

Global Equity | February 2021

Technology Media & Telecommunications Industry Primer

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Technology I. Software

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Up in the Clouds

February 2021

The global software sector, specifically cloud computing, has grown exponentially both in market size and adoption rates. With low barriers of entry, constant innovation is critical to maintaining steady growth. We expect the aggregation of software services and multi-cloud effects to be the main drivers.

Industry Overview – A Revised View to Economic Moats

At first glance, the software sector seems to be dominated by "Big Tech." However, competitive advantages such as switching costs and economies of scale were not as defensive as we once thought, especially for products with little differentiation. As a result, we have chosen to explore the strategic benefits of cloud computing before diving deeper into the competitive dynamics of the industry and select barriers to entry that are sustainable.

Industry Drivers – Data, Remote Work, and SaaS Models

Rising market demand for data and AI, increased opportunity for vertically focused SaaS solutions, and acceleration of technological digitalization will be at the forefront of growth as companies shift their platforms online and to the cloud in favour of a subscription-based revenue model which will generate stable and steady cashflows for investors. With remote work being the new normal, we believe that the SaaS industry will emerge as a winner in a post-pandemic era as companies and businesses move their working models online.

Industry Valuation - The SaaS Exception

The process of valuing software companies without durable earnings is quite challenging. As a result, traditional earningsbased multiples are often times not a valid measure of value. Aside from EV/Sales, we've opted to explore industry specific valuation methods, such as annual recurring revenue (ARR) multiples, life-time value (LTV) to customer acquisition cost (CAC), and the Rule of 40, where revenue growth plus profitability margin should be greater than 40%.

Industry Research	
Industry	Software
U.S. Revenue	\$400B
Key Companies	
Microsoft	NASDAQ: MSFT
Enterprise Value	1.67T
EV / 2020 EBITDA	25.5x
Google (Cloud)	NASDAQ: GOOG
Enterprise Value	1.19T
EV / 2020 EBITDA	20.4x
Amazon (Web Services)	NASDAQ: AMZN
Enterprise Value	1.58T
EV / 2020 EBITDA	36.5x
Oracle	NYSE: ORCL
Enterprise Value	230B
EV / 2020 EBITDA	12.2x
Salesforce	NYSE: CRM
Enterprise Value	197B
EV / 2020 EBITDA	39.4x





Cloud Drives Software

Software is one of the most exciting investment spaces in technology today. As several technology companies lead the industry in terms of market-cap, the S&P 500 is technology-heavy. The performance of these technological giants has resulted in a 194.0% return in the last decade. As a result, we decided to provide a brief overview on the software industry.

Cloud infrastructure has changed the way companies manage data. Prior to cloud-based infrastructure, enterprises would be obliged to purchase on-premise systems to meet maximum capacity of peak load demand. However, this strategy is highly inefficient as a large proportion of the computing power became unnecessary, remaining idle between peak load periods. The risky upfront investment of a traditional system is a large capital expenditure for companies as they see it as a fixed asset. After every year, scaling custom hardware became increasingly inefficient and expensive.

However, cloud computing has since eroded traditional IT infrastructure, presenting new sources of value and investment opportunities. Aside from the clear winners with exceptional staying power, innovation has accelerated the software business life cycle, creating opportunities for new entrants to erode competitive advantages and steal market share.

What is Cloud Computing?

Cloud computing delivers on-demand computing resources over the internet. Specifically, there is a network of servers hosted by the internet to store, manage, and process data. This transformation helps customers scale their IT without hardware and reduce costs through economies of scale. Depending on the variation, cloud computing can be categorized as public, private or a hybrid form of the two. Within each cloud hosting environment, there are three variations:

Infrastructure-as-a-Service: IaaS provides access to resources over the internet (virtual machines, storage, and networks) that help companies create their own platforms (example: Amazon Web Services).

Platform-as-a-Service: PaaS allows customers to create their own applications and manage the data through platforms that are already created (example: Google App Engine).

Software-as-a-Service: SaaS provides applications that are delivered over the web for the end-user. Customers do not have to worry about the back end as applications are remotely monitored and consistently updated (example: Google Suite).





Benefits of Cloud Computing

Cloud computing has numerous benefits over traditional IT infrastructure, most notably on speed, cost and reliability. It eliminates physical hardware investments minimizing capital requirements for initiatives requiring technology.

Eradication of Traditional IT Infrastructure

Despite the immense benefits of cloud computing, some organizations choose to continue with traditional IT infrastructure. For example, a company may have invested the time and resources to build out their own IT system dissuading them from switching to cloud solutions. However, as cloud computing advances and its costs decrease over time, companies will increasingly adopt cloud-based IT solutions.



For some organizations, cloud solutions may result in unacceptable security risks. Most government organizations use inhouse IT infrastructure to store data due the privacy and security concerns. However, cloud service providers are working to mitigate these concerns. For example, Microsoft Azure recently launched a new cloud to serve government agencies with highly sensitive and classified data called "Azure Government Top Secret Cloud."



Reliability

Cloud service providers have data centers across the world resulting in reliability that typically exceeds a business's internal IT infrastructure. If a data center is to go offline, there are many more to ensure downtime is minimized. In fact, the industry standard for uptime rate is over 99.9% with numerous staff dedicated to customer support. However, many businesses are concerned with giving up control of their data as they must trust the cloud provider will attend to issues and ensure that cloud services remains in working order. Companies with time-sensitive data may opt for in-house centers with strong reliability to prevent outages.

Speed Differences

The immense capital investment that cloud providers have made into their hardware guarantees low network latency, something no business would be able to do on their own without significant capital expenditure. Most businesses see a vast improvement in data communication speeds almost instantly upon switching to cloud-based infrastructure. For example, Google Cloud Service offers enterprises the same, if not better, speed and storage through their service than the traditional IT hardware the consumer may possess.

Furthermore, companies no longer worry about upgrading or maintaining existing infrastructure as they instead rely on cloud service providers to do so.

Cost Differences

The elasticity of service offerings from cloud service providers allow business to instantly scale the computing services depending on peak demand. Main providers such as Amazon Web Services and Google Cloud offer per second billing, eliminating all fixed costs that would be incurred through traditional IT hardware. However, it is important to recognize that although traditional IT infrastructure has a large upfront capital investment, it has a relatively low cost to maintain. With cloud-based solutions however, there is little to no fixed costs but relatively higher variable cost. As a result, traditional IT infrastructure may be a better long-term solution for some companies.

Most enterprises are adopting cloud-based solutions as it is generally more flexible, scalable, cost effective and adaptable. The competition in cloud providers ensures consistent innovation, speed increases and reliability. While traditional IT infrastructure allows for more control of company data, businesses are subject to increasing costs and insufficient speed. However, a trend in the industry is a "hybrid cloud," in which business find the optimal mix between Cloud and traditional computing.

Competitive Dynamics and Key Industry Players

Cloud service providers face strong competition resulting in rapid product innovation and changing competitive advantage. Although the main competitors are Amazon Web Services, Google Cloud, and Microsoft Azure, they are finding it increasingly difficult to differentiate themselves as switching costs and overall prices rapidly decline. This is mainly due to the rapid growth of the industry, with a Compound Annual Growth Rate (CAGR) of 48.0% through 2020-2024. It is important to recognize that while high capital expenditures as a barrier to entry is a competitive advantage, it is not a sustainable one. In the long-term companies will raise enough capital and enter the industry if a return on investment exists.

All competitors offer nearly indistinguishable products and hold nearly identical technical specifications. With the value proposition of each firm being nearly identical, the main differentiator is ultimately price and flexibility. For example, AWS and Microsoft Azure offer the most breadth of service offerings making them attractive to enterprises with diverse needs.



Exhibit 3: Worldwide Cloud Infrastructure Market Share (As of Q2 2020)

Amazon Web Services (AWS)

As of December 2020, AWS had surpassed \$40.0 billion in annual revenue and holds a 33.0% share of the cloud infrastructure market, more than double its closest competitor Microsoft Azure. Although less than 60% of Amazon's operating income came from AWS in the Q3 2020, Amazon derived only 12% of its revenue from AWS, demonstrating the platforms profitability.

Amazon recently announced new variations if its services for managing software containers called ECS Anywhere. Customers can run them in their own data centers, and they can include applications running on Azure, Google Cloud, or other competing platforms. This is a direct response to the recent "multi-cloud" trend within the industry. Key customers include Netflix, Twitch and LinkedIn amounting to over \$50.0 million in monthly revenue.



Google Cloud

Although Azure and AWS are industry leaders, Google is looking towards being a first or second place provider. Google's latest acquisition of Cornerstone Technology is just one of many recent acquisitions, which includes the \$2.6 billion acquisition of Looker Data Sciences back in June 2020. Ultimately, Google's strategy is to increase market share by inorganic growth. In 2019, Google Cloud had revenues of \$8.9 billion, up 53.0% from the previous year. AWS on the other hand reported \$35.0 billion in revenues for all of 2019. Google Cloud amounts for 9.0% of the worldwide cloud market.

Google Cloud also strives to differentiate themselves with big data technology innovations such as MapReduce, Bigtable and Dremel. These services relating to artificial intelligence, machine learning, and data analytics provides Google with a sustainable competitive advantage. Furthermore, Google offers "sustained use discounts" which decreases price for long-term customers, effectively increasing switching costs. Google Cloud's main customers as of 2020 are Verizon, Twitch and CenturyLink amounting to over \$200 million in monthly revenue.

Microsoft Azure

Microsoft's cloud business includes Azure, Office 365 Enterprise subscriptions, LinkedIn services and others. It is the main competitor to AWS and accounts for 18.0% of the cloud market. The company's focus is on artificial intelligence as well as the IoT. Furthermore, Microsoft has found success in partnering with retailers who avoid AWS due to competitive reasons.

Microsoft has announced a recent deal with FedEx, to leverage FedEx's logistics network and Microsoft's cloud to help retail and e-commerce customers better track and ship packages. This is in direct competition to Amazon who has been developing its own in-house logistics offering. Outside of e-commerce, Microsoft has been targeting the healthcare market, rolling out the Microsoft Cloud for Healthcare. For the quarter ended June 30, 2020, the most recent revenues figure for Microsoft Azure is \$14.3 billion compared to \$10.8 billion for AWS and \$3 billion for Google Cloud.





