

Spring Ahead 2021: Software Value Springs Ahead, Growth Falls Back

Enterprise Software

Mark R Murphy^{AC}

(415) 315-6736

mark.r.murphy@jpmorgan.com

in alphabetical order:

Pinjalim Bora, CFA

(415) 315-6764

pinjalim.bora@jpmorgan.com

Matthew J Coss

(415) 315-7505

matthew.j.coss@jpmorgan.com

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Introduction



Mark R. Murphy

- *Covering the Enterprise Software industry since 1997*
- *Over 20 years of experience*
- *Cornell University*

in alphabetical order:

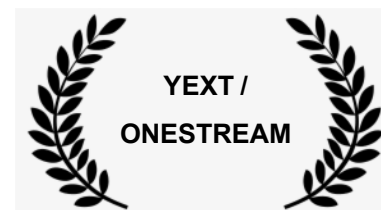
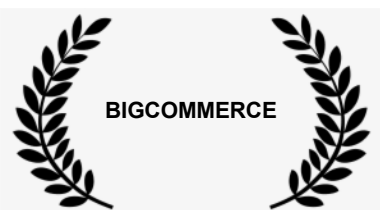
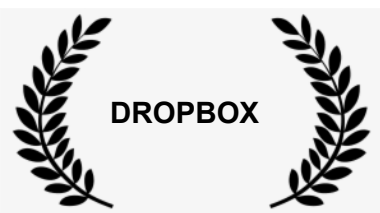
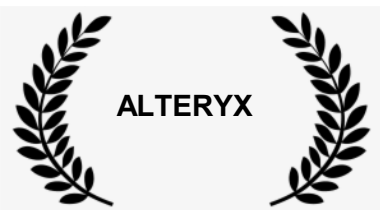
Pinjalim Bora, CFA

- *Covering Enterprise Software since 2010 at Piper Jaffray*
- *Software Engineer at Oracle and Satyam*
- *Ohio State Univ. MBA and NIT Jamsedpur, Mechanical Eng B.S.*

Matthew J. Coss

- *Covering Enterprise Software since 2004 at Pacific Crest and Piper Jaffray*
- *BYU, Business Management B.S.*

Looking Ahead to the TMC Conference: Solid Software Lineup

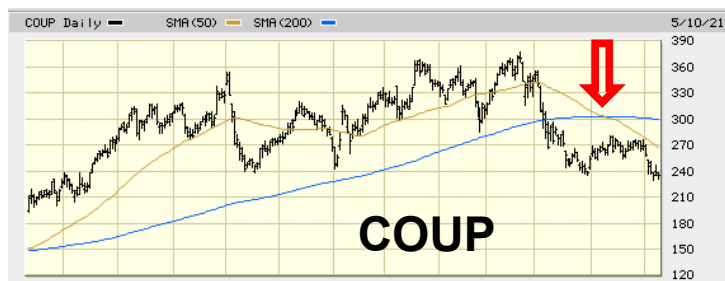


JPM Strategists Less Bullish, Sensing Inflation & Value Rotation

- “For the last twelve months, we have been aggressively pushing the upside case for equities ([Market Update Mar’20](#)). Going into this year, we argued for a continued melt-up with S&P 500 reaching 4,000 in 1Q and the majority of the upside to our year-end PT of 4,400 being realized during 1H, see [2021 Outlook](#). While we think the equity and business cycles should remain intact on global reopening and strong earnings recovery, easy equity gains for the broad market are likely behind us. Our bullish conviction is now lower. **As the second phase of global reopening gets confirmed by a pickup in mobility and pent-up demand, we expect yields to retrace higher thereby constraining the equity multiple with S&P 500 entering a period of consolidation.** On March 8th, we argued the risk-reward for the Growth trade had tactically improved after the February Momentum crash and Growth de-risking (see [Momentum Unwind](#)). Since then Growth has strongly outperformed, but mainly defensive/bond-proxy Growth, making this segment again vulnerable to rates.”

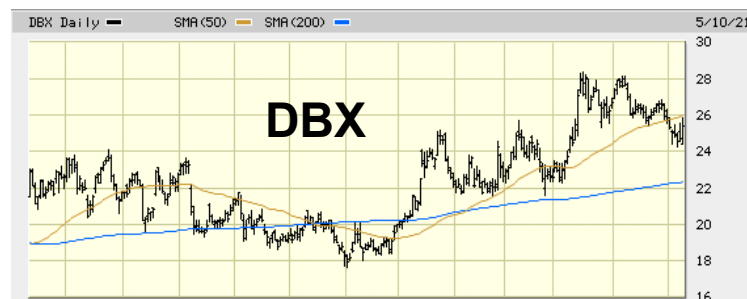
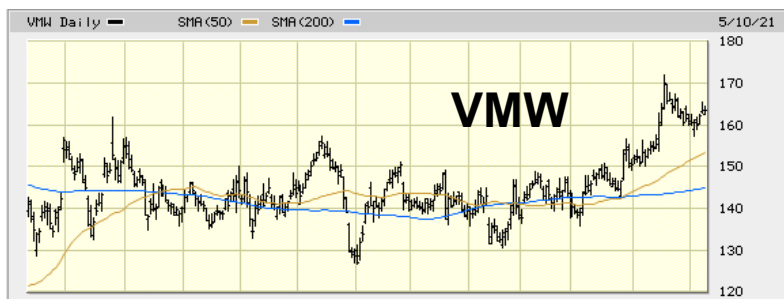
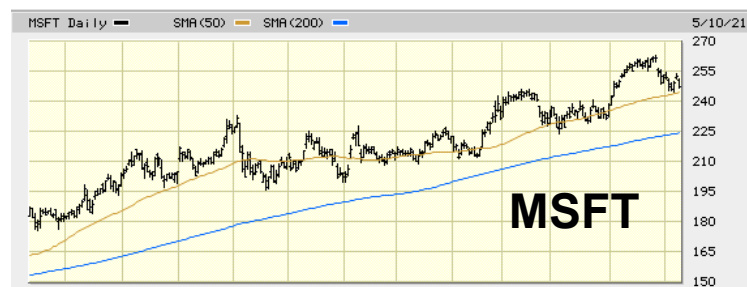
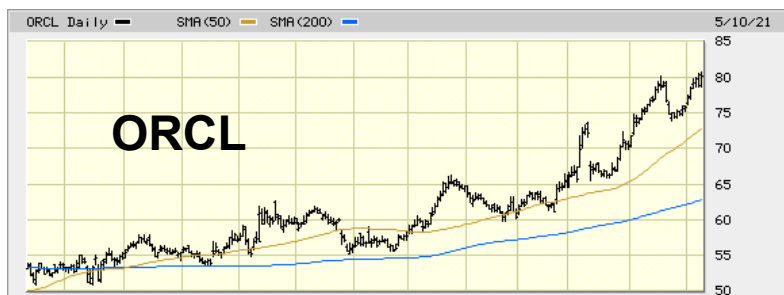
- - Dubravko Lakos-Bujas,
- Head of US Equity Strategy and Global Quantitative Research
- “Market Update, Impact of Higher Corporate Tax and
- Infrastructure Spending Plan” – 23 April 2021

