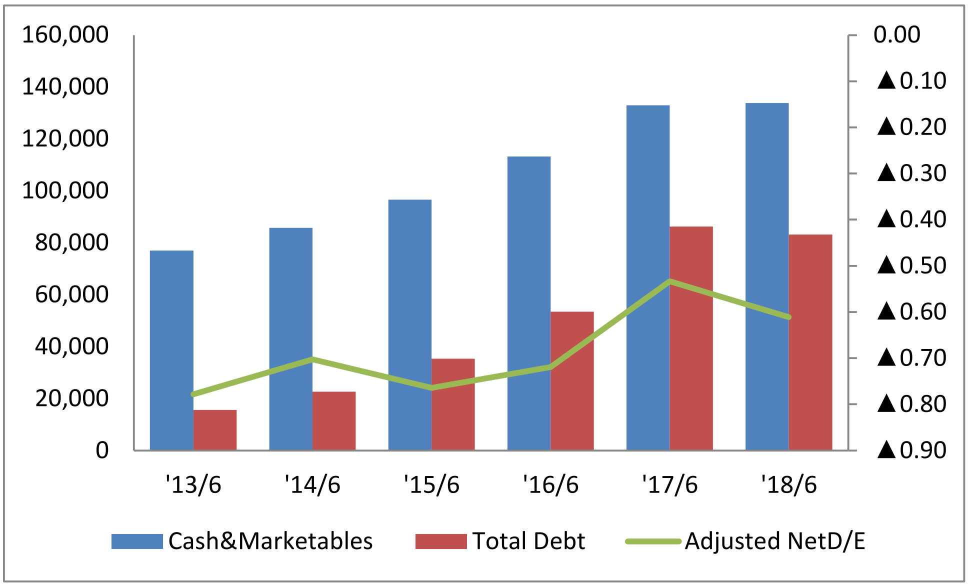
Total debt decreased ▲3.5% to $83.2 bn due to maturing of both commercial papers and part of long term-debt.
With $133.8 bn of cash and marketable at hand, Microsoft is de facto a debt free company. However historically, Microsoft has been issuing debt for two reasons. First, most of the cash was held by foreign subsidiaries and Microsoft chose not to pay 35% taxes to repatriate its cash. As the Tax Cuts and Jobs Act (TCJA) was enacted into law on December 22,2017, we expect less debt to be issued going forward as Microsoft can repatriate its rich cash at lower tax rates. The second reason for debt finance is to take advantage of the favorable conditions of the debt market, reflected in low interest rates environment and high credit ratings.
Our calculations of debt include $76.2 bn (carrying value) of long-term debt and $7.0 bn of operating leases. There is no commercial paper outstanding. There is no concentration of debt maturities at any time in the near future.

Adjusted net D/E is negative at ▲0.61. (we substract cash, cash equivalents & short-term investments from total debt amount to calculate net debt)
The amount of cash, cash equivalents & short-term investments is $133.8 bn, making up for about a half of total assets amount. Short-term investments consist mainly of highly liquid investment-grade fixed-income securities, diversified among industries and individual issuers. The investments are predominantly US dollar- denominated securities, but also include foreign currency- denominated securities to diversify risk.

$28.2 bn remaining of the $40.0 bn share repurchase program.
On September 20,2016, the Board of Directors approved a $40.0 bn share repurchase program. This program started on December 22,2016, has no expiration date and may be suspended or discontinued at any time without notice.