Competitive Advantages

The cloud's development has provided customers a range of products across the spectrum of developer to end-user. Resultantly, customers continue to weigh the trade-offs between a secure and reliable on-premises system with newer cloud technology. Furthermore, as new incumbents continue to enter the industry, software companies continuously adapt to maintain their competitive advantages.

Innovation and Patent Protection

The most successful cloud companies exhibit a type of disruptive innovation. Patents are filed to protect new innovations.

One type of disruptive innovation in the cloud era has been the aggregation of IT services. Put simply, an aggregation strategy provides a broad range of solutions to service customer's current and adjacent needs. This new source of value provides customers a "one size fits all" integrated solution for all the company's IT needs. However, For instance, Workday, Inc. (NASDAQ: WDAY) built their business model as a human resource management (HRM) software. Since then, they have expanded into financial management and analytics reporting as well.

Interactive Network Effects

Network effects refers to how connecting more users or data points on a public/private cloud platform can make an application more valuable. For cloud services, more users mean greater connectivity and engagement on the network, marketplace, or platform. This drives customer engagement and the ability to retain more paying customers.



Exhibit 5: Radial and Interactive Network Effects

Source: A16z Presentation



For example, Visa (NYSE: V) captures more of the payment industry when an additional cardholder or merchant joins Visa. An additional cardholder makes Visa more attractive to the next merchant and another merchant makes Visa more attractive to the next cardholder.

Recent Cloud Computing Developments

Multi-Cloud Effects

Multi-cloud is a recent trend in the industry where enterprises use multiple cloud providers to meet their business requirements. More specifically, cloud-native applications are built from containers and microservices using component services from different cloud providers. For example, a web-application could be using services from both Google Cloud and AWS for different parts of the application. According to the annual RightScale State of the Cloud Report, multiple clouds is the most common pattern among enterprises

Cyber Security Challenges

One of our growing interests in cloud computing has been the security of cloud-based IT assets. As highlighted above, using public or even private cloud platforms can be a challenge for companies with sensitive data. As a result, more companies are looking for ways to secure the IT infrastructure through multi-cloud platforms and new technologies.

Furthermore, as the rate of cybercrimes increase, it will be interesting to revisit the innovation of cloud-based security companies and the dollar spend for data defense.

Software Valuation

As with all analyses, the valuation should always corroborate, or at least show similarities to our research. To that end, cloud computing has seen moonshot valuations in the public markets. Therefore, assessing software companies without inherent earnings or durable cash flows is challenging.

Public Market Valuation

The 10-year historical multiples of software companies see a sector median EV/Sales of 6.3x. Today, the 2020E EV/Sales, on a forward basis, trades closer to 10.0x. As a result, software companies have seen multiple expansion of 2.7x. However, due to the timing of cash flows generated by software companies, traditional earnings-based valuation methods are usually not a valid method of evaluation. This is especially true for companies early in the business life cycle.

For software companies, OpEx and R&D make up a large part of the cost structure. As more customers are acquired, the cash flows will continue being negative until there is enough cash to cover the investment of one additional customer. This is essentially the payback period principle. Therefore, it may be more suitable to evaluate companies based on the lifetime value (LTV) of a customer/customer acquisition cost (CAC), annual recurring revenue (ARR), churn, or the Rule of 40 when evaluating software companies.



Software Valuation Commentary

The primary driver for high software valuations relates to the increase in global spending for software services. In 2007, companies globally spent \$201 billion on SaaS products. Today, the figure is closer to \$400 billion, which represents an 8.5% CAGR. Similar to the themes noted above, internet and mobile adoption has driven network effects and multi-cloud effects which have made SaaS markets both bigger in market size and faster along the innovation curve. Aside from the major "one stop shop" players mentioned above, many companies have carved out entire sub-sectors in SaaS including CRM, ERP, and Infrastructure markets. We've provided an illustrative example of the relative valuation between industry groups in software but understand that this comparable set is not exhaustive.



Source: Various Investor Presentations

Software Comparable Companies Analysis

For illustrative purposes, we've provided a select number of companies that we've been tracking. These companies are worth highlighting as we believe they have carved a new subsector within cloud computing and have continued to garner market share in their respective subgroups.

Exhibit 7: Software Valuations on an EV/Sales Basis							
Figures in mm USD	Ticker	Enterprise Value (\$)	LTM EV/Sales	2020E EV/Sales	2021E EV/Sales	3-Year Rev CAGR	2020E FCF Yield
Key Industry Players				-	-		
Microsoft Corporation	NASDAQGS: MSFT	1,913,898	12.5 x	13.4 x	11.7 x	14.0%	7.6%
Amazon.com, Inc.	NASDAQGS: AMZN	1,661,326	4.3 x	4.3 x	3.5 x	29.5%	23.1%
Alphabet Inc.	NASDAQGS: GOOG.L	1,425,711	7.8 x	7.8 x	6.3 x	18.1%	12.7%
Oracle Corporation	NYSE: ORCL	234,043	5.9 x	6.0 x	5.8 x	1.1%	19.7%
			6.9 x	6.9 x	6.1 x	16.0%	16.2%
			7.6 x	7.9 x	6.8 x	15.7%	15.8%
CRM / ERP SaaS Companies							
Salesforce	NYSE:CRM	220,749	10.9 x	12.9 x	10.5 x	26.5%	7.7%
SAP SE	XTRA:SAP	165,665	5.0 x	5.0 x	5.0 x	5.9%	21.5%
HubSpot, Inc.	NYSE: HUBS	22,579	25.6 x	25.6 x	19.3 x	33.0%	3.9%
Zendesk, Inc.	NYSE: ZEN	18,646	18.1 x	18.1 x	14.4 x	33.8%	5.7%
Workiva Inc.	NYSE: WK	5,063	15.0 x	17.0 x	14.5 x	18.6%	5.7%
			15.0 x	17.0 x	14.4 x	26.5%	5.7%
			14.9 x	15.7 x	12.7 x	23.5%	8.9%
Business Management SaaS Companies							
Intuit Inc.	NASDAQ: INTU	106,255	13.6 x	13.8 x	11.9 x	13.9%	7.0%
Workday, Inc.	NASDAQ: WDAY	65 <i>,</i> 584	15.8 x	18.1 x	15.2 x	32.1%	5.5%
DocuSign, Inc.	NASDAQ: DOCU	48,506	37.4 x	49.8 x	33.9 x	36.7%	2.0%
Okta, Inc.	NASDAQ: OKTA	37,828	49.3 x	64.5 x	46.0 x	53.9%	1.6%
BlackLine, Inc.	NASDAQ:BL	7,625	21.7 x	21.7 x	18.5 x	26.1%	4.6%
			29.5 x	35.7 x	26.2 x	34.4%	3.3%
			31.0 x	38.5 x	28.4 x	37.2%	3.4%
Cybersecurity SaaS Companies							
CrowdStrike Holdings, Inc.	NASDAQ: CRWD	50,841	66.8 x	105.6 x	59.1 x	109.0%	0.9%
Proofpoint, Inc.	NASDAQ: PFPT	7,608	7.2 x	7.2 x	6.3 x	26.4%	13.6%
FireEye, Inc.	NASDAQ: FEYE	5,077	5.4 x	5.4 x	5.1 x	6.5%	19.6%
Rapid7, Inc.	NASDAQ: RPD	4,676	11.4 x	11.4 x	9.5 x	27.0%	9.2%
Tenable Holdings, Inc.	NASDAQ: TENB	4,421	10.0 x	10.0 x	8.6 x	32.9%	9.6%
Qualys, Inc.	NASDAQ: QLYS	4,153	11.4 x	11.4 x	10.4 x	16.3%	8.6%
Peer Median			11.4 x	11.4 x	10.4 x	16.3%	8.6%
Peer Average			11.4 x	11.4 x	10.4 x	16.3%	8.6%

Source: Company Website, S&P Capital IQ, Bloomberg. Priced as of market close Feb 12, 2021.

Qualys, Inc. (NASDAQ: QLYS)

Technology, Media & Telecommunications - Cybersecurity

Consolidating the Future of Cybersecurity

February 2021

Qualys (NASDAQ: QLYS) is a cybersecurity company that produces webbased applications for enterprise IT, compliance and security platforms. The Company has produced an all-in-one platform (Qualys VMDR) that consolidates all their web-based applications so that Qualys is the customers' only cloud security and compliance vendor.

Internal Analysis – The Benefits of Aggregation

The company has also structured the all-in-one platform to service large blue-chip businesses like Apple, McDonald's, and Google, while also penetrating the mid-market space by creating a similar platform for small to medium sized enterprises. The Qualys Cloud Platform is embedded into the fabric of IT systems which creates high switching costs. As a result, Qualys sees best in class recurring revenues figures with little churn year over year. The Qualys Cloud Platform accounts for 74% of subscription revenue with less than 8% churn.

External Analysis – Can Convenience be a Differentiator?

All-in one-platforms have become an increasingly pervasive method for Fortune 500 companies and government entities to deter cybercrime and secure IT assets. In Gartner's survey for RFPs, Qualys, Tenable, and Rapid7 continue to dominate the cybersecurity spend for corporation and SMEs alike. To maintain a competitive position, Qualys provides a scalable, selfupdating, and centrally managed system. In turn, this allows customers to secure the entire IT infrastructure from back end to front-end systems without needing a manual update or working with multiple vendors.

Valuation – Fairly Valued

Qualys' mid double digit revenue growth (~18%) and best in class profit margins (~32%) have not gone unnoticed by the street. As a result, much of the growth has already been priced into Qualys' forward EV/Sales multiple of ~15.0x. Qualys trades in-line with peers as the two biggest competitors, Tenable and Rapid7, trade at similar multiples of 11.0x and 14.0x, respectively. Even though there is a lot to be excited about in cybersecurity, Qualys' full valuation justifies a **hold** rating at this time.