Bears Are in Control: High Multiple Software Lacking CF Support



Source: FactSet

Bulls Are in Control: Value or Software Producing CF TODAY



We Outlined Risk of the Reflation / Rotation Trade >6 Months Ago

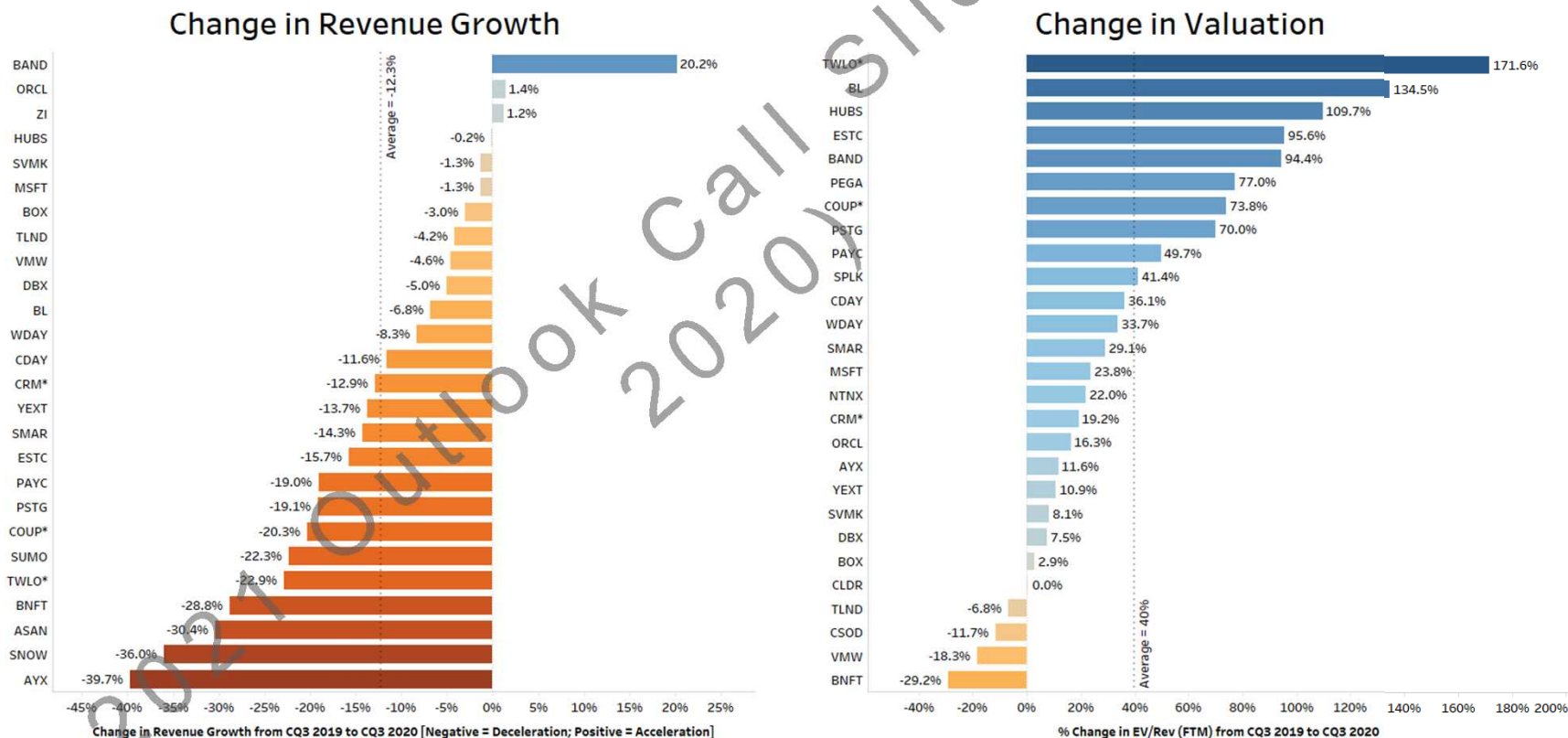
- From [*"The Cloud is Visible, but the Fog is Thick"*](#), published 11.3.20:
- ***"Investors are increasingly mentioning to us their concern about potential rotation out of software and into broader segments of the physical economy as GDP growth slowly improves, even if software businesses execute well. The possibility of a Blue Wave has further increased concerns of a large Infrastructure spending package which would give investors "other things to look at" as investors have mentioned "machinery, cement, roads and bridges," and supposedly creates uplift on inflation and interest rates, which harms the output of 25-year software DCF models. Many investors also seem to appreciate the difficulty of nailing sector-rotation calls and see a wide array of combinations for the election outcome, and as such we are bracing for a potentially volatile period."***

Recapping the Key Points from Our [Outlook report](#) (December)

- JPM strategists see a robust backdrop for Equities next year, with Trade War / Pandemic / US Election uncertainty clearing into a business cycle recovery and “market nirvana” scenario driving a “melt-up”, particularly in 1H:21.
- We view the setup as more complicated in Software, as the Recovery starts from All-Time Valuation Highs for SaaS/Subscription models. “Market Nirvana” and “Melt-Up” already happened in this category, this year.
- ...Driven by unusual exuberance in the sub-segment of SMID cap growth names trading at 20-100x CY21E revs.
- **Pandemic Trade Over, Recovery Trade Beginning.** We see potential for ownership to broaden out in 2021: both flowing out of Software into non-Digital segments of the economy, and flowing out of Pandemic-Driven Software into cycle-recovery Software.
- Align to category leaders with realizable cash flow support, healthy Rule of 40 balance, and/or survey-validated catalysts – while reconsidering a few laggards with recovery potential post-vaccinations.
- We reaffirm “Software is eating the world” and “Tech is breaking out of tech” as long-term durable drivers.
- Favor our **Fab Five** elite CIO Survey performers (AMZN, MSFT, GOOGL, CRM, NOW) and appreciate the gravitational pull of the 3 “Black Hole” Infrastructure clouds (Azure/AWS/GCP).