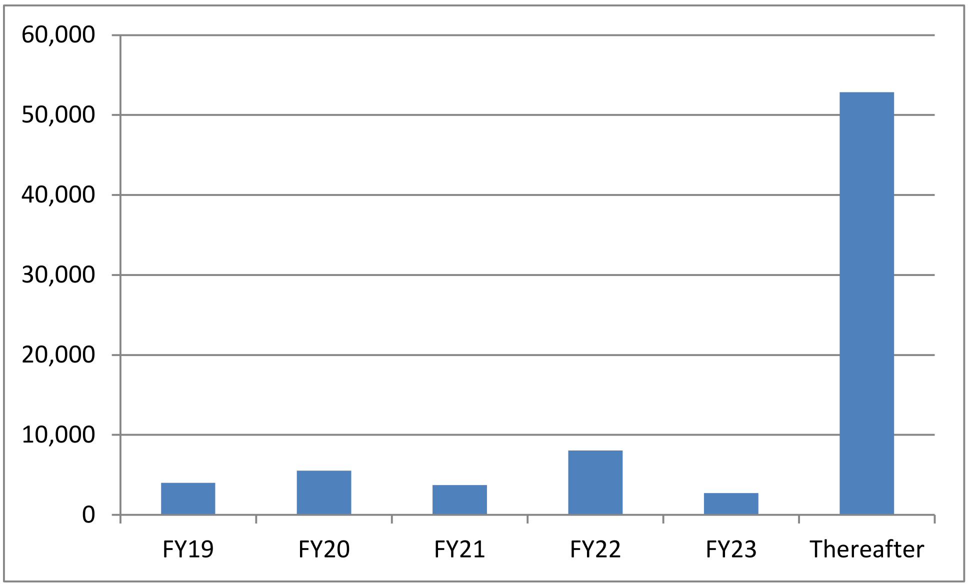
Microsoft entered into a definitive agreement to acquire GitHub Inc. for $7.5 bn in an all-stock transaction on June 4, 2018.
GitHub is a service that software developers around the world rely on to write code together. The acquisition is expected to close by the end of December 2018, subject to approval by GitHub's shareholders, satisfaction of certain regulatory approvals. GitHub will be included in the consolidated results of operations as of the date of acquisition.

Chart 5: Adjusted D/E ratio is negative



Source: Company materials, Bloomberg; compiled by Daiwa.

Chart 6: No concentration of debt maturities in the near future



Source: Company materials, Bloomberg; compiled by Daiwa.

4. Liquidity

Microsoft has an excellent liquidity due to its strong generation power of cash flows and its rich cash buffer.

We estimate about $178 bn of cash sources in FY19 that should be enough to cover $48 bn of cash needs. We would also expect Microsoft to continue to make acquisitions to expand its business ecosystem and get access to new technologies. However investments should be moderate and we don't expect a significant deterioration in the credit metrics, given its rich cash buffer and conservative financial policy.

Chart 7: Cash needs vs cash sources in FY19 ($m)

Cash Needs	48,000	Cash Sources	177,768
Shr repurchase	14,000	CFO	44,000
Dividends	14,000	Cash&Marketables	133,768
Dividend per share	1.84		
CapEx	16,000		
LT debt	4,000		
CP	0		

Source: Company materials, Bloomberg, Daiwa estimates; compiled by Daiwa

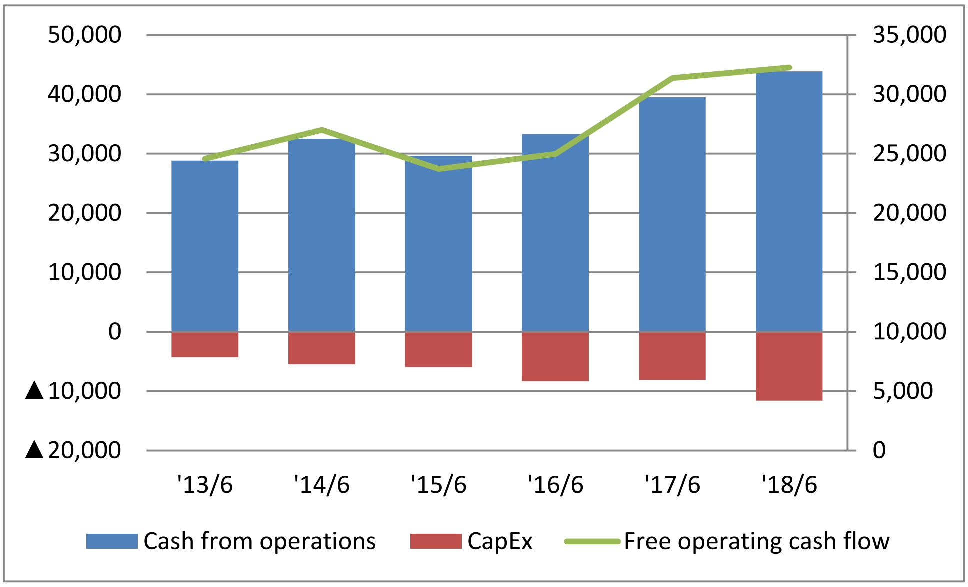
FOCF increased 3% y/y to $32.3 bn due to an increase in revenues offset by an increase in investments in property and equipment.