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Equity Research		United	States
Price Target		\$	130.00
Rating			Hold
Share Price (Feb 5 C	lose)		\$124.64
Total Return			4.3%
Key Statistics			
52 Week H/L		\$148.84	4/\$83.34
Market Capitalizatio	n		\$4.8B
Average Daily Tradin	ng Volume		\$0.5M
Net Debt			\$100M
Enterprise Value			\$260M
Net Debt/EBITDA			NMF
Diluted Shares Outstanding			39.0M
Free Float			85.8%
Dividend Yield			-%
WestPeak's Foreca	ast		
	<u>2021E</u>	<u>2022E</u>	<u>2023E</u>

	<u>2021E</u>	<u>2022E</u>	<u>2023E</u>
Revenue	\$408M	\$460M	\$513M
EBITDA	\$185M	\$207M	\$222M
Net Income	\$86M	\$97M	\$120M
EPS	\$2.99	\$3.28	\$3.55
EV/Revenue	15.4x	13.6x	12.0x
EV/EBITDA	24.0x	22.0x	20.1x

1-Year Price Performance





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Technology II. Semiconductors

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Hungry for Chips

February 2021

The global semiconductor industry is forecasted to continue experiencing incredible growth, growing 8.4% in 2021. Growth will be driven advancements in emerging technologies and has been accelerated by the rapid pace of digitalization engendered by COVID-19.

Industry View – Fragmented Geopolitics

The global semiconductor industry's geographical diffusion has suffered supply chain disruptions from COVID-19 lockdowns, geopolitical tensions in the U.S.-China trade war and Brexit, and legal anti-trust backlash from several M&As. However, in spite of such setbacks, the industry has remained resilient and more important than ever, positioning itself for rapid growth in the coming years. Companies are looking to expand and consolidate, sending the M&A market in full frenzy in recent years with no signs of slowing down as the industry matures.

Industry Drivers – 5G, AI, and IoTs

The next frontiers of technological innovation will be driven and bolstered by semiconductors. In particular, developments in 5G, Artificial Intelligence, and the Internet of Things will allow semiconductor companies to capture a significant portion of the technological value chain. The timeline for innovation has been expedited by COVID-19's acceleration of the pace of digitalization, priming growth drivers for another boom in innovation.

Industry Valuation – Future Optimism or Overhyped?

Semiconductor companies can be valued on a fundamental basis through a discounted cash flow analysis and comparable valuation metrics such EV/EBITDA, P/E, and EV/Sales. Using EV/EBITDA ratios as a benchmark, the 2020 and 2021E EV/EBITDA multiples of 27.1x and 25.1x are drastically higher than historical ratios that hover of 20x EV/EBITDA, indicating forward optimism within the sector and/or potential overvaluation in the current financial climate.

Industry Research	
Industry	Semiconductors
Global Revenue	\$440.5B
Annual Growth (Past 5 Years)	5.6%
Annual Growth (Next 5 Years)	5.2%
Key Companies	
Samsung Electronics	(KOSE:A006930)
Enterprise Value	\$544.3B
EV / 2020 EBITDA	11.6x
NVIDIA Corporation	(NASDAQ:NVDA)
Enterprise Value	\$335.5B
EV / 2020 EBITDA	104.0x
AMD	(NASDAQ:AMD)
Enterprise Value	\$111.9B
EV / 2020 EBITDA	56.8x
Intel Corporation	(NASDAQ:INTC)
Enterprise Value	\$254.5B
EV / 2020 EBITDA	7.7x

Industry Financial Forecast





Industry Analysis

Market Overview

A semiconductor is a solid-state substance that promotes conductivity between a conductor and an insulator. Due to their unique nature, they are great at controlling the flow of electricity via transistors and are a staple in modern electronic devices. Their most popular end-uses are in communications (33%), computers (29%), and consumer electronics (13%).



Source: Semiconductor Industry Association

Value Chain — IDMs vs. Fabless-Foundry Model

The semi-conductor industry is dominated by two distinct business strategies: the all-in-one integrated device manufacturers (IDMs) and the specialized fabless-foundry model (FF). Integrated device manufacturers consist of mature companies that operate throughout the value chain, designing and manufacturing microchips. On the other hand, the fabless-foundry model consists of fabless companies that focus purely on design, outsourcing manufacturing to foundries — specialized third-party manufacturers. With this said, IDMs are the preferred model of choice for 9 of the 15 largest semiconductor companies because of supple chain integration and accounts for over 52% of global semiconductor revenue.

IDMs are characterized as mature manufacturers who produce very high-volume of products, resulting in high operating and cyclical leverage. Their control on all aspects of production results in higher manufacturing efficiencies and faster goto market rates for new products. IDMs capitalize on their economies of scale to profit off high margins during a cycle boom but suffer lower margins from fixed costs and unused capacity in a downturn. In fact, fixed costs can account for up to 80% of semiconductor manufacturing costs. Thus, IDMs need a large cash reservoir to maintain CAPEX budgets to protect them from performance loss and cost disadvantages.



Fabless companies such as NVIDIA and Qualcomm focus purely on design and outsourcing of manufacturing to foundries. This model results in a lack of fixed costs, translating into a lower CAPEX, more consistent margins, and higher earnings predictability. Therefore, fabless companies have an opportunity to outperform IDMs during market downturns and underperform IDMs during market expansions.

Foundries are specialized manufacturers that produce semiconductor devices for other companies. The Taiwan Semiconductor Manufacturing Company (TSMC) dominate the foundry market with over 50%, while Samsung's foundries (19%), GlobalFoundries (8%), UMC (6.7%), and SMIC (4.4%) make up the remaining key players. Recently, rising costs have driven the adoption of the fabless-foundry model with IDMs even outsourcing certain areas of production — wafer fabrication in particular — to foundries.



Competitive Landscape & Geopolitical Distribution

The global semiconductor market is a fragmented space with key players affected by a confluence of technological, political, and geographical factors. The 2 largest players — Intel and Samsung — account for approximately 30% of global revenues, while the top 15 companies represent over 74%. By region, the United States and a consortium of East Asian countries split the market, with semiconductor companies headquartered in the US and East Asia representing 47% and 40% of global market share. Within East Asia bloc, South Korea leads the way with 19%, while Japan has 10%, Taiwan has 6%, and China has 5% of global market share. As a result, due to the highly geographically fragmented landscape combined with the rise

of the fabless-foundry model, the semiconductor supply chain is highly impacted by political outcomes. In recent history, the US-China trade war and Brexit played major roles in shrinking the global market for semiconductors by 11.9% in 2019.

Key Trends – COVID-19, Mergers & Acquisitions, Cyclicality & Seasonality

COVID-19: COVID-19 has accelerated the pace of digitalization with semiconductors companies benefitting from increased demand of consumer electronics from 5G and AI. Moreover, fabless companies have been on the rise as semiconductor designers such as NVIDIA, AMD, and Xilinix have outperformed their IDM counterparts during the COVID-19 pandemic. The caveat to the surge in demand generated from the pandemic are the vast supply chain disruptions from travel restrictions and lockdowns. According to a survey of semiconductor leaders conducted by KPMG in collaboration with the Global Semiconductor Alliance, 63% of respondents reported some degree of supply chain shortages.

Mergers & Acquisitions: A slurry of major M&A activity in 2020 highlighted by NVIDIA's acquisition of ARM for \$40B and AMD acquisition of Xilinix for \$35B. Both fabless-foundry companies, these deals would increase supply chain rationalization in the increasingly competitive industry. Such steps in towards consolidation place 2020 as a record year in M&A activity, with transactions totalling \$110B — a swift second to the all-time high of \$122B in 2016. Industry consolidation is expected to further over the next 2-4 years as "hollowing out" continues. The number of semiconductor companies has decreased by 40% in the past decade, from 160 in 2010 to 97 as of November 2020.

Cyclicality and Seasonality: The growth prospects of the global semiconductor industry are characterized by a 3-to-4-year boom-to-bust cycle. Increased expectations of the future from GDP and sector growth leads to an overproduction of semiconductors followed by a reduction in future orders to adjust demand-supply mismatches. Moreover, semiconductor sales are seasonal with sales falling in Q1, a limited rise in Q2, and stronger rises in Q3 and Q4 due to the increase in demand for consumer electronic devices in the latter half of the year.



Exhibit 3: Semiconductor Revenue Cyclicality

Source: Statista



Growth Drivers — 5G, Artificial Intelligence, and the Internet of Things

5G: Communications is currently the largest end-use application for semiconductors and the rise in 5G will only further its popularity in communication devices. In fact, while all major end-use categories are set to contract in 2020 as a result of COVID-19, wired communications became the exception. As 5G networking continues to increase in adoption, semiconductors will benefit directly from this next wave of communication technology. In fact, 5nm chip volume is expected to double in premium smartphones by 2023. The 5 nm market expansion along with strong component demand from telecom infrastructure build-out due to 5G smartphone penetration, and the increase in electronic device usage indicates growth for the industry.

Artificial Intelligence: According to a McKinsey report published in January 2019, AI may allow semiconductors to capture 40-50% of total value from the technology stack, led by opportunities in computing, memory, networking, and storage. In particular, accelerations in parallel processing from graphics-processing units (GPUs) and field programmable gate arrays (FPGAs) will lead the way in edge computing, while advancements in on-chip memory will be led by static random-access memory (SRAMs). These developments in AI are forecasted to grow AI semiconductor CAGR 5x the rate of non-AI semiconductor until 2025 and represent 19% of total semiconductor revenue in 5 years, nearly tripling from their current market share of 7%.

Internet of Things: Semiconductors will ride the accelerated rate of digitalization with IoT at the helm of leading technological disruption in the industrial, automotive, smart city, health care, and consumer applications. First, IoT opportunities within industrial applications include optimizing systems with sensory data to create a smart factory and the continual maintenance of said factory through asset performance management (APM) and predictive management (PdM) techniques. Second, IoT will driven by the long-term advancements in automotive driving and electric vehicles as infotainment systems are on the rise. Third, the rise of smart cities will be propelled by electronic management within smart buildings and facilities as well as city grids, allowing semiconductors to capture value through system optimizations that reduce unnecessary electricity costs — a problem that accounts for 30% of an office building's total operating costs. Fourth, IoT integration within healthcare can bolster operational efficiencies through remote health monitoring and workflow applications — which have fast go-to market times since they do not require FDA approval. Fifth, consumer electronics will be driven by the popularity of cross-product ecosystem integrations, especially in the developments of smart home products and wearables. These developments in the IoT semiconductor market may promote M&As to improve margins and engender companies to increase product portfolios.

Margins & Valuation

Intellectual Property: IP is a key economic moat for companies to remain competitive and stay profitable. For fabless companies in particular, royalties from licences from their patent portfolio is a key driver of earnings. Specialized, niche patents have become a hot commodity with larger players actively engaging in acquisitions to diversify their offerings to promote cross-product integration to create a single system on chip (SoC).