The End Result: Growth Cratered, Multiples Surged

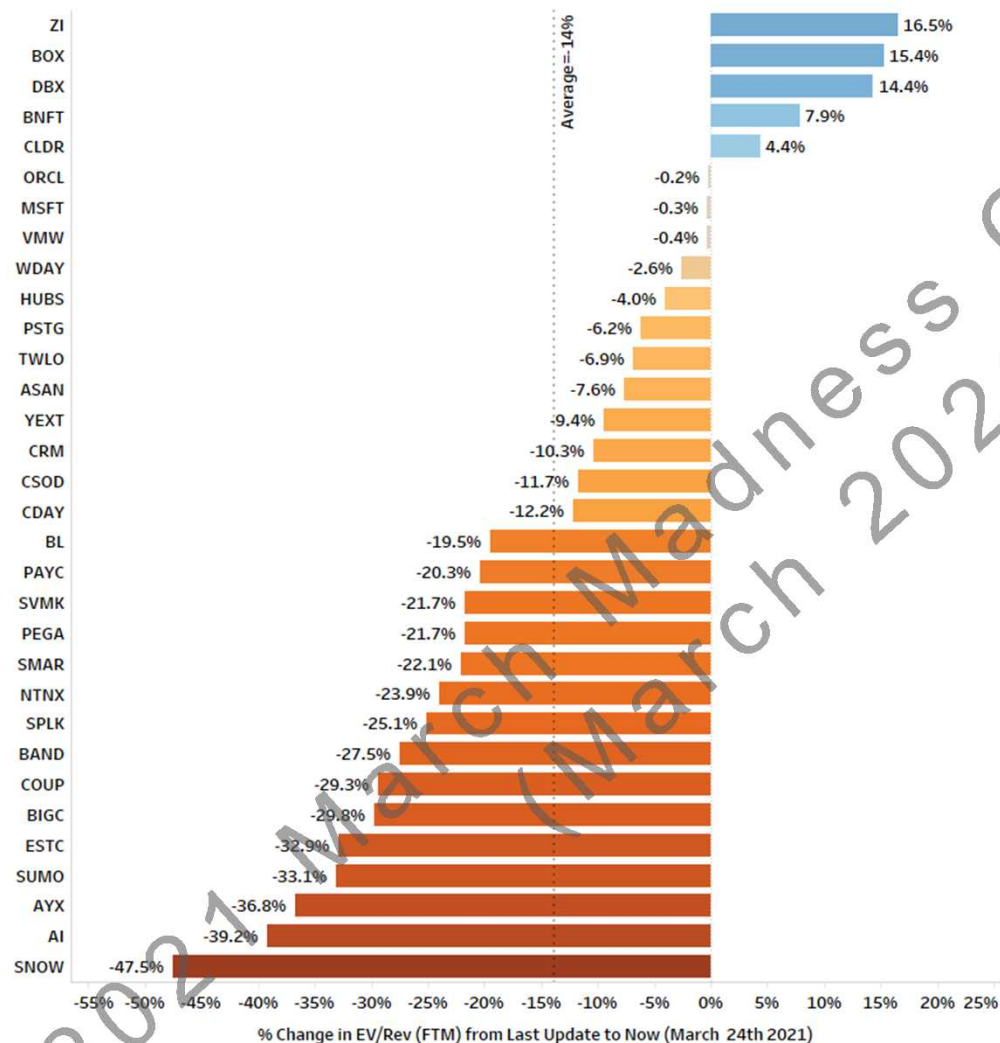
- **Within our coverage, revenue growth slowed by 12 points from Q3:19 to Q3:20, while valuations expanded by 40% in the last 10 months since.**
- 12 points of decel is a lot for a sector growing 25-35%, but net-new bookings decelerated much more severely in most cases.



*Note: (1) Chart on left excludes merger-of-equals (CLDR/HDP and CSOD/SABA) and significant model transitions (SPLK, PEGA, NTNX). (2) Chart on left shows reported revenue growth rates which may vary from organic underlying growth rates due to acquisitions or the lapping of acquisitions. For example, we estimate CRM organically slowed 3 points y/y in Q3 while we estimate TWLO slowed 6 points. (3) Chart on the right excludes recent IPOs such as SNOW, SUMO, ASAN and ZI, which were not publicly traded as of the end of February, 2020.

Source: Bloomberg Finance L.P.