Cash from operations increased 11% to $43.9 bn mainly due to an increase in revenues.

CapEx increased 43% to ▲$11.6 bn mainly due to aggressive investments in cloud related equipment.

Cash used in investing decreased 87% to ▲$6.1 bn mainly due to a $25.1 bn decrease in cash used for acquisitions of companies and a $19.1 bn increase in cash from net investment purchases, sales and maturities.

Chart 8: Strong generation power of cash flows



Source: Company materials, Bloomberg; compiled by Daiwa.

There are two $5 bn credit facilities that expire on October 30, 2018 and October 31, 2022, respectively.
These credit facilities serve as a back-up for the commercial paper program. As of June 30, 2018, Microsoft was in compliance with the only financial covenant in both credit agreements, which requires a coverage ratio (EBITDA/ interest expense) of at least three times as defined in the credit agreements. No amount were drawn against these credit facilities.

Microsoft estimates a net charge of $13.7 bn related to the TCJA.
The one-time transition tax on the deemed repatriation of deferred foreign income is estimated to be $17.9 bn. The impact of this tax is offset in part by the impact of changes in the tax rate of $4.2 bn, primarily on deferred tax assets and liabilities.
In FY18, Microsoft paid transition tax of $228m. Under the TCJA, the remaining transition tax of $17.6 bn is payable interest-free over 8 years, with 8% due in each of the first 5 years, 15% in year 6, 20% in year 7, and 25% in year eight.

5. SWOT Analysis

Strengths

Like a yokozuna in sumo world, Microsoft strength is supported by three qualities: size, speed and a variety of "techniques".
The first quality is size. In sumo wrestling, there are three yokozuna at the moment and all of them have a weight of over 150 kilograms and a height of over 185. It seems that size matters and this is true not only in sumo world.
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Similar to sumo, Microsoft doesn't rely on a single "technique" but it has a diversified product portfolio with a strong market position for its core products. It also proves flexibility to adapt its business model to a new business environment. It is currently in a transition period from an on-premise software company to cloud services and it proves to manage well the transition so far. Microsoft has also a good geographical diversification and is not dependent on any single customer. No individual customer accounts for more than 10% of revenues.

Weaknesses

Dependence on hardware manufacturers and not innovating enough for some products are the main weaknesses of Microsoft.
The first one is the dependence on hardware manufacturers as software development process needs to be coordinated with hardware makers so that the users can feel the benefits of the new products.
The second weakness is not innovating enough for some products. Microsoft has a search engine(Bing) in its product portfolio, but it proves to be less popular than the Google search engine. Mobile market was also a big growth opportunity, but Microsoft lost market share to more aggressive players like Apple and Samsung.

Opportunities

There are three main growth opportunities for Microsoft at the moment: cloud services, LinkedIn and acquisitions and collaboration with other firms.
Cloud business is a high growth market and Microsoft is well positioned to take advantage of the market growth due to its platform services and its strong enterprise customer base. In FY18, revenue for server products grew 21% to $26.1 bn, showing an accelerating growth.