Gross Margins: Gross margins for the industry have historically hovered around 40-50% with COGS primarily driven by depreciation expenses, while fixed operating costs and variable labour and material costs make up the rest. Margins compress during periods of low utilization or difficult pricing but have remained relatively stable since the 2000 dot com

crash. In fact, semiconductors' margins have proved to be resilient during times of economic downturn, with industry margins floating above 40% during average bust periods. Moreover, companies that focus on differentiated and proprietary products tend to have higher margins than companies with analogous products but superior manufacturing capabilities. Stemmed from high levels of investment and innovation, the U.S. semiconductor industry has R&D account for 16.4% of sales, while CAPEX accounts for 12.6%.

Exhibit 4: Semiconductor Companies' EV/EBITDA Multiples							
Figures in mm USD	Ticker	Enterprise Value (\$)	2020E EV/EBITDA	2021E EV/EBITDA	Dividend Yield	2019A FCF Yield	2020E FCF Yield
Integrated Device Manufacturers (IDMs)							
Samsung Electronics Co.	KOSE:A005930	422,437	7.3 x	5.8 x	1.7%	2.1%	-2.2%
Intel Corporation	NASDAQ:INTC	289,612	8.0 x	8.6 x	2.1%	4.8%	4.9%
Texas Instruments Incorporated	NASDAQ:TXN	170,745	25.0 x	21.0 x	2.3%	2.6%	2.5%
Sony Corporation	TSE:6758	136,917	11.7 x	11.4 x	0.4%	-3.4%	2.6%
Micon Technology	NASDAQ:MU	99,589	11.5 x	9.0 x	0.0%	1.4%	-0.4%
SK Hynic Incorporated	KOSE:A000660	86,330	6.4 x	4.7 x	0.8%	4.4%	-10.4%
Infineneon Technologies AG	XTRA:IFX	60,648	28.1 x	16.5 x	0.6%	-1.0%	2.1%
STMicroelectronics N.V.	ENXTPA:STM	38,167	16.9 x	13.2 x	0.4%	1.3%	0.0%
Toshiba Corporation	TSE:6502	15,747	8.1 x	8.2 x	0.5%	41.3%	-11.4%
Peer Median			11.6 x	10.2 x	0.6%	2.0%	1.1%
Peer Average			14.5 x	11.6 x	0.9%	6.4%	-1.3%
Fabless							
NVIDIA Corporation	NASDAQ:NVDA	377,594	117.0 x	74.4 x	0.1%	0.5%	0.9%
Broadcom Incorporated	NASDAQ:AVGO	237,310	17.6 x	15.4 x	3.0%	5.9%	6.3%
Qualcomm Incorporated	NASDAQ:QCOM	178,073	24.3 x	15.4 x	1.8%	2.0%	2.3%
Advanced Micro Devices	NASDAQ:AMD	111,915	56.8 x	35.9 x	0.0%	0.4%	0.4%
NXP Semiconductors N.V.	NASDAQ:NXPI	60,504	21.7 x	16.2 x	0.8%	3.3%	4.8%
MediaTek Incorporated	TSEC:2454	46,289	25.6 x	16.0 x	1.1%	1.6%	3.9%
Peer Median			25.0 x	16.1 x	0.9%	1.8%	3.1%
Peer Average			43.8 x	28.9 x	1.1%	2.3%	3.1%
Foundries							
Taiwain Semiconductor Manufacturing Company Ltd.	TSEC:2330	569,863	17.8 x	15.2 x	1.6%	1.6%	1.2%
UMC	NYSE: UMC	134,888	53.4 x	49.0 x	0.0%	0.8%	0.9%
Semiconductor International Manufacturing Company	SEHK:981	16,639	10.2 x	9.3 x	0.0%	-6.1%	-3.2%
Peer Median			17.8 x	15.2 x	0.0%	0.8%	0.9%
Peer Average			27.2 x	24.5 x	0.5%	-1.3%	-0.4%

Source: S&P Capital IQ, Bloomberg. Priced as of market close Feb 12, 2021.

Other Considerations — Anti-Trust Regulation

Anti-Trust Laws: Large M&A deals are in jeopardy due to anti-trust concerns from governmental regulators. Most notably, NVIDIA's acquisition of ARM (\$40B) has faced public backlash from U.K. politicians, while AMD's acquisition of Xilinix (\$35B) pends Chinese regulatory approval — a potential wild card. Although a semiconductor M&As generally pass, deals have known to take 8-14 months to process and depend significantly on the political agenda on governing institutions.



Competitive Landscape

The comparables company analysis were categorized into three peer groups by area along the value chain: IDMs, Fabless, and Foundries. EV/EBITDA multiples are at historic highs across peer group with the anticipation of digital acceleration and consolidation increasing valuations. We've chosen to highlight four companies in particular:

Intel Corporation

Headquartered in Santa Clara, USA, Intel is currently the highest grossing semiconductor manufacturer by revenue, regaining the title from Samsung in 2019. The company is considered an early pioneer in semiconductors with co-founders Robert Noyce and Gordon Moore inventing the integrated circuit and discovering Moore's law, respectively. However, innovation has lagged in recent years as competitors such as AMD, NXP Semiconductors, and Samsung has increased market share in their key operating segments of personal computing chipsets, networking components, and flash memory. In spite of this, their microprocessors remain an industry staple with clients such as Lenovo, HP, and Dell. In 2020, Intel suffered huge losses when both Apple and Microsoft announced to development of their own specialized microchips.

Samsung Electronics

Headquartered in Suwon, South Korea, Samsung is a tech conglomerate focused on consumer electronics such as smartphones, televisions, and other electronic components. The company's semiconductor division manufactures various devices but is most prominent for their DRAM and NAND memory chips, maintaining the position as the world's largest memory chip manufacturer since 1993. Although an IDM, Samsung initiated a foundry subsidiary in 2005 specializing in wafer fabrication for fabless companies and recently announced an expansion for the 5nm and sub-5nm nanochips in 2021.

NVIDIA

Headquartered in Santa Clara, USA, NVIDIA was the hottest semiconductor stock of 2020 and currently trades 4x higher than their peer group in EV/EBITDA at an alarming 104x. Renowned for their invention of the graphical processing unit (GPUs) in 1999, they have since catapulted themselves to the forefront of semiconductor innovation as a fabless company. Their GPUs are wildly popular in the gaming and professional markets, while their SoCs are used in the mobile computing and automotive markets. In recent years, NVIDIA has been active in consolidation efforts, acquiring Mellanox Technologies (\$6.9B) in March 2019 and Arm Holding in September 2020 (\$40B).

Taiwan Semiconductor Manufacturing Company (TSMC)

Headquartered in Hsinchu Science Park, Taiwan, TSMC was the world's first and currently the largest pure-play foundry, occupying over 50% of the market share. Considered a leader in semiconductor production, it was the first company to commercialize Extreme Ultraviolet lithography (EUV) and provide 5nm and 7nm production capabilities. It currently manufacturers microchips from 2 micron to 5 nanometers for the majority of leading fabless companies such as AMD, NVIDIA, Qualcomm, and most recently, Apple.

Advanced Micro Devices, Inc. (NASDAQ:AMD)

Technology, Media & Technology - Semiconductors

David vs. Goliath

February 2021

Advanced Micro Devices (AMD) is a global semiconductor company headquartered in Santa Clara, USA. Founded in 1969, AMD's rich history and recent development has led them to the forefront of semiconductor innovation. Their current two core operating segments are Computing and Graphics as well as Enterprise, Embedded, and Semi-Custom.

Internal Analysis – Innovation & Development

AMD is a fabless semiconductor company who outsources chip manufacturing to foundries such as TSMC, allowing the company to stay light on CAPEX. Notably, their Ryzen processors have taken substantial market share from Intel since 2017. Lastly, AMD is looking to diversify its services and announced the acquisition of Xilinx in October 2020.

External Analysis – Taking Down Intel

AMD is well-positioned to capture additional growth in both current and emerging end-markets. In personal computing, AMD has been growing their market share from 22.9% to 36.1% from 2018 to 2020. In the growing end-markets of gaming and data centres, AMD is in a tight competition with NVIDIA's GPUs and Intel's FPGA through their acquisition of Xilinx. Their chips currently power both the PlayStation 5 and Xbox series. Lastly, the current severe global shortage of semiconductors will contribute to additional short-term gains for the company.

Valuation – Highly Valued with Room to Grow

Since 2016, AMD's shares have increased over 4,000% with room still left to grow. The company currently trades at a significant premium compared to their peers as well as historical averages, with P/E and EV/EBITDA multiples of 45x and 56x compared to industry averages of approximately 25x and 20x. However, unlike its peers, AMD has far superior growth prospects and only eclipsed \$3 billion in revenue for the first time this past quarter.

Analyst: Samuel Chen, BCom. '22 contact@westpeakresearch.com

Equity Research	US
Price Target	US \$110
Rating	Buy
Share Price (Feb 11. Close)	US \$92.66
Total Return	18.7%
Key Statistics	
52 Week H/L	\$36.75/\$99.23
Market Capitalization	\$112.24B
Average Daily Trading Volume	\$42.95M
Net Debt	\$330M
Enterprise Value	\$110.28B
Net Debt/EBITDA	0.2x
Diluted Shares Outstanding	\$1.2B
Free Float	98.2%
Dividend Yield	N/A

WestPeak's Forecast

	<u>2020A</u>	<u>2021E</u>	<u>2022E</u>
Revenue	\$9.76B	\$13.23B	\$15.6B
EBITDA	\$1.97B	\$3.12B	\$3.87B
Net Income	\$2.49B	\$2.07B	\$2.78B
EPS	\$2.06	\$1.66	\$2.23
P/E	44.6x	55.8x	41.61x
EV/EBITDA	56.0x	10.0x	15.0x

1-Year Price Performance





Global Equity | February 2021

Technology III. Hardware

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Technology Hardware and Equipment

Hard Times for Hardware

February 2021

The Technology Hardware and Equipment (TH&E) market has reached saturation status in recent years and is one of the subsectors in tech that lags behind the market in 2020. Global revenue fell by 2.6%, partially offset by increasing purchases from households and a surge in sales of game consoles. In the long run, we expect disruptive innovation and emerging market penetration to continue to be the main sources of growth.