Recent Software Multiple Contraction



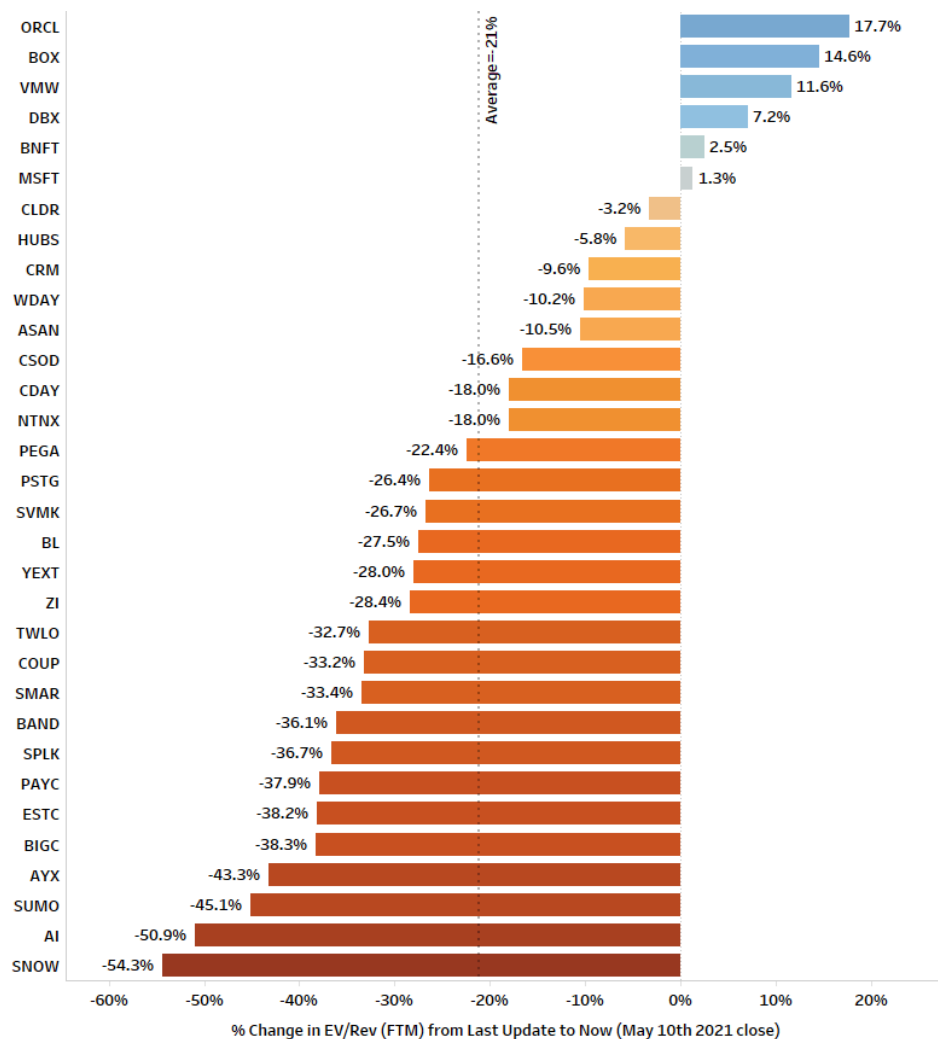
Key Takeaways

- Since our outlook call in mid-December, where we depicted the surge in multiples as revenue slowed, software multiples in our coverage have dropped by 14%, on average, with some rotation toward companies with cash flow support or which could be cycle-recovery plays within Software.

*Note: (1) Chart on the right excludes recent IPOs such as SNOW, SUMO, ASAN and ZI, which were not publicly traded as of the end of February, 2020; (2) The chart on the left excludes TLND which has seen its multiple expand due to the announcement of its proposed acquisition by PE.

Source: Bloomberg Finance L.P.

Recent Software Multiple Contraction



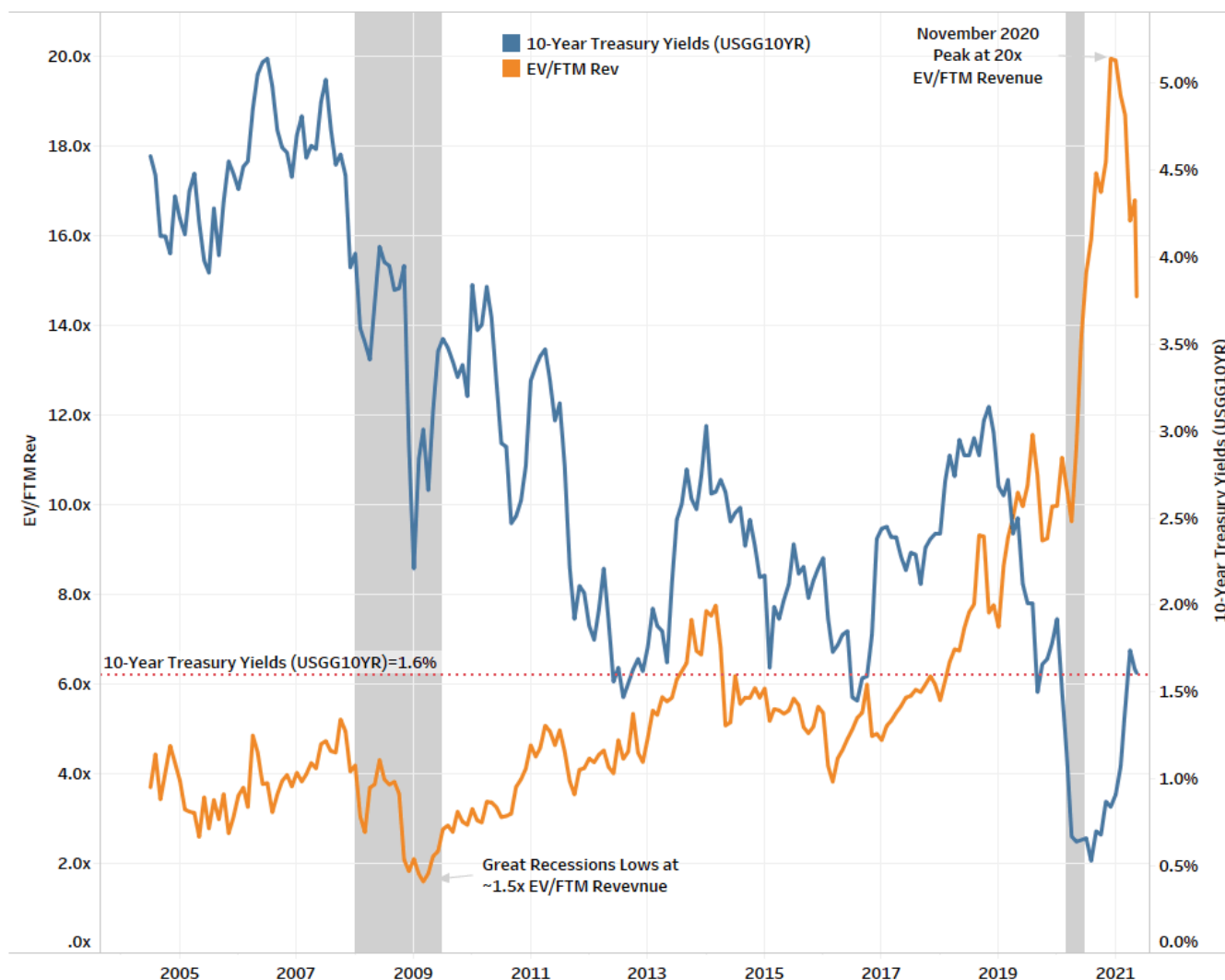
Key Takeaways

- *Since our outlook call in mid-December, where we depicted the surge in multiples as revenue slowed, software multiples in our coverage have dropped by 21%, on average, with some rotation toward companies with cash flow support or which could be cycle-recovery plays within Software.*

*Note: (1) Chart on the right excludes recent IPOs such as SNOW, SUMO, ASAN and ZI, which were not publicly traded as of the end of February, 2020; (2) The chart on the left excludes TLND which has seen its multiple expand due to the announcement of its proposed acquisition by PE.