The second growth opportunity is LinkedIn due to its network effect potential. It resembles Facebook business model but while Facebook revenues are mostly from advertising, LinkedIn has three sources of income: premium subscriptions, fees from recruiters and revenue from advertisement.
The third opportunity for Microsoft is acquisitions and collaboration with other firms to strengthen its ecosystem. Microsoft has enough cash and a well-known brand, which makes it a valuable business partner.

Threats/ Risks

The main risks for Microsoft are competition in the technology sector, threats of piracy of its software and security issues.
Technology sector evolves rapidly with changing and disruptive technologies, shifting user needs and frequent introductions of new products and services. To remain competitive, Microsoft needs to keep on making innovative products and services that match the needs of businesses and consumers.
Threats of piracy of Microsoft software are more significant outside the U.S., particularly in countries where the legal system provides less protection for intellectual property rights. Due to piracy issues, Microsoft revenues may grow less than the overall market.
Cyberattacks and security vulnerabilities could lead to reduced revenue, increased costs, liability claims or harm to Microsoft brand image. Cyberthreats are constantly evolving and Microsoft may find it difficult to detect and successfully defend against them.

6. Market Trends in Public Cloud Computing

The market size of public cloud computing was $145.3 bn in 2017 and is expected to grow at CAGR of 18% to reach $178.3 bn by 2021 according to Gartner. Revenues of cloud application services (Saas) were $58.8 bn in 2017, having a share of 40% in total public cloud market. Revenues from Infrastructure as a service (IaaS) were $23.6 bn in 2017 and are projected to be the fastest-growing segment of the market with CAGR of 28% to reach $63 bn in 2021.

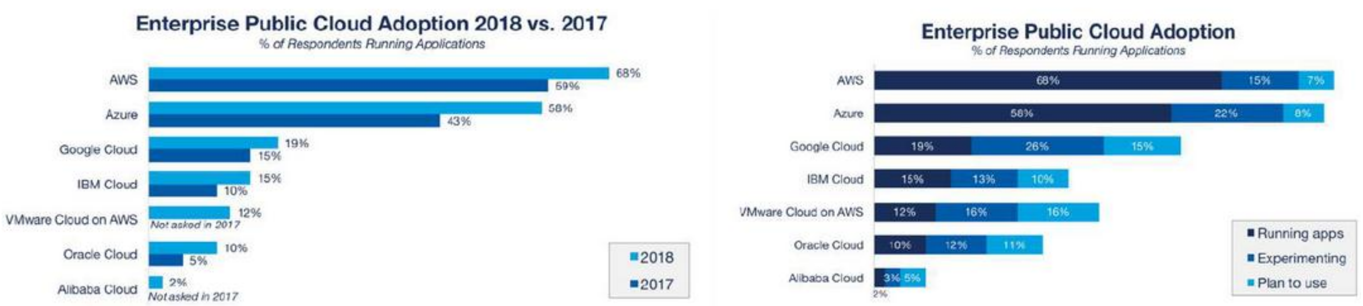
Amazon is the leader of the public cloud market as it enjoys the first mover advantage. 68% of enterprises are running applications on Amazon Web Services (AWS) according to a survey by RightScale. Microsoft is the follower but Azure, Microsoft cloud service is showing high growth rates. Enterprise adoption of Microsoft Azure increased significantly from 43% in 2017 to 58% in 2018.