Industry View – Bad Hit for Most, Big Hit for Some

Due to its more traditional business model, the TH&E subsector has witnessed a sharp downturn in most product lines such as TVs, mobile phones and enterprise hardware in 2020. Nonetheless, the exponential adoption of technology boosted by COVID-19 and stronger-than-expected consumers' spending has set up the stage for a rebound in consumer electronics as seen in the PCs market. Alongside the proliferation of 5G, Cloud Computing, and Internet of Things (IoT), strong growth is anticipated from certain verticals within the three-year horizon.

Industry Drivers – Macro Conditions, Software and Adoption

Cyclicality plays a big role in the subsector growth as spending on technology is one of the first to be cut down during a recession. With the impact of COVID-19, that might change in the future, at least for enterprise IT expenditure. Hardware also has a symbiotic relationship with software and other innovation like IoT as they enable more sophisticated and user-friendly products. Lastly, increasing adoption of a new product or penetration to emerging market might be a strong driver, depending on the sub-industry.

Industry Valuation – Stable Business Model

We apply the conventional DCF valuation method coupled with P/E and EV/EBITDA multiples given most TH&E businesses are established with stable cash flows. Additional considerations include the typically short cycle life of products, company's pricing power and pressure from APAC competitors.

Industry Research	
Industry	Hardware
Global Revenue	\$1031B
Key Companies	
Apple Inc.	AAPL
Enterprise Value	\$2132.44B
Target Price	\$131.38
Dell Technologies	DELL
Enterprise Value	\$99.27B
Target Price	\$78.79
Cisco Systems	CSCO
Enterprise Value	\$177.25B
Target Price	\$48.00
Garmin Ltd.	GRMN
Enterprise Value	\$20.45B
Target Price	\$115.38
Equinix	EQIX
Enterprise Value	\$72.59B
Target Price	\$828.82

LTM Share Price Performance





Industry Analysis

Market Description - End of a Cycle

We divide the Technology Hardware & Equipment subsector into three main verticals: Electronic Component & Equipment, Communication Equipment and Technology Hardware. In this primer, we will focus on the enterprise IT and consumer retail market of the subsector, which covers the Technology Hardware and part of the Communication Equipment vertical. In terms of geography, we are focusing on the North America region with brief discussion of competition and geopolitical tension coming from APAC. As a result of the sector's longstanding history, there are an array of industries within each vertical having significantly different market size, growth prospect, life cycle, etc. Currently, the largest industry by market size is mobile phone at \$495B. In developed countries, the majority of large markets within TH&E have become a replacement market after a decade of strong growth, which leads to reduced sales volume and falling average selling price (ASP). There are industries with potential for innovation and growth, but at this stage, their sizes are still no comparison with the top markets like PCs or mobile phones.

Competitive Landscape & Key Players - Consolidation Leading to Oligopolies

The competitive landscape varies depending on the industry, but most hardware industries have high barrier to entry created by patents and high CAPEX requirement for manufacturing products. For relatively saturated industries like computer hardware and tablets, the market is crowded and highly competitive, and firms are competing by optimizing operations. On the other hand, the smartphones or game consoles market is dominated by a few players, whose strategy is to differentiate their products and capturing growth driven by catalysts such as 5G and increasing gamer base. Some of the factors that companies generally compete in the TH&E subsector are product features, high switching costs, economies of scale and flexible cost structure.



Key Trends - Ever-falling Prices, Cyclicality, Technology Developments and COVID-19 Update

Consumers have power against producers' pricing: The benefits from cost-cutting innovation resulted in ever-falling price instead of increasing profit for firms. In 1998, an average PC sold for \$1,500 compared to a current price of \$632, as well as being of lower quality. Therefore, successful firms strive to create an economic moat to retain pricing power while optimizing their cost structure. For consumer electronics, this is achieved through product differentiation and for IT hardware and communication equipment, pricing power are created through long-term contract and specialty products.



Source: US Bureau of Labour Statistics

Economic conditions deciding corporate IT spending and consumers: Historically, companies have been cutting down on IT spending first when a recession hits. Once the recession passed and business sentiment recovers, so does their spending on technology hardware. Similarly, consumers' spending on technology hardware fluctuates with their income. Remarkably, the recovery is usually brief and swift. In 2008, IT spending dropped by 4.9% then recovered in 1 year and in 2020, IT spending dropped by 5.6%, with growth forecasted to normalize in 1-2 years. Going forward, we expect this cyclical trend to be less impactful, especially after COVID-19 as tech becomes a much more crucial role within business functions.

The symbiotic relationship between hardware and software: Traditionally, consumer and enterprise demand has been leading hardware growth, which in turn creates the platform for software to develop on. However, in the past 10 years or so, software has been the leading player, directing the growth of hardware market as the hardware platform has been

TECHNOLOGY, MEDIA & TELECOMMUNICATIONS Hard Times for Hardware



saturated to some extent. Recent examples include the growth of centralized data centers stemming from cloud proliferation and the surge in game consoles as a result of the lockdown in March.



COVID-19 update: This recession is special in its nature, leading to PCs sales being the first to rebound in the second quarter led by consumer purchase to set up their work-at-home stations. Meanwhile, sales of mobile phones have also rebounded strongly with the rollout of 5G support, especially in China where the effect of COVID-19 is limited. In addition, game consoles have been the one beneficiary from COVID-19 as people were finding new hobbies during the lockdown period and both Sony and Microsoft released their new game consoles in PlayStation 5 and Xbox. On the other end of the spectrum, even big-ticket items like TVs are experiencing steady rebound in price and volume as demand is coming back from around the world.

Margin

Gross margins vary significantly between subindustries, depending on the maturity of the involved players and the product lines themselves. For companies working in more specialized equipment, the margin is usually better as there are fewer players and higher barrier to entry. For saturated consumer electronics or crowded market like PCs or data server, the profit margin is much lower as net profit on average accounts for 3.5% of revenue. Notably, another way that companies implement to increase their margins is through branding and product differentiation. Apple, for example, has commanded an average 35% gross margin in the last 10 years compared to 18% of the TH&E subsector.

Valuation & Unique Consideration

Given the more traditional and mature business model of TH&E companies, we value them by the cash flows generated and comparables. Most commonly used methods are DCF and EV/EBITDA multiple, and it is likely to remain unchanged in the future. In the case of exception such as companies spilling over to software and services, we need to value the firm through a sum-of-the-parts method. Comparing between business might be tricky as the product lines differ and companies are trying to turn into one-stop shops, but in general we use industry metrics such as product ASP, volume shipped and gross margin. Hardware companies typically have very high CAPEX to maintain their manufacturing business, which makes EBITDA a better proxy for the cash flow generated. Other unique considerations include cyclicality, geopolitical risks (especially coming from China) and product life cycles.

		Enterprise	2020E	2021E	Dividend	2019A	2020E
Figures in mm USD	Ticker	Value (\$)	EV/EBITDA	EV/EBITDA	Yield	FCF Yield	FCF Yield
Communication Equipment							
Motorola Solutions Inc	NYSE:MSI	35,313	17.4 x	15.4 x	1.6%	4.5%	4.6%
Nokia Corporation	NYSE:NOK	21,077	6.1 x	6.8 x	0.0%	3.1%	10.6%
Arista Networks Inc	NYSE:ANET	24,379	25.5 x	27.0 x	0.0%	2.2%	2.4%
Juniper Networks Inc	NYSE:JNPR	8,801	9.8 x	9.5 x	3.2%	4.8%	6.7%
CommScope Holding Company	NASDAQ:COMM	12,047	9.3 x	10.3 x	0.0%	21.9%	24.7%
Peer Median			9.8 x	10.3 x	0.0%	4.5%	6.7%
Peer Average			13.6 x	13.8 x	0.9%	7.3%	9.8%
Computer Hardware							
Dell Technologies Inc	NYSE:DELL	88,175	7.5 x	7.1 x	0.0%	12.3%	17.2%
HP Inc	NYSE:HPQ	39,487	8.2 x	7.8 x	2.8%	10.8%	8.8%
Seagate Technology Plc	NASDAQ:STX	21,990	11.4 x	11.3 x	3.7%	4.9%	5.1%
Hewlett Packard Enterprise Company	NYSE:HPE	27,146	5.9 x	5.4 x	3.4%	14.7%	3.5%
Western Digital Corporation	NASDAQ:WDC	25,674	8.3 x	8.8 x	0.0%	5.8%	4.8%
NetApp Inc	NASDAQ:NTAP	14,763	11.6 x	11.3 x	2.8%	5.4%	6.1%
Peer Median			8.2 x	8.3 x	2.8%	8.3%	5.6%
Peer Average			8.8 x	8.6 x	2.1%	9.0%	7.6%
Consumer Electronics: Diversified							
Xiaomi Corporation		84,647	44.9 x	39.9 x	0.0%	0.8%	3.2%
Hangzhou Hikvision Digital Technology Co	SZSE:002415	90,872	43.9 x	41.6 x	1.1%	1.0%	0.0%
Nintendo Co Ltd	TSE:7974	64,611	19.2 x	11.3 x	2.8%	1.8%	3.8%
Panasonic Corporation	TSE:6752	28,696	4.6 x	5.9 x	1.4%	-5.6%	-0.1%
Fujifilm Holdings Corporation	TSE:4901	24,196	8.4 x	8.8 x	1.6%	3.6%	3.6%
Canon Inc	TSE:7751	19,973	6.1 x	5.6 x	3.4%	5.1%	8.0%
LG Electronics Inc	KOSE:A066570	31,007	5.8 x	5.5 x	0.7%	5.3%	0.0%
Peer Median			8.4 x	8.8 x	1.4%	1.8%	3.2%
Peer Average			19.0 x	16.9 x	1.6%	1.7%	2.6%
Consumer Electronics: Pure-play							
Universal Display Corporation	NASDAQ:OLED	11,088	57.5 x	65.8 x	0.3%	0.9%	1.1%
Dolby Laboratories Inc	NYSE:DLB	8,612	21.8 x	17.9 x	0.9%	1.9%	2.3%
Garmin Ltd	NASDAQ:GRMN	23,714	22.5 x	21.9 x	1.9%	2.5%	1.5%
Logitech International S.A	SWX:LOGN	18,723	43.5 x	16.9 x	0.8%	0.9%	1.5%
Lenovo Inc	TSE:4901	24,196	8.4 x	8.8 x	1.6%	3.6%	3.6%
Sharp Corporation	TSE:7751	19,973	6.1 x	5.6 x	3.4%	5.1%	8.0%
Peer Median			22.2 x	17.4 x	1.3%	2.2%	1.9%
Peer Average			26.7 x	22.8 x	1.5%	2.5%	3.0%

Source: Company Website, S&P Capital IQ, Bloomberg. Priced as of market close Feb 11, 2021.