Source: Bloomberg Finance L.P.

EV/FTM Rev vs. 10Y Treasury Yields



Key Takeaways

- This chart looks at the average EV/FTM sales multiple for ~80 SaaS companies since mid-2004.
- Additionally, we have layered on the 10-year treasury yield for the same time period to show the impact of rates on software valuation.
- **Since peaking in Nov 2020 at ~20x, average multiples have fallen to 14.7x as of yesterday's close.**

Source: Bloomberg Finance L.P. Tickers include APTI, ARBA, ASAN, ATHN, AVLK, BIGC, BILL, BL, BNFT, BOX, CALD, CDAY, CISN, CNQR, CNVO, COUP, CRM, CSOD, CTCT, CVT, DBX, DCT, DDOG, DOCU, DOMO, DT, DWRE, ELOQ, EVBG, FIVN, FLT, HUBS, IL, JAMF, KNXA, LOGM, LPSN, MDLA, MDSO, MKTG, MKTO, N, NCNO, NOW, OKTA, OPWR, PAYC, PCTY, PD, PLAN, PS, QTWO, RALY, RNG, RNOW, RP, SAAS, SEND, SFSF, SHOP, SMAR, SLRY, SNCR, SNOW, SPSC, SPT, SQI, SUMO, SVMK, TEAM, TLEO, TRAK, TXTR, TWLO, ULTI, VEEV, VOCS, WEBX, WDAY, WK, WORK, XM, YEXT, ZEN, ZI, ZM, ZS, ZUO.

Our Software Coverage – Valuations from 3 Years Ago

J.P. Morgan Software Coverage

Ticker	Company	Price (03/23/18)	Mkt Cap (\$M) ↓	EV (\$M)	FTM Rev	CY18E Rev	CY19E Rev	% Recurring Rev ¹	EV/Rev (FTM)	EV/Rev (CY18E)	EV/Rev (CY19E)	EV/RR ~FTM ²	FTM Rev Growth	FTM Op Mgn (GAAP)	Growth + Margin	CY18E EPS	CY19E EPS	P/E (CY18E)	P/E (CY19E)	EV/OCF (FTM)
MSFT	Microsoft	87.18	680,876	627,356	109,876	109,876	119,012	48%	5.7x	5.7x	5.3x	12.0x	7%	31%	38%	3.71	4.02	23x	22x	14x
ORCL	Oracle	44.79	189,730	179,990	40,286	40,103	41,038	73%	4.5x	4.5x	4.4x	6.2x	2%	34%	36%	3.22	3.36	14x	13x	12x
CRM	salesforce.com	114.43	85,761	82,959	12,630	12,630	14,860	93%	6.6x	6.6x	5.6x	7.1x	21%	5%	25%	2.02	2.42	57x	47x	26x
VMW	VMware	122.06	50,056	42,637	8,719	8,719	9,129	58%	4.9x	4.9x	4.7x	8.4x	10%	22%	32%	5.98	6.24	20x	20x	12x
WDAY	Workday	127.64	30,272	28,495	2,675	2,675	3,170	84%	10.7x	10.7x	9.0x	12.7x	25%	-12%	13%	1.04	1.33	nm	96x	48x
RHT	Red Hat	147.90	26,925	25,483	3,215	3,316	3,688	88%	7.9x	7.7x	6.9x	9.0x	16%	16%	32%	3.15	3.56	47x	42x	27x
SPLK	Splunk	102.45	15,276	14,111	1,623	1,623	2,000	57%	8.7x	8.7x	7.1x	15.3x	28%	-13%	15%	0.90	1.34	nm	76x	47x
NTNX	Nutanix	49.92	9,000	8,497	1,214	1,214	1,475	22%	7.0x	7.0x	5.8x	31.6x	19%	-20%	-1%	(0.50)	(0.05)	nm	nm	96x
ULTI	Ultimate Software	241.70	7,469	7,304	1,112	1,112	1,306	85%	6.6x	6.6x	5.6x	7.7x	18%	5%	23%	5.26	6.18	46x	39x	32x
DATA	Tableau	81.41	6,879	6,025	945	945	1,049	60%	6.4x	6.4x	5.7x	10.6x	8%	-23%	-16%	0.12	0.37	nm	nm	26x
MULE	MuleSoft	43.83	6,402	6,057	410	410	528	80%	14.8x	14.8x	11.5x	18.6x	38%	-19%	19%	(0.29)	(0.22)	nm	nm	nm
PAYC	Paycom	106.79	6,285	6,274	543	543	662	98%	11.6x	11.6x	9.5x	11.8x	25%	28%	53%	2.38	2.73	45x	39x	31x
HUBS	HubSpot	111.60	4,462	4,256	483	483	576	95%	8.8x	8.8x	7.4x	9.2x	29%	-8%	21%	0.57	0.78	nm	nm	68x
TWLO	Twilio	39.93	4,164	3,870	511	511	606	0%	7.6x	7.6x	6.4x	nm	28%	-11%	17%	(0.12)	0.04	nm	nm	nm
CLDR	Cloudera	20.29	3,531	3,065	421	445	533	83%	7.3x	6.9x	5.8x	8.8x	25%	-61%	-36%	(0.66)	(0.49)	nm	nm	nm
BOX	Box	20.89	3,252	3,084	590	605	732	96%	5.2x	5.1x	4.2x	5.4x	23%	-24%	-1%	(0.18)	(0.11)	nm	nm	56x
COUP	Coupa	46.62	2,904	2,654	231	231	284	87%	11.5x	11.5x	9.3x	13.3x	23%	-31%	-8%	(0.19)	(0.04)	nm	nm	95x
CSOD	Cornerstone	39.17	2,445	2,318	507	507	566	81%	4.6x	4.6x	4.1x	5.7x	5%	-3%	2%	0.93	1.30	42x	30x	27x
AYX	Alteryx	35.32	2,216	2,042	179	179	229	95%	11.4x	11.4x	8.9x	12.0x	36%	-15%	20%	(0.27)	(0.14)	nm	nm	nm
BL	BlackLine	38.64	2,163	2,051	222	222	275	95%	9.2x	9.2x	7.5x	9.7x	26%	-16%	10%	0.01	0.07	nm	nm	nm
SEND	SendGrid	29.64	1,562	1,387	140	140	175	0%	9.9x	9.9x	7.9x	nm	25%	-5%	21%	0.06	0.09	nm	nm	nm
TLND	Talend	48.52	1,527	1,441	201	201	254	85%	7.2x	7.2x	5.7x	8.5x	35%	-13%	22%	(0.45)	(0.38)	nm	nm	nm
YEXT	Yext	12.64	1,371	1,253	225	225	290	100%	5.6x	5.6x	4.3x	5.6x	32%	-27%	5%	(0.45)	(0.39)	nm	nm	nm
APTI	Apprio	28.74	1,302	1,153	221	221	250	81%	5.2x	5.2x	4.6x	6.4x	17%	-11%	7%	(0.00)	0.18	nm	nm	nm

Source: Bloomberg, CapitalIQ, J.P. Morgan estimates.