Chart 9: Worldwide public cloud service revenue forecast ($bn)

	2017	2018	2019	2020	2021
Cloud Business Process Services (BPaaS)	42.2	46.6	50.3	54.1	58.1
Cloud Application Infrastructure Services (PaaS)	11.9	15.2	18.8	23.0	27.7
Cloud Application Services (SaaS)	58.8	72.2	85.1	98.9	113.1
Cloud Management and Security Services	8.7	10.7	12.5	14.4	16.3
Cloud System Infrastructure Services (IaaS)	23.6	31.0	39.5	49.9	63.0
Total Market	**145.3**	**175.8**	**206.2**	**240.3**	**278.3**

Source: Gartner (September 2018)

Chart 10: Public cloud platform usage worldwide



Source: RightScale 2018 State of the Cloud Report

7. Appendix: Summary of Financial Data

Chart 11: Summary of financial statements

		'14/6	'15/6	'16/6	'17/6	'18/6	YOY
■P/L							
Revenues		86,833	93,580	91,154	96,571	110,360	14.3%
EBITDA		32,971	24,118	32,700	37,803	45,319	19.9%
	EBITDA margin	*38.0%*	*25.8%*	*35.9%*	*39.1%*	*41.1%*	*1.9*
Operating Income		27,759	18,161	26,078	29,025	35,058	20.8%
Pretax Income		27,820	18,507	25,639	29,901	36,474	22.0%
Net Income		22,074	12,193	20,539	25,489	16,571	-35.0%
■C/F							
Cash from operations		32,502	29,668	33,325	39,507	43,884	11.1%
	Depreciation & Amortization	5,212	5,957	6,622	8,778	10,261	16.9%
Cash from investing		▲18,833	▲23,001	▲23,950	▲46,781	▲6,061	-87.0%
	CapEx	▲5,485	▲5,944	▲8,343	▲8,129	▲11,632	43.1%
Free cash flow (FCF)		13,669	6,667	9,375	▲7,274	37,823	---
Free operating cash flow (FOCF)		27,017	23,724	24,982	31,378	32,252	2.8%
Cash from financing		▲8,665	▲9,668	▲8,393	8,408	▲33,590	---
■B/S							
Assets		172,384	174,472	202,897	250,312	258,848	3.4%
	Current assets	114,246	122,797	142,188	162,696	169,662	4.3%
	Cash&Marketables	85,709	96,526	113,240	132,981	133,768	0.6%
Liabilities		82,600	94,389	119,807	162,601	176,130	8.3%
	Current liabilities	45,625	49,647	53,102	55,745	58,488	4.9%
	Total Debt	22,645	35,292	53,461	86,194	83,207	-3.5%
	Adjusted Net Debt (*)	▲ 63,064	▲ 61,234	▲ 59,779	▲ 46,787	▲ 50,561	8.1%
Equity		89,784	80,083	83,090	87,711	82,718	-5.7%
■Financial Ratios							
Equity Ratio		52.1%	45.9%	41.0%	35.0%	32.0%	▲ 3.1
Adjusted NetD/E		▲0.70	▲0.76	▲0.72	▲0.53	▲0.61	▲ 0.1
Adjusted NetD/EBITDA		▲1.91	▲2.54	▲1.83	▲1.24	▲1.12	0.1
ROA		14.0%	7.0%	10.9%	11.2%	6.5%	▲ 4.7
ROE		26.2%	14.4%	25.2%	29.8%	19.4%	▲ 10.4

Source: Company materials, Bloomberg; compiled by Daiwa.
(*)Adjusted net debt = total debt- cash- marketables
FCF (free cash flow) = CFO (cash flow from operating activities)- CFI (cash flow from investing activities)
FOCF (free operating cash flow) = CFO (cash flow from operating activities)- CapEx (Capital Expenditure)