Garmin Ltd. (NASDAQ: GRMN)

Hardware – Consumer Electronics

A Strong Business Going in the Right Direction

February 2021

Founded in 1990, Garmin is a vertically integrated business offering a range of wearable GPS-enabled devices and navigation, sensor-based technology products. The company operates in five segments: Auto, Aviation, Fitness, Marine and Outdoor with the majority of revenue coming from Americas and EMEA region.

Internal Analysis – Business Integration, Product Specialization

Garmin's vertically integrated business model allows it to command a high margin as the entire manufacturing and distributing process are in-house. The Company also targets more specialized markets, especially in the Outdoor and Aviation segments where it enjoys gross margins above that of peers at 65% and 74% respectively. Lastly, strong financial fundamentals allow Garmin the flexibility and growth ceiling to adapt to future industry trends.

External Analysis – Sector, Consumer and Competitor

The hardware vertical has been lagging the broad technology sector despite strong rebound in late 2020, presenting an attractive opportunity to invest in a reasonably priced space of a red-hot market. Meanwhile, macro themes including health-conscious customers and economic normalization are expected to create a more stable revenue stream with steady growth. Furthermore, we believe the market's view of Apple as Garmin's competitors to be unjustified as the two differ in their core target markets and smart watches only accounts for less than 30% of Garmin's total revenue.

Valuation – Fairly Valued

We derived our price target of \$135.82 for Garmin using a weighted average of DCF using FCFE and forward P/E multiple, assigning a 50/50 weight respectively. We expect upbeat results from the Fitness and Outdoor sector for the upcoming quarters, with economic recovery to drive long-term revenue for the Auto and Aviation segments. Our CAPM cost of equity is calculated to be 8.06% and forward P/E multiple to be 25.86, derived from the top quartile mark of the comparable universe. Analyst: Huy Pham, BCom. '23 contact@westpeakresearch.com

Equity Research	US
Price Target	USD\$ 135.82
Rating	Buy/Sell/Hold
Share Price (Feb. 5 Close)	USD\$ 120.33
Total Return	12.9%
Key Statistics	
52 Week H/L	\$125.0/\$61.0
Market Capitalization	\$23,011M
Average Daily Trading Volume	\$0.71M
Net Debt	\$(2,653M)
Enterprise Value	\$20,358M
Net Debt/EBITDA	(2.38x)
Diluted Shares Outstanding	\$191.2M
Free Float	74.4%
Dividend Yield	2.0%

WestPeak's Forecast

	<u>2021E</u>	<u>2022E</u>	<u>2023E</u>
Revenue	\$4.08B	\$4.50B	\$5.21B
EBITDA	\$1.15B	\$1.28B	\$1.48B
Net Income	\$0.91B	\$1.00B	\$1.16B
EPS	\$4.75	\$5.24	\$6.09
P/E	24.15x	25.21x	23.64x
EV/EBITDA	18.09x	18.82x	17.19x

1-Year Price Performance





Global Equity | February 2021

Media IV. Global Entertainment & Media

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WESTPEAK RESEARCH ASSOCIATION

Technology, Media & Telecommunications

Media

See What's Next

February 2021

The Media industry is set to grow 5% globally in the next 5 years, driven by videogaming, streaming, and socializing apps on digital channels.

Industry View – A Evolving Business Model

Media remains an industry that is constantly evolving with technological innovation altering the way the business is run. The industry is undergoing massive digitization due to changing customer expectations and behaviours as younger generations demand instant access to content. In response, traditional media companies in television, radio, and print have shifted to an omnichannel approach, providing over-the-top (OTT) media services to directly reach their consumers.

Industry Drivers – Subscription Services and Original Content

As the media industry's business model evolves, we see heightened competition between key industry players for subscription services. This business model provides more stable, recurring revenue for companies as long as they keep viewers entertained with new content on their various platforms through production and licensing agreements.

Industry Valuation – Software Entertainment Companies Lead

Media companies tend to trade between 2.5x to 5.0x LTM Revenue and 3.0x to 7.0x FTM, with higher multiples indicating expectations for growth. Worldwide, the average enterprise value to EBITDA for media and entertainment companies in 2020 was approximately 13.2x. Historically, software entertainment companies tend to have higher valuation multiples, with an average EV/EBITDA of 21.1x in 2020.

Industry Research	
Industry	Media
Global Revenue	\$2.0T
Key Companies	
The Walt Disney Company	(NYSE: DIS)
Enterprise Value	\$358.08B
EV / 2020 EBITDA	28.3x
Comcast	(NASDAQ: CMCS.A)
Enterprise Value	\$329.44B
EV / 2020 EBITDA	9.6x
ViacomCBS	(NASDAQ: VIAC)
Enterprise Value	\$41.32B
EV / 2020 EBITDA	7.5x
AT&T	(NYSE: T)
Enterprise Value	\$352.94B
EV / 2020 EBITDA	6.0x
Netflix	(NASDAQ: NFLX)
Enterprise Value	\$238.48B
EV / 2020 EBITDA	76.6x

Industry Financial Forecast





Industry Analysis

Market Overview

The global entertainment and media industry is currently valued at \$2T USD and is expected to achieve a CAGR of 4.6% over the next five years. COVID-19 has not pushed revenue away from the industry, but instead amplified shifts in consumer behavior and interests within certain subsectors. Winners will materialize based on their ability to provide distinctive inhome experiences and content all while navigating regulatory hurdles.



Exhibit 1: Value of the Global Entertainment and Media Market from 2011 to 2024 in Trillions USD

Market Concentration and M&A Activity

The media industry has gone through extensive consolidation in the last 10 years, creating an oligopolistic market dominated by The Walt Disney Company, AT&T Inc., ViacomCBS, Comcast Corporation, and Netflix Inc. Since 2014, companies have executed more than \$700B USD in M&A deals across media and entertainment sectors. Major transactions include AT&T's acquisition of Time Warner in 2016 as well as Disney's 2019 acquisition of 21st Century Fox's assets.

One of the drivers of these mergers are players diversifying and expanding into new markets rather than focusing on increasing the margins and scalability of a few key projects. Other M&A drivers include businesses wanting to strengthen their competitive positioning and looking to acquire key talent with specific technological skillsets related to media.

Major issues also come to light during these transactions, especially the elimination of net neutrality, removal of a diversity of viewpoints, and prioritization of advertisers and government rather than the greater public interest. As market competition reduces through M&A, innovation becomes slower and prices for consumers increase.







Business Model Evolution

Alternative Forms of Media Consumption: We are seeing the big players in radio, television, and print moving away from traditional media consumption into alternative forms. According to reports from Deloitte, the consumption of podcast material is up almost 200% over the past 5 years. Further, consumers no longer enjoy watching one episode per week on television anymore; more and more people are engaging in binge-watching culture. Binge-watching is defined as watching

2 or more episodes in one sitting, which is why streaming platforms providing full seasons of shows are so popular. Thus, in terms of future outlook, we will see a permanent shift towards on-demand digital content.

Popularity of OTT services: The traditional media value chain is currently undergoing massive change as digital media and over-the-top (OTT) media services grow in popularity, bypassing the broadcasting, cable, and satellite television companies that typically acted as controllers and distributors of content. OTT content is delivered over the internet and contrasts traditionally popular models, like pay television video on demand, and content from an internet service provider. OTT video revenue reached \$23B USD in the US alone and is expected to grow approximately at a CAGR of 14% over the next 5 years.

Growth Subsectors:

Streaming Wars: As we see more consumers shift to streaming platforms, the number of subscription services offered is also increasing. In 2019, Walt Disney Co. launched their own streaming service, Disney +, resulting in many of their popular titles being taken away from existing big players like Netflix or Amazon Prime. This changed the market significantly as each platform tries to differentiate itself through acquiring licensing agreements with studios for popular TV shows and movies, in addition to creating their own content.

Since a current challenge in the upcoming year is that production on many new films and TV shows has been stalled as studios are not able to operate at full function, we will see a greater emphasis on already existing shows and movie series being prioritized and licensing agreements for past content. This means that major studios and other firms owning licensing rights will demand high premiums for their content to be used. Deals like this also create fragmentation in the industry as consumers now have to subscribe to multiple services for the content they desire.

Rapid Growth in the Video Game Industry: The US video game and eSports industry continues to grow, especially with the growth of the virtual reality subindustry and the release of two new consoles from Sony and Microsoft. Within the industry, we are seeing a shift towards creating recurring revenue streams from subscriptions for access to downloadable games, cloud-gaming, and in-game transactions.

According to PwC, in 2020, total video games and eSports revenue in the United States was \$29.1B USD, up almost \$2B from 2019. Globally, this industry is expected to be worth close to \$146B by the end of 2021.

Declining Subsectors

The Plummet of Print: According to IBISWorld, global magazine publishing is the 2nd fastest declining industry with a 1.7% revenue decline with newspaper publishing following close behind contracting 0.4% year over year. Big players, like News Corp and New York Times, have shifted to an omnichannel approach and subscription models to retain readership.

Death of the Cinema Industry: Another trend we are seeing is the shift to new releases on these streaming platforms and away from cinemas. Warner Bros. announced it is streaming all of its 2021 films online on the same day they're released in US cinemas on HBO Max, and this shows the industry tilting dramatically towards an OTT model. Cinema admissions for 2020 worldwide are hitting their lowest levels since records began. This is due to the impact that COVID-19 restrictions have had on cinema operations, putting a strain on the significant overhead costs involved with operating a theatre. Even before

TECHNOLOGY, MEDIA & TELECOMMUNICATIONS SEE WHAT'S NEXT



the outbreak, US movie admissions fell 4.6% from the year prior. Furthermore, major cinemas around the world agreed to shorten theatrical windows and release movies more quickly onto subscription service models.