¹ Includes Subscription and Maintenance revenue, as well as estimates for ELAs and term licenses, if not directly disclosed.

² Proxy for FTM Recurring Revenue = (Most Recent Quarter % Recurring Revenue) * FTM Consensus Revenue

Note: CY19E estimates are provided by Bloomberg, Capital IQ where JPM estimates aren't yet available.

Source: Bloomberg Finance L.P., CapitalIQ, company reports, J.P. Morgan estimates

Largest Software Companies – Valuations from 4.5 Years Ago

Broad Enterprise Software (1/3) - Sorted by Market Cap

Ticker	Company	Price (08/22/16)	Mkt Cap (\$M) ↓	EV (\$M)	FTM Rev	CY16E Rev	CY17E Rev	EV/Rev (FTM)	EV/Rev (CY16E)	EV/Rev (CY17E)	TM Rev Growth	FTM Op Mgn (GAAP)	Growth + Margin	CY16E EPS	CY17E EPS	P/E (CY16E)	P/E (CY17E)	FTM OCF	EV/OCF (FTM)
All Software			10,894	10,017	2,291	2,212	2,392	4.4x	4.7x	4.0x	15%	8%	23%			34x	32x		26x
Pure-Play Cloud Vendors			8,613	8,194	1,294	1,218	1,466	6.2x	6.8x	5.5x	24%	-5%	19%			63x	53x		37x
Large Cap (>\$10B Market Cap)			60,901	55,251	12,415	12,049	12,793	5.3x	5.5x	4.8x	12%	22%	34%			30x	27x		18x
SMid Cap (<\$10B Market Cap)			2,560	2,478	603	572	642	4.3x	4.6x	3.9x	16%	6%	21%			36x	33x		28x
MSFT	Microsoft	57.61	456,790	397,237	94,926	92,071	94,926	4.2x	4.3x	4.2x	3%	28%	32%	2.85	3.08	20x	19x	34,379	12x
ORCL	Oracle	41.24	174,775	162,505	38,569	37,667	39,101	4.2x	4.3x	4.2x	4%	34%	37%	2.70	2.96	15x	14x	13,065	12x
SAP	SAP SE	77.46	92,879	96,009	22,735	22,483	23,958	4.2x	4.3x	4.0x	7%	30%	37%	3.78	4.23	21x	18x	5,258	18x
CRM	salesforce.com	77.23	53,041	50,421	8,543	8,179	9,683	5.9x	6.2x	5.2x	21%	3%	24%	1.02	1.21	76x	64x	2,046	25x
ADBE	Adobe	100.29	50,619	48,189	6,384	5,899	7,160	7.5x	8.2x	6.7x	20%	33%	54%	2.93	3.87	34x	26x	2,101	23x
VMW	VMware	72.87	31,123	23,958	6,892	7,003	7,358	3.5x	3.4x	3.3x	4%	22%	25%	4.31	4.68	17x	16x	2,341	10x
INTU	Intuit	112.53	29,258	28,617	4,993	4,778	5,256	5.7x	6.0x	5.4x	8%	34%	42%	3.86	4.48	29x	25x	1,316	22x
CERN	Cerner	64.62	22,231	22,096	5,182	4,928	5,439	4.3x	4.5x	4.1x	13%	24%	37%	2.36	2.69	27x	24x	1,125	20x
WDAY	Workday	79.17	16,855	15,289	1,646	1,549	1,983	9.3x	9.9x	7.7x	31%	-22%	9%	0.01	0.11	nm	nm	331	46x
SYMC	Symantec	23.70	14,694	11,623	4,301	3,850	4,481	2.7x	3.0x	2.6x	20%	28%	48%	1.01	1.55	23x	15x	854	14x
ADSK	Autodesk	63.26	14,196	12,873	2,002	2,038	2,300	6.4x	6.3x	5.6x	-15%	-11%	-26%	(0.65)	(0.09)	nm	nm	22	nm
CA	CA	34.04	14,127	13,439	4,057	4,049	4,094	3.3x	3.3x	3.3x	0%	38%	38%	2.50	2.58	14x	13x	1,071	13x
CTXS	Citrix	87.53	13,713	12,817	3,409	3,388	3,487	3.8x	3.8x	3.7x	1%	30%	31%	5.06	5.48	17x	16x	1,177	11x
RHT	Red Hat	74.09	13,645	12,345	2,382	2,307	2,612	5.2x	5.3x	4.7x	16%	15%	31%	2.13	2.41	35x	31x	820	15x
CHKP	Check Point	75.44	13,188	9,480	1,771	1,726	1,832	5.4x	5.5x	5.2x	5%	53%	58%	4.46	4.85	17x	16x	988	10x
NOW	ServiceNow	71.28	12,118	11,567	1,571	1,377	1,784	7.4x	8.4x	6.5x	32%	13%	45%	0.65	1.02	nm	70x	515	22x
PANW	Palo Alto Networks	137.43	12,066	10,799	1,696	1,544	2,020	6.4x	7.0x	5.3x	34%	19%	54%	2.03	2.98	68x	46x	685	16x
VRSN	VeriSign	75.11	9,808	9,769	1,149	1,139	1,176	8.5x	8.6x	8.3x	4%	63%	67%	3.49	3.78	22x	20x	684	14x
AKAM	Akamai	52.84	9,321	8,350	2,427	2,320	2,553	3.4x	3.6x	3.3x	7%	25%	32%	2.57	2.86	21x	18x	827	10x
SNPS	Synopsys	58.49	9,001	8,189	2,506	2,442	2,559	3.3x	3.4x	3.2x	5%	24%	29%	3.07	3.29	19x	18x	505	16x
DOX	Amdocs	58.88	8,874	7,749	3,821	3,746	3,893	2.0x	2.1x	2.0x	3%	17%	20%	3.61	3.80	16x	16x	653	12x
SPLK	Splunk	63.81	8,722	7,699	946	894	1,123	8.1x	8.6x	6.9x	30%	-39%	-9%	0.29	0.42	nm	nm	214	36x
N	NetScuite	108.72	8,787	8,698	1,009	958	1,171	8.6x	9.1x	7.4x	27%	-11%	16%	0.43	0.54	nm	nm	157	55x
ANSS	ANSYS	97.46	8,704	7,860	1,032	998	1,071	7.6x	7.9x	7.3x	7%	48%	55%	3.63	3.91	27x	25x	413	19x
OTEX	Open Text	62.41	7,615	8,448	2,111	1,959	2,164	4.0x	4.3x	3.9x	16%	33%	49%	3.63	4.45	17x	14x	536	16x
CDNS	Cadence	24.94	7,362	7,351	1,856	1,820	1,925	4.0x	4.0x	3.8x	5%	25%	30%	1.21	1.36	21x	18x	461	16x
CSGP	CoStar Group	206.79	6,710	6,571	892	839	953	7.4x	7.8x	6.9x	13%	29%	42%	3.93	5.47	53x	38x	139	47x
SSNC	SS&C	31.61	6,477	8,983	1,606	1,519	1,650	5.6x	5.9x	5.4x	26%	39%	65%	1.61	1.94	20x	16x	355	25x
TEAM	Alassian	28.99	6,218	5,475	598	523	667	9.2x	10.5x	8.2x	31%	15%	46%	0.12	0.37	nm	79x	100	55x
ULTI	Ultimate Software	206.60	6,177	6,072	857	778	940	7.1x	7.8x	6.5x	22%	5%	28%	3.26	3.93	63x	53x	144	42x