Chart 12: Revenues by business segment

	'14/6	'15/6	'16/6	'17/6	'18/6	YOY
Total Revenues	**86,833**	**93,580**	**91,154**	**96,571**	**110,360**	**14%**
More Personal Computing (MPC)	38,460	43,160	40,410	39,294	42,276	8%
Productivity and Business Processes (PBP)	26,976	26,430	25,792	29,870	35,865	20%
Intelligent Cloud (IC)	21,735	23,715	24,952	27,407	32,219	18%
Corporate and Other	▲ 338	275	▲ 6,669 -	-		-
Total Operating Income	27,759	18,161	26,078	29,025	35,058	21%
More Personal Computing	5,605	5,095	6,183	8,815	10,610	20%
Productivity and Business Processes	14,173	13,274	11,756	11,389	12,924	13%
Intelligent Cloud	8,446	9,803	9,249	9,127	11,524	26%
Corporate and Other	▲ 465	▲ 10,011	▲ 1,110	▲ 306	-	-
Operating Margins	32.0%	19.4%	28.6%	30.1%	31.8%	1.7
More Personal Computing	14.6%	11.8%	15.3%	22.4%	25.1%	2.7
Productivity and Business Processes	52.5%	50.2%	45.6%	38.1%	36.0%	▲ 2.1
Intelligent Cloud	38.9%	41.3%	37.1%	33.3%	35.8%	2.5

Source: Company materials, Bloomberg; compiled by Daiwa.

Chart 13: Revenues by product

	Business Segment	'14/6	'15/6	'16/6	'17/6	'18/6	YOY
Total Revenues		**86,833**	**93,580**	**91,154**	**96,571**	**110,360**	14%
Office products and cloud services	PBP	24,323	23,538	23,868	25,573	28,316	11%
Server products and cloud services	IC	17,055	18,612	19,062	21,649	26,129	21%
Windows	MPC	16,856	14,826	17,548	18,593	19,518	5%
Gaming	MPC	8,643	9,121	9,202	9,051	10,353	14%
Search advertising	MPC	4,016	4,557	5,428	6,219	7,012	13%
Enterprise Services	IC	4,767	5,090	5,659	5,542	5,846	5%
LinkedIn	PBP	—	0	0	2,271	5,259	132%
Devices	MPC	—	11,602	7,888	5,062	5,134	1%
Other		6,217	6,234	2,499	2,611	2,793	7%
Surface		1,883	—	—	—	—	—
Phone		3,073	—	—	—	—	—

Source: Company materials, Bloomberg; compiled by Daiwa.
MPC= More Personal Computing
PBP= Productivity and Business Processes
IC= Intelligent Cloud

Daiwa Securities

Explanatory Document of Unregistered Credit Ratings

In order to ensure the fairness and transparency in the markets, Credit Rating Agencies became subject to the Credit Rating Agencies' registration system based on the Financial Instruments and Exchange Act. In accordance with this Act, in soliciting customers, Financial Instruments Business Operators, etc. shall not use the credit ratings provided by unregistered Credit Rating Agencies without informing customers of the fact that those Credit Rating Agencies are not registered, and shall also inform customers of the significance and limitations of credit ratings, etc.

■ The Significance of Registration

Registered Credit Rating Agencies are subject to the following regulations:
1) Duty of good faith.
2) Establishment of control systems (fairness of the rating process, and prevention of conflicts of interest, etc.).
3) Prohibition of the ratings in cases where Credit Rating Agencies have a close relationship with the issuers of the financial instruments to be rated, etc.
4) Duty to disclose information (preparation and publication of rating policies, etc. and public disclosure of explanatory documents).

In addition to the above, Registered Credit Rating Agencies are subject to the supervision of the Financial Services Agency ("FSA"), and as such may be ordered to produce reports, be subject to on-site inspection, and be ordered to improve business operations, whereas unregistered Credit Rating Agencies are free from such regulations and supervision.