Trends to Watch

The Freemium Model: Ad Supported Video Streaming Services (AVOD) may be adopted to promote a freemium model that captures churn and new users most sensitive to high subscription prices. Initially popularized by YouTube and reinforced by Spotify's recent success, streaming services may transition from an exclusively subscription-based revenue model to a blended freemium service that tiers its content offering to accommodate both paid and unpaid users. This strategy hopes to onboard new users, avoid financial churn, and add another source of revenue that captures missing consumer plus.

The Prospect of Live Events in the Pandemic: Events as sports, concerts, theme parks, and more are not able to run due to lockdown restrictions from COVID-19 and the transition back into live events has been very gradual and slow in countries with rising cases. We cannot expect recovery in this sector until a COVID-19 vaccine is successfully distributed to the general population, and even then, consumers will need reassurance in order to ease the transition back into these large-scale events. However, sports leagues have been able to resume play but without live audiences. This resumption allows for large national advertisers to continue with their campaigns instead of cutting their yearly advertising budgets.

Industry Crossovers: One trend that has emerged recently is co-branding partnerships between the videogaming industry other industries. In April 2020, Travis Scott, in collaboration with Fortnite, hosted a virtual concert. Further, Louis Vuitton created a custom gaming "skin" for League of Legends players. These collaborations are niche, but provide benefits for both industries; the videogaming industry can associate themselves closer with well-established, widely liked brands and reach new audiences while other industries can capitalize on the advertising potential as online video games have millions of users and stay relevant with new pop culture trends. We expect to see more of these collaborations in the future.



Valuation

Unique Considerations

Intellectual Property: The intellectual property through the copyright, trademark, and patent of entertainment and its related products offerings are significant moats for durability as well as profitability. Notable licensing revenue can be generated by the selling and leasing of films, television shows, toys, and etc., while acquired rights can inspire production in original and transform stories into multi-billionaire dollar franchises. The race for diverse, quality content has engendered the consolidation of distinct media companies into conglomerates that operate across the value chain.

Scale: Larger media companies hold more negotiating power with marketers and distributors, allowing for greater marketing support, broader distribution, and higher affiliate fees. The scale of a media company also allows for cross-promotional activity between its different business lines.

Strong Balance Sheet: Major media companies typically hold large cash reserves to expand their business, ranging from bidding on new content like films and television series to enabling more acquisitions and mergers. Media companies are able to generate steady cash flows through a subscription model, ensuring recurring revenue.

Valuation Metrics

EV/EBITDA Multiple: EV/EBITDA multiplies is a common metric to compare companies within the media sector. Although there lack definitive peer groups due to diversified operating segments of heavily consolidated media conglomerates, current multiples for traditional diversified companies are in par with historical ratios.

Exhibit 4: Media Comparable Companies Analysis							
Figures in mm USD	Ticker	Enterprise Value (\$)	2020E EV/EBITDA	2021E EV/EBITDA	Dividend Yield	2019A FCF Yield	2020E FCF Yield
Diversified Media							
AT&T	NYSE:T	352 <i>,</i> 938	6.0 x	6.4 x	7.2%	11.8%	18.8%
Comcast	NASDAQ:CMCS.A	329,441	9.6 x	10.8 x	1.8%	5.4%	5.8%
Viacom CBS	NASDAQ:VIAC	41,320	7.5 x	8.0 x	2.4%	nmf	nmf
Disney	NYSE:DIS	358,075	28.3 x	35.4 x	0.0%	2.0%	2.4%
Peer Median			8.5 x	9.4 x	2.1%	5.4%	5.8%
Peer Average			12.8 x	15.1 x	2.8%	6.4%	9.0%
Social Media							
Facebook	NASDAQ:FB	759,520	19.2 x	17.4 x	0.0%	1.3%	2.1%
Twitter	NYSE:TWTR	40,687	33.6 x	39.7 x	0.0%	1.5%	1.4%
Snapchat	NYSE:SNAP	76,586	n/a	nmf	0.0%	-0.5%	0.2%
Peer Median			19.2 x	39.7 x	0.0%	1.3%	1.4%
Peer Average			nmf	nmf	0.0%	0.8%	1.2%

Source: S&P Capital IQ, Bloomberg. Priced as of market close Feb 12, 2021.

Discovery, Inc. Series A (NASDAQ: DISC.A)

Media – Diversified

Discovering New Growth

February 2021

Discovery, Inc is a multinational mass media company headquartered in the US. The company operates with a focus on the lifestyle and exploration segment, owning television brands The Food Network, TLC, Animal Plant, BBC, OWN, and Discovery. Discovery, Inc has adopted an omnichannel approach, reaching their customers through free-to-air, pay-tv, and direct-to-consumer through apps.

Internal Analysis – Differentiated Content a Standout

Discovery, Inc has a 300,000 hour program library and has produced over 8,000 hours of original programming. The company has great distribution networks, allowing it to access screens in more than 220 countries. Its standout content makes it one of the top three networks for women, capturing a 25% share of pay TV viewership, the fastestgrowing Pan-European sports streaming service, and the top digital media platform for automotive content. This positions Discovery, Inc well as they are the top provider of home improvement content.

External Analysis – Industry Consolidation & A Crowded Market

The media industry is controlled by a select few major players whose scale allows for significant power. With the industry undergoing consolidation, Discovery, Inc owning valuable television brands makes it a potential M&A target. Discovery, Inc also launched their streaming subscription in January 2021. Their future success is dependent on being able to capture market share in an already crowded market as the industry moves further away from traditional cable TV.

Valuation – Target Price

Discovery, Inc.'s successful television brands and expansion into the streaming segment has been noticed by investors. The company is trading in line with its peers with a 1 year forward mean EV/EBITDA of 10.9x and a P/E multiple of 12.1x. As growth has already been priced in and analysts await Discovery Inc's first quarterly earnings report including its streaming service, the company's valuation calls for a hold rating.

Analyst: Simrit Hundal, BCom. '22 contact@westpeakresearch.com

Equity Research	US
Price Target	US\$ 44.66
Rating	Hold
Share Price (Feb. 8 Close)	CAD\$ 43.25
Total Return	3.26%
Key Statistics	
52 Week H/L	\$49.94/\$17.12
Market Capitalization	\$19.2B
Average Daily Trading Volume	8.2M
Net Debt	\$15.5B
Enterprise Value	\$42.5BM
Net Debt/EBITDA	3.9x
Diluted Shares Outstanding	160.7M
Free Float	66.8%
Dividend Yield	N/A

WestPeak's Forecast

	<u>2021E</u>	<u>2022E</u>	<u>2023E</u>
Revenue	\$11.6B	\$11.9B	\$12.0B
EBITDA	\$4.0B	\$4.2B	\$4.4B
Net Income	\$2.1B	\$2.2B	\$2.4B
EPS	\$3.19	\$3.65	\$4.18
P/E	13.6x	11.8x	10.3x
EV/EBITDA	11.1x	10.6x	10.1x

1-Year Price Performance





Global Equity | February 2021

Telecommunications V. Canadian Telecom

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Technology, Media & Telecommunications

Canadian Telecommunications

5G and Beyond

February 2021

The Canadian telecommunications industry's revenues are expected to contract by almost \$2 billion, with overall revenue expected to decrease by (0.8%) to \$47.9 billion before rebounding in 2021, demonstrating resilience in the telecom services sector relative to other Canadian technology groups.

Industry View – Resiliency and Stability Amid Pandemic

Telecoms remain a relatively resilient sector and will perform ahead of general GDP trends. Consumer services, which account for approximately 68% of telecom revenue will remain strong, while unemployment and business closures will cause a sharp decrease in economic activity in the business services segment. Large telcos will be cautious with CAPEX and OPEX spending in 2020 as they aim to preserve liquidity and balance sheet health.

Industry Drivers – 5G and Broadband Leading the Way

In addition to preserving liquidity, the effects of COVID-19 are being felt around the world and are having a significant impact on the telecommunication industry, as more people are spending time at home consuming data for leisure and work, driving stable growth and demand for faster speeds, network resiliency, and investments in 5G and fibre. While revenues are expected to contract in 2020, the industry will return to growth in 2021 driven by pent-up demand in wireline and broadband services.

Industry Valuation & Summary – Traditional Valuation Metrics

Common valuation multiples such as EV/EBITDA and P/E are used in conjunction with DCF as the telecom industry is mature and stable. We are optimistic on the outlook of the industry given the greater dependency on telecom services and connectivity in this post-pandemic era. With hopes of vaccines and inoculations underway, we are confident with the upward trajectory of the telecom sector and the greater TMT sector as a whole.

Industry Research	
Industry	Telecom
Global Revenue Growth	3.4%
Key Companies	
BCE Inc.	(TSX:BCE)
Enterprise Value	\$72.8B
EV / 2020 EBITDA	7.2x
Telus Corporation	(TSX:T)
Enterprise Value	\$47.6B
EV / 2020 EBITDA	8.4x
Rogers Communications Inc.	(TSX:RCI.B)
Enterprise Value	\$45.4B
EV/ 2020 EBITDA	7.3x
Shaw Communications	(TSX:SJR.B)
Enterprise Value	\$15.3B
EV / 2020 EBITDA	6.4x
Quebecor Inc.	(TSX:QBR.A)
Enterprise Value	\$14.3B
EV / 2020 EBITDA	7.6x
EV / 2020 FBITDA	Big 3 Telco





Industry Analysis

Key Players and Market Size – Big 3 Still Dominating Market Share

The Canadian telecom industry is characterized by heavy competition and high barriers to entry due to the capital intensity needed to develop network infrastructure. The 'Big 3', consisting of BCE, Telus and Rogers owning approximately 90% of the market share in Canada, with smaller incumbents like Shaw, Cogeco, Quebecor, taking up the rest of the market. While the Big 3 have enjoyed market dominance for the last decade, but new rules and regulations from the Canadian Radio-television and Telecommunications Commission (CRTC) have placed pressure on the Big 3, resulting in uncertainty for these providers to increase spending in capital intense projects such as 5G infrastructure and fibre networks. Canadian telcos are at a crossroads of addressing the unique challenge of meeting unparalleled network demand, while also investing in next generation 5G wireless networks that will reduce latency and provide higher bandwidth to support mission critical functions in telecommunication, healthcare, telemedicine, industrials, government, and the world of Internet of Things (IoT).