Source: Bloomberg Finance L.P., CapitalIQ, company reports, J.P. Morgan estimates

Largest Software Companies – Valuations Today

Broad Enterprise Software (1/4) - Sorted by Market Cap

Ticker	Company	Price (05/07/21)	Mkt Cap (\$M)	EV (\$M)	FTM Rev	CY21E Rev	CY22E Rev	EV/Rev (FTM)	EV/Rev (CY21E)	EV/Rev (CY22E)	FTM Rev Growth	FTM Op Mgn (GAAP)	Growth + Op Margin (FTM)	CY21E EPS	CY22E EPS	P/E (CY21E)	P/E (CY22E)	EV/OCF (FTM)	EV/FCF (FTM)	EV/FCF ex-SBC (FTM)
All Software			36,289	35,724	3,496	3,434	3,854	12.2x	12.5x	10.4x	19%	6%	24%			53x	51x	45x	47x	80x
Pure-Play Cloud Vendors			19,524	18,906	1,433	1,410	1,690	15.7x	16.0x	12.8x	27%	-5%	22%			62x	60x	58x	53x	80x
Large Cap (>\$10B Market Cap)			75,659	74,512	7,132	7,004	7,805	16.1x	16.6x	13.5x	21%	13%	34%			51x	52x	45x	48x	53x
SMid Cap (<\$10B Market Cap)			3,878	3,792	504	496	560	8.9x	9.1x	7.8x	17%	0%	16%			56x	51x	44x	46x	55x
MSFT	Microsoft	252.46	1,917,939	1,850,590	180,459	176,258	194,638	10.3x	10.5x	9.5x	13%	40%	53%	7.87	8.58	32x	29x	nm	32x	35x
ORCL	Oracle	80.40	240,718	274,153	40,748	40,748	41,910	6.7x	6.7x	6.5x	3%	38%	41%	4.57	4.95	18x	16x	19x	22x	25x
ADBE	Adobe	488.73	236,008	235,752	15,862	15,607	17,889	14.9x	15.1x	13.2x	16%	44%	60%	11.93	13.84	41x	35x	36x	37x	43x
CRM	salesforce.com	216.50	214,097	204,804	25,704	25,704	30,267	8.0x	8.0x	6.8x	21%	3%	24%	3.46	4.03	62x	54x	38x	44x	47x
SHOP	Shopify	1,108.60	140,431	132,007	4,652	4,383	5,799	28.4x	30.1x	22.8x	35%	8%	43%	4.15	4.69	nm	nm	nm	nm	nm
SAP	SAP SE	117.36	138,485	139,723	27,536	27,193	28,295	5.1x	5.1x	4.9x	1%	29%	31%	5.12	5.10	23x	23x	21x	25x	31x
INTU	Intuit	401.04	109,484	109,526	9,961	9,743	10,839	11.0x	11.2x	10.1x	29%	34%	63%	8.95	10.09	45x	40x	39x	36x	42x
NOW	ServiceNow	483.51	97,799	95,066	6,066	5,742	7,174	15.7x	16.6x	13.3x	25%	23%	49%	5.50	7.07	88x	68x	36x	56x	129x
ZM	Zoom Video	295.24	88,753	84,601	3,827	3,784	4,547	22.1x	22.4x	18.6x	44%	31%	75%	3.76	3.96	79x	75x	49x	60x	78x
SNOW	Snowflake	206.04	74,236	69,163	1,093	1,093	1,755	63.3x	63.3x	39.4x	85%	-52%	33%	(0.67)	(0.68)	nm	nm	nm	nm	nm
VMW	VMware	163.41	69,092	69,364	12,700	12,700	13,695	5.5x	5.5x	5.1x	8%	18%	26%	6.67	7.41	24x	22x	18x	21x	31x
ADSK	Autodesk	285.76	63,582	63,829	4,311	4,256	5,039	14.8x	15.0x	12.7x	14%	32%	45%	4.85	6.97	59x	41x	38x	38x	50x
WDAY	Workday	236.71	59,674	57,934	4,980	4,980	5,776	11.6x	11.6x	10.0x	15%	-8%	7%	2.75	3.11	86x	76x	48x	67x	nm
TEAM	Atlassian	219.63	56,034	55,153	2,254	2,212	2,591	24.5x	24.9x	21.3x	15%	20%	35%	1.35	1.64	nm	134x	26x	94x	nm
TWLO	Twilio	307.15	55,471	50,982	2,615	2,483	3,165	19.5x	20.5x	16.1x	32%	-31%	1%	(0.35)	(0.17)	nm	nm	nm	nm	nm
CRWD	CrowdStrike	189.18	55,159	54,017	1,319	1,283	1,699	40.9x	42.1x	31.8x	51%	8%	59%	0.30	0.55	nm	nm	28x	nm	nm
VEEV	Veeva	259.96	42,116	40,515	1,765	1,739	2,065	23.0x	23.3x	19.6x	20%	37%	58%	3.21	3.77	81x	69x	66x	61x	72x
SNPS	Synopsys	241.84	38,036	37,669	4,110	4,083	4,436	9.2x	9.2x	8.5x	8%	30%	37%	6.38	7.34	38x	33x	28x	34x	44x
DOCU	DocuSign	195.28	36,853	36,049	1,974	1,932	2,484	18.3x	18.7x	14.5x	36%	-20%	16%	1.29	1.86	nm	105x	nm	106x	nm
CDNS	Cadence	129.05	36,152	35,756	2,942	2,916	3,139	12.2x	12.3x	11.4x	5%	35%	40%	3.04	3.33	42x	39x	37x	38x	45x
FTNT	Fortinet	211.77	35,239	33,193	3,225	3,109	3,608	10.3x	10.7x	9.2x	18%	26%	44%	3.74	4.31	57x	49x	29x	30x	36x
CSGP	CoStar Group	850.67	33,492	30,905	2,021	1,944	2,251	15.3x	15.9x	13.7x	17%	32%	49%	11.27	14.51	75x	59x	8x	55x	60x