■ Credit Rating Agencies

[Standard & Poor's]

The Name of the Credit Rating Agencies group, etc

The name of the Credit Rating Agencies group: S&P Global Ratings ("Standard & Poor's")
The name and registration number of the Registered Credit Rating Agency in the group: S&P Global Ratings Japan Inc. (FSA commissioner (Rating) No.5)

How to acquire information related to an outline of the rating policies and methods adopted by the person who determines Credit Ratings

The information is posted under "Unregistered Rating Information" (http://www.standardandpoors.co.jp/unregistered) in the "Library and Regulations" section on the website of S&P Global Ratings Japan Inc. (http://www.standardandpoors.co.jp)

Assumptions, Significance and Limitations of Credit Ratings

Credit ratings assigned by Standard & Poor's are statements of opinion on the future credit quality of specific issuers or issues as of the date they are expressed and they are not indexes which show the probability of the occurrence of the failure to pay by the issuer or a specific debt and do not guarantee creditworthiness. Credit ratings are not a recommendation to purchase, sell or hold any securities, or a statement of market liquidity or prices in the secondary market of any issues.

Credit ratings may change depending on various factors, including issuers' performance, changes in external environment, performance of underlying assets, creditworthiness of counterparties and others. Standard & Poor's conducts rating analysis based on information it believes to be provided by the reliable source and assigns credit ratings only when it believes there is enough information in terms of quality and quantity to make a conclusion. However, Standard & Poor's does not perform an audit, due diligence or independent verification of any information it receives from the issuer or a third party, or guarantee its accuracy, completeness or timeliness of the results by using the information. Moreover, it needs to be noted that it may incur a potential risk due to the limitation of the historical data that are available for use depending on the rating.

This information is based on information Daiwa Securities Co. Ltd. has received from sources it believes to be reliable as of March 7th, 2017, but it does not guarantee accuracy or completeness of this information. For details, please refer to the website of S&P Global Ratings Japan Inc. (http://www.standardandpoors.co.jp)

[Moody's]

The Name of the Credit Rating Agencies Group, etc

The name of the Credit Rating Agencies group: Moody's Investors Service ("MIS")
The name and registration number of the Registered Credit Rating Agency in the group: Moody's Japan K.K. (FSA commissioner (Rating) No.2)

How to acquire information related to an outline of the rating policies and methods adopted by the person who determines Credit Ratings

The information is posted under "Unregistered Rating explanation" in the section on "The use of Ratings of Unregistered Agencies" on the website of Moody's Japan K.K. (The website can be viewed after clicking on "Credit Rating Business" on the Japanese version of Moody's website (https://www.moodys.com/pages/default_ja.aspx)

Assumptions, Significance and Limitations of Credit Ratings

Credit ratings are Moody's Investors Service ("MIS") current opinions of the relative future credit risk of entities, credit commitments, or debt or debt-like securities. MIS defines credit risk as the risk that an entity may not meet its contractual, financial obligations as they come due and any estimated financial loss in the event of default. Credit ratings do not address any other risk, including but not limited to: liquidity risk, market value risk, or price volatility. Credit ratings do not constitute investment or financial advice, and credit ratings are not recommendations to purchase, sell, or hold particular securities. No warranty, express or implied, as to the accuracy, timeliness, completeness, merchantability or fitness for any particular purpose of any such rating or other opinion or information, is given or made by MIS in any form or manner whatsoever.

Based on the information received from issuers or from public sources, the credit risks of the issuers or obligations are assessed. MIS adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MIS considers to be reliable. However, MIS is not an auditor and cannot in every instance independently verify or validate information received in the rating process.

This information is based on information Daiwa Securities Co. Ltd. has received from sources it believes to be reliable as of April 16th, 2018, but it does not guarantee accuracy or completeness of this information. For details, please refer to the website of Moody's Japan K.K. (https://www.moodys.com/pages/default_ja.aspx)

[Fitch]

The Name of the Credit Rating Agencies group, etc

The name of the Credit Rating Agencies group: Fitch Ratings ("Fitch")
The name and registration number of the Registered Credit Rating Agency in the group: Fitch Ratings Japan Limited (FSA commissioner (Rating) No.7)

How to acquire information related to an outline of the rating policies and methods adopted by the person who determines Credit Ratings