Key Trends – Penetration Rates, COVID-19, Spectrum Auctions, 5G, and M&A

Higher wireline and wireless penetration rates: Growth in wireless (voice and data plans) is driven in part due to the increasing number of mobile subscribers (subs) using smartphones for voice and internet usage. These customers are heavy users of mobile data services and have average revenue per user (ARPU) that is twice as much as those of voice-only or landline only subscribers. The number of wireless and wireline (internet, tv, satellite) users are expected to increase throughout 2025 as the world shifts towards digitalization and a post-pandemic era of business and play. While smartphone activations have dropped, we expect competition on promotions and customized offerings to bolster ARPU and offset the revenue loss from customer churn as users switch from one provider to another.



Key Trends (continued) – Penetration Rates, COVID-19, Spectrum Auctions, and 5G

COVID-19 Impact on Telecom: The pandemic has further demonstrated the critical function that telecommunications and connectivity providers play in governments, businesses, individuals, and communities. As entire countries enter lock-down and individuals are limiting social interactions, mobile and fixed connections are becoming the lifelines of connectivity and engagement across various online mediums. While revenue from roaming and data plans will decline due to decreased travel, we expect the increase in broadband and internet service revenues to bolster topline growth in the low single digits. In the short-term, we expect revenues to decline year-over-year (YoY) in the low 1-2% range. In the medium term, the impact of the pandemic on the telecom sector will vary, however it is expected to be resilient and perform steadily throughout the economic downturn as seen with the 2008 downturn. In the long-term, we believe that the industry tailwinds in 5G, and dependency on connectivity to drive long-term value and growth for investors in this sector.



Spectrum Auctions: The federal government will delay planned auction of 3,500 megahertz (MHz) wireless spectrum until 2021 to allow telcos to focus on providing essential services to Canadians during the COVID-19 pandemic. National and regional carriers spend billions of dollars at auction to obtain licences for the spectrum they use for wireless service transmission. 5G operates at higher wavelengths which allow for less interference and much quicker latency speeds. Last year, Rogers spent nearly \$1.72B on winning 52 licenses, with Telus spending \$931M 12 licences. Both companies are ready to make the crucial investment in 3,500 MHz spectrum and network infrastructure required for 5G networks. The spectrum auctions will be a key event to watch out as the outcome will determine the level of CAPEX spending that the Big 3 will invest into the Canadian economy for years to come. Coming out of a pandemic-induced economic downturn, this infrastructure spending will be key in boosting GDP and growth in the Canadian economy and derivative industries.

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5G Possibilities: 5G continues to be at the forefront of innovation, as faster speeds and lower latency will transform the possibilities of technological advancements in the world of IoT. While 5G is still in its early stages, the next few years will show significant progress in the reliability and coverage of 5G networks as major incumbents roll out their 5G infrastructure.



Source: Digital Trends

Mergers & Acquisitions: M&A activity continues to be a key area of development as the Big 3 look to accelerate inorganic growth. A key theme we are observing in the industry are telcos diversifying from their traditional telecommunications product offerings to provide an all-in-one home services package that includes smart home, home security, and other residential/business services. Most notably, Bell Canada Enterprises acquisition of AlarmForce Industries in 2018 was a strategic movement towards enhancing BCE's 'Connected Home' strategy, allowing for add-ons to existing broadband, TV, and data plans. Similarly, Telus Corporation responded and announced its acquisition of ADT Security Services as the providing a holistic suite of services became an important part of their value proposition. More recently, Telus has really positioned itself in the telehealth and virtual healthcare market with its acquisition of Akira Health in 2019 and its recently announced acquisition of Montreal-based EQ Care. Telus Health's acquisition of EQ represents a huge push to be a major player in the Canadian virtual healthcare space, which has been a clear winner of the COVID-19 pandemic.

CAPEX and OPEX Guidance

CAPEX: Postponement of spectrum auctions and uncertainty on CRTC decision on wholesale rates have led to minimal CAPEX reductions of 2-4% YoY in 2020. CAPEX will rebound quickly in 2021 as most telecom operators will continue to focus on significant capital expenditures on 5G to ensure that the increased traffic demand that COVID-19 has accelerated, will be met with reliable network infrastructure.



OPEX: Reduced spending on marketing activities, subscriber acquisition and retention, and retail store closures is expected to generate OPEX savings of 1-3% YoY in 2020. Although we expect this trend to slightly bounce back, we do not anticipate stores to open to the same capacity they were pre-pandemic.

Valuation and Conclusion

With spectrum auctions upcoming and decisions on wholesale rates from the CRTC pending, we expect telco valuations in the Canadian telecom landscape to remain stable, as consensus believe that CRTC will act in the best interest of the Big 3 in order to sustain continued capital investments into the Canadian landscape for future years to come. The impact of having the Big 3 taper back large CAPEX projects will be a detriment to the already COVID-beaten Canadian economy. Valuations across the industry should remain consistent as telecom is a heavily regulated sector. Key risks to our valuation include any government regulation that can affect the overall ARPU generated by the incumbents. Overall, we see the healthy trading multiples with generous dividend yields across the Canadian telco players which should give investors confidence in investing in a resilient and steady growth industry like telecom.

Exhibit 3: North American Telecom Comparable Companies Analysis							
(Figures in mm CAD)	Ticker	Enterprise Value (\$)	2020E EV/EBITDA	2021E EV/EBITDA	Dividend Yield	2019A FCF Yield	2020E FCF Yield
Canadian Telco							
BCE Inc.	TSX:BCE	73,867	7.7 x	7.4 x	6.3%	8.2%	6.4%
Telus Corporation	TSX:T	50,819	8.9 x	8.3 x	4.7%	1.7%	6.5%
Rogers Communications Inc.	TSX:RCI.B	43,362	7.4 x	7.1 x	3.5%	-0.4%	8.8%
Shaw Communications	TSX:SJR.B	15,588	6.5 x	6.4 x	5.2%	-1.2%	5.9%
Quebecor Inc.	TSX:QBR.A	14,273	7.6 x	7.4 x	2.5%	3.7%	3.9%
Cogeco Inc.	TSX:CCA	8,296	7.2 x	6.8 x	2.2%	N/A	N/A
Peer Median			7.5 x	7.3 x	4.1%	1.7%	6.4%
Peer Average			7.6 x	7.2 x	4.1%	2.4%	6.3%
U.S. Telcos							
AT&T Inc.	NYSE:T	446,304	6.4 x	6.4 x	5.7%	15.0%	16.7%
Comcast Corporation	NASDAQ:CMCS.A	431,472	11.0 x	10.4 x	1.5%	4.9%	4.7%
Verizon Communications Inc.	NYSE:VZ	413,861	6.9 x	6.7 x	3.6%	5.4%	5.7%
Altice USA, Inc.	NYSE:ATUS	57,989	10.3 x	10.1 x	0.0%	7.9%	9.9%
Peer Median			8.6 x	8.4 x	1.8%	6.7%	7.8%
Peer Average			8.6 x	8.4 x	1.8%	6.7%	7.8%
Big 3 Canadian Telcos							
BCE Inc.	TSX:BCE	73,867	7.7 x	7.4 x	6.3%	8.2%	6.4%
TELUS Corporation	TSX:T	50,819	8.9 x	8.3 x	4.7%	1.7%	6.5%
Rogers Communications Inc.	TSX:RCI.B	43,362	7.4 x	7.1 x	3.5%	-0.4%	8.8%
Peer Median			7.7 x	7.4 x	4.7%	1.7%	6.5%
Peer Average			8.0 x	7.6 x	4.8%	3.2%	7.2%

Source: Company Websites, S&P Capital IQ, Bloomberg. Priced as of market close Feb 12, 2021.

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TELUS Corporation (TSX:T)

Telecommunications

TELL US MORE

February 2021

TELUS Corporation ("TELUS" or "the Company") is a world-leading communications and information technology company with \$14.7 billion in annual revenue and 15.2 million customer connections. The company bolsters an impressive 4.7% dividend yield and strong FCF generation.

Internal Analysis – Pivoting in Times of Uncertainty

Telus has shifted its business model to diversify into different industries steering away from its traditional wireline and wireless segments. The recent announcements of Telus Agriculture (TAG) and plays in TELUS Health (TH) show resilience and innovation in the company's business model, moving towards a more tech focused and high-growth sector. We expect weaker EBITDA growth in the wireless segment to be offset by stronger growth in the wireline segment. As vaccine-led recoveries begin in 2021, we expect wireless to pick back up as roaming, data usage, and other spending related to consumer travel start to pick up.

External Analysis – Wireless Down, but Tech on the Rise

Canadian Wireless industry remains under pressure in Q3 2021 as lower mobile data usage and minimal roaming impacts wireless revenue. With more Canadians staying indoors, we see stronger wireline performance as the sales mix shifts from wireless to wireline as customers upgrade their broadband services. Overall, we see TELUS' market share relatively insulated with 2% decline in overall ABPU and ARPU being compensated by increases in high-growth segments such as TELUS Health.

Valuation – Target Price C\$30.00 and upside of 10.5%

Overall, we based our valuation off fundamental analysis, with expectations of 7.8% consolidated revenue growth for 2021 due primarily to assumptions for inorganic growth in their Wireline segment. We expect EBITDA margins to be a little lower than consensus as integration costs of newly announced M&A will lead to margin erosion.

Analyst: Jason Van, BCom. '21 contact@westpeakresearch.com

Equity Research	Canada/US
Price Target	CAD\$ 30.00
Rating	Hold
Share Price (Feb. 11 Close)	CAD\$ 26.85
Total Return	10.5%
Key Statistics	
52 Week H/L	\$27.54/\$18.55
Market Capitalization	\$34,673M
Average Daily Trading Volume	\$2.70M
Total Debt	\$20,388M
Enterprise Value	\$51,837M
Total Debt/EBITDA	3.7x
Diluted Shares Outstanding	\$33M
Free Float	99.9%
Dividend Yield	4.6%
WestPeak's Forecast	

2019A 2020E Revenue \$14.7B \$15.5B

Revenue	\$14.7B	\$15.5B	\$16.7B
EBITDA	\$5.7B	\$5.7B	\$6.1B
Net Income	\$1.7B	\$1.4B	\$1.6B
EPS	\$1.45	\$1.15	\$1.30
P/E	18.6x	23.7x	20.7x
EV/EBITDA	9.3x	9.3x	8.7x

1-Year Price Performance



2021E



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