TTD	Trade Desk	661.43	32,909	32,577	1,193	1,128	1,472	27.3x	28.9x	22.1x	43%	19%	62%	5.16	6.70	128x	99x	94x	141x	nm
PANW	Palo Alto Networks	342.34	32,830	32,275	4,557	4,496	5,295	7.1x	7.2x	6.1x	20%	18%	38%	6.01	7.71	57x	44x	23x	25x	nm
OKTA	Okta	237.27	30,878	30,260	1,090	1,066	1,390	27.8x	28.4x	21.8x	30%	-5%	25%	(0.41)	(0.09)	nm	nm	nm	nm	nm
ANSS	ANSYS	332.38	29,245	29,188	1,885	1,855	2,055	15.5x	15.7x	14.2x	8%	41%	49%	7.03	7.90	47x	42x	59x	63x	77x
HUBS	HubSpot	509.66	25,705	25,224	1,309	1,239	1,497	19.3x	20.4x	16.9x	36%	-4%	32%	1.71	2.33	nm	nm	119x	nm	nm
VRSN	VeriSign	222.89	25,253	25,862	1,343	1,322	1,425	19.3x	19.6x	18.1x	5%	64%	69%	5.42	6.31	41x	35x	31x	33x	35x
WORK	Slack	41.23	24,598	23,854	1,178	1,154	1,473	20.2x	20.7x	16.2x	31%	-2%	28%	(0.04)	0.02	nm	nm	nm	nm	nm
DDOG	Datadog	77.29	23,653	23,708	956	884	1,181	24.8x	26.8x	20.1x	42%	6%	48%	0.14	0.29	nm	nm	nm	nm	nm
CERN	Cerner	76.68	23,620	23,520	5,904	5,805	6,118	4.0x	4.1x	3.8x	8%	21%	29%	3.21	3.61	24x	21x	15x	25x	30x
RNG	RingCentral	257.04	23,297	24,003	1,584	1,504	1,856	15.2x	16.0x	12.9x	25%	10%	35%	1.25	1.57	nm	nm	103x	nm	nm
ZS	Zscaler	169.32	22,862	22,359	738	722	950	30.3x	31.0x	23.5x	38%	10%	48%	0.44	0.78	nm	nm	23x	nm	nm
XM	Qualtrics	35.61	21,013	20,427	1,020	984	1,166	20.0x	20.8x	17.5x	23%	-86%	-62%	(0.10)	(0.09)	nm	nm	nm	nm	nm
SPLK	Splunk	117.82	19,878	20,321	2,521	2,521	2,968	8.1x	8.1x	6.8x	13%	-30%	-17%	(0.55)	(0.34)	nm	nm	nm	nm	nm
SSNC	SS&C	73.35	19,665	25,817	4,940	4,925	5,076	5.2x	5.2x	5.1x	4%	39%	43%	4.67	4.96	16x	15x	13x	24x	25x
PAYC	Paycom	327.58	19,129	18,944	1,102	1,018	1,285	17.2x	18.6x	14.7x	26%	24%	50%	4.19	5.19	78x	63x	58x	87x	143x
AKAM	Akamai	110.81	18,360	18,720	3,493	3,431	3,692	5.4x	5.5x	5.1x	7%	31%	37%	5.51	6.01	20x	18x	nm	22x	27x
COUP	Coupa	237.84	18,317	19,190	700	700	841	27.4x	27.4x	22.8x	29%	-42%	-13%	(0.24)	0.49	nm	nm	nm	nm	nm
ZI	ZoomInfo	42.98	17,364	17,807	717	673	842	24.9x	26.4x	21.1x	35%	24%	60%	0.52	0.64	83x	67x	73x	73x	112x

(cont'd...)

Source: Bloomberg Finance L.P., CapitalIQ, company reports, J.P. Morgan estimates

Positive & Negative Divergences in Recent Months

■ Positive:

- *MSFT (Posi partner survey, 38% Commercial Bookings growth, FY22 margin discussion)*
- *CRM (cRPO upside, cRPO guide-above for FQ1-April, absorbing slack w/ no margin hit)*
- *WDAY (Significant change in tone, record pipeline-generation, cycle-recovery play)*
- *HUBS (Monster upward revision, confident tone, accelerating to 40% growth @ \$1B scale)*
- *XM (46% subscription revenue growth signals leadership in large emerging category)*
- *ZI (Acceleration toward 50% growth, large guide-up, Rule of 78, #1 ranked in 22 G2Crowd grids)*
- *SMAR (Meaningful Billings re-acceleration, strong FY22 top-line guidance, DBNE to improve)*

■ Negative:

- *COUP (Organic revenue growth down to low-20s, organic billings growth teens, more M&A)*
- *AI (Billings down 10% seq, 24% below consensus, RPO down y/y)*
- *AYX (Q4 Bookings miss, Mgmt turnover, Q1 Net-New ARR down y/y)*
- *SUMO (Customer downgrades drive below-consensus FY22 rev guidance)*
- *YEXT (Guiding to 6% growth, 10 points below consensus; brick-and-mortar store impact)*
- *SPACs, Capital Markets Activity, Re-Emergence of “Sell the News” mentality*

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