The information is posted under "Outline of Rating Policies" in the section of "Regulatory Affairs" on the website of Fitch Ratings Japan Limited (https://www.fitchratings.co.jp/web/)

Assumptions, Significance and Limitations of Credit Ratings

Ratings assigned by Fitch are opinions based on established criteria and methodologies. Ratings are not facts, and therefore cannot be described as being "accurate" or "inaccurate". Credit ratings do not directly address any risk other than credit risk. Credit ratings do not comment on the adequacy of market price or market liquidity for rated instruments. Ratings are relative measures of risk; as a result, the assignment of ratings in the same category to entities and obligations may not fully reflect small differences in the degrees of risk. Credit ratings, as opinions on relative ranking of vulnerability to default, do not imply or convey a specific statistical probability of default.

In issuing and maintaining its ratings, Fitch relies on factual information it receives from issuers and underwriters and from other sources Fitch believes to be credible. Fitch conducts a reasonable investigation of the factual information relied upon by it in accordance with its ratings methodology, and obtains reasonable verification of that information from independent sources, to the extent such sources are available for a given security or in a given jurisdiction. The assignment of a rating to any issuer or any security should not be viewed as a guarantee of the accuracy, completeness, or timeliness of the information relied on in connection with the rating or the results obtained from the use of such information. If any such information should turn out to contain misrepresentations or to be otherwise misleading, the rating associated with that information may not be appropriate. Despite any verification of current facts, ratings can be affected by future events or conditions that were not anticipated at the time a rating was issued or affirmed.

For the details of assumption, purpose and restriction of credit ratings, please refer to "Definitions of ratings and other forms of opinion" on the website of Fitch Rating Japan Limited.

This information is based on information Daiwa Securities Co. Ltd. has received from sources it believes to be reliable as of May 13th, 2016, but it does not guarantee accuracy or completeness of this information. For details, please refer to the website of Fitch Rating Japan Limited (https://www.fitchratings.co.jp/web/)

May 2018

IMPORTANT

Notification items pursuant to Article 37 of the Financial Instruments and Exchange Law

If you decide to enter into a business arrangement with our company based on the information described in materials presented along with this cover letter, we ask you to pay close attention to the following items.

• In addition to the purchase price of a financial instrument, our company will collect a trading commission* for each transaction as agreed beforehand with you. Since commissions may be included in the purchase price or may not be charged for certain transactions, we recommend that you confirm the commission for each transaction.
In some cases, our company also may charge a maximum of ¥ 2 million (including tax) per year as a standing proxy fee for our deposit of your securities, if you are a non-resident.
• For derivative and margin transactions etc., our company may require collateral or margin requirements in accordance with an agreement made beforehand with you. Ordinarily in such cases, the amount of the transaction will be in excess of the required collateral or margin requirements.
• There is a risk that you will incur losses on your transactions due to changes in the market price of financial instruments based on fluctuations in interest rates, exchange rates, stock prices, real estate prices, commodity prices, and others. In addition, depending on the content of the transaction, the loss could exceed the amount of the collateral or margin requirements.
• There may be a difference between bid price etc. and ask price etc. of OTC derivatives handled by our company.
• Before engaging in any trading, please thoroughly confirm accounting and tax treatments regarding your trading in financial instruments with such experts as certified public accountants.

* The amount of the trading commission cannot be stated here in advance because it will be determined between our company and you based on current market conditions and the content of each transaction etc.

When making an actual transaction, please be sure to carefully read the materials presented to you prior to the execution of agreement, and to take responsibility for your own decisions regarding the signing of the agreement with our company.

Corporate Name:Daiwa Securities Co. Ltd.
Financial instruments firm:chief of Kanto Local Finance Bureau (Kin-sho) No.108
Memberships: Japan Securities Dealers Association
The Financial Futures Association of Japan
Japan Investment Advisers Association
Type II Financial Instruments Firms Association