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THREAD Thoughts on Software I don't post on individual names I own professionally unless they are > \$100bn in market cap. This means I rarely post about individual software names so I thought I'd post about software as a whole.

While some investors love software because of the recurring nature of the revenues, stickiness of the contracts, and high gross margins, what I look for in a software company is the same thing I look for in every company: 1) growth trajectory and 2) eventual earnings power.

I am willing to pay 20+X revenue for a company that is currently unprofitable if I think the revenue base will eventually be many multiples of what it is today and operating margins somewhere in the 20-40% range Long Term.

Internet vs. Software Investors

I've been on the buy side for ~3yrs. Prior to that I was on the SS covering Internet. I did other things before this. It is my belief that in general, few software investors will ever know their names/space as well as an internet investor does.

The knowledge barrier to pick up a GRUB or Z just isn't the same as Kubernetes or anything DevOps. Instead of building 1,000+ row rev tabs like I used to covering Internet (which I think are better for just learning the biz and true drivers rather than modeling precision),

I spend a lot more time just figuring out what a company does, the technology behind it, how customers use it, and where it is going. After 3 years, I'm still learning a lot every day and feel like a novice and I feel like it will probably be this way until the day I retire.

Besides the ease of understanding the concepts, the other reason to like Internet > Software? Consumer is 70% of GDP (this is a little misleading because 30% is not B2B spend but rather Govt + Investment (business Capex) + Export/Import + Interest).

I will fully admit when I first started looking at software, I thought everything was overvalued. And that was when the multiples looked like THIS!

But I quickly learned 2 things:

1) Estimates were way too low (at least for the good companies; see example with OKTA CY20 Rev estimates)

2) Digital tailwinds are strong resulting in growing industry with modest deceleration. This means companies are growing 20 and 30+% for a lot longer

Basic Thesis: Software today is healthier today than it's ever been (and to be fair, you are paying for it!). For non-Software people, think about Windows updates through the 90s and 2000s. Windows 95 -> 98 -> Me -> XP -> Vista.

Multi-year product updates which had many bugs upon release only to be patched later. AND it wasn't clear what Microsoft was trying to do with the updates except update the software to get the next product out (and potentially charge more).

Fast forward to today where software in the cloud is hosted on Infrastructure hosted by AWS/Azure/GCP. Read any software S-1 and you can see the impact AWS has had on software companies (sometimes the AWS bill is a big expense line item but imagine the alternative!).

Why is Cloud important? It reduces FRICTION, which for anyone who reads Ben Thompson knows, is very important. While Ben Thompson uses this chart for the increase in Information flow/access due to Social Media, I think the same can be applied for start up Software companies.

Public Cloud enabled more start-ups, and sure more failed (not a bad thing), but there are just more Great software/tech companies enabled today as a result.

Quotes on why Cloud first is better from Dev Ittycheria of MongoDB:

"I would like to showcase three ways in which Atlas is making us a better company.

1) We are able to increase our pace of innovation with new products, features and capabilities.

2) Give us better insight into how customers use our products

3) Enables us to expand the different ways you go to market, increasing our ability to pursue a larger variety of customers around the world."

The pay-as-you-go model, the low-entry cost, ability to elastically scale are all compelling reasons to move to the cloud

How software is consumed/purchased has also changed. Great excerpt from the Ben Thompson interview with Twilio Founder/CEO Jeff Lawson:

"There's really been three great eras of software.

1) The era of big software, these multimillion dollar multi-year projects. 2) Around the turn of the millennium, came the next great era of software with SaaS. Suddenly you didn't need IT to rack up servers and to spend multi-years. Line of business owner, he Head of Sales

can buy Salesforce, the Head of HR could buy Workday. Every functional leader inside of a company had their own SaaS they could go buy. And because you didn't need a huge IT project to get these things up and running, it unlocked a whole new set of buyers.

3) I think that around 2010, the developer thing was right around the corner and it was different because instead of having one line of business owner buy a solution, you've got the developers able to buy the building blocks that allow companies to then go build all the things.

These thoughts are echoed by Eric Vishria on the ILTB podcast (<https://t.co/2pbnJN9Ezc>):

- Gen 1 SaaS – CRM, NOW. Seat based pricing.

Really what the original generation of SaaS companies did was capitalized on a better delivery model and a better economic model.

The delivery model, what I mean by that is you used to ship CDs to a customer site and the customer would install it. So, it was customer hosted software and the new delivery model is it's vendor hosted. The vendor themselves is actually hosting the software,

running the software, operating it, maintaining it, upgrading it, et cetera on behalf of the customer. That's the better delivery model.

The better economic model was, in the old world of software, you would sell software and you would get one-time revenue, and then you would charge typically 18% of ongoing maintenance on an annual basis for upgrades and things like that.

The new economic model, in gen one SaaS, was actually recurring. You may pay an implementation fee, and then you pay an annual fee on an ongoing basis. That's the same or grows year-to-year. Those were the kind of the two big developments of the original generation of SaaS.

What's interesting is actually what stayed the same in the original generation of SaaS. It was still big ticket enterprise sales. It's still a relatively large implementation.

- Gen 2 SaaS. Zendesk or a New Relic or Wix or Asana or DocuSign

Gen 2 took the ideas of a better delivery and economic model, and then added a better adoption model.

I think the realization was, "Hey, now we have the software the customer doesn't have to do anything, why don't we make it really nice user experience, make it very easy to consume, make it go from this kind of big implementation, high cost of failure to very cheap.

low cost of failure for the customer, so you can kind of get to a what I'd call a try and toss mentality.

The initial land price is much lower. They took time to compound. You actually got in the earlier days of these companies' evolution, you got slower revenue growth.

And then it kind of exponentially compounded in recent years, they've grown like wildfire.

- Gen 3 SaaS. Stripe, Twilio, other APIs.

Not GUI based, API based, consumption based models. Targeting Developers.

After studying Software for the past ~3 years, I have come to the conclusion that this is similar to 1999. But not for the valuations and potential bust. But in that this is the “start” of a big explosion in advancement and innovation that will last decades.

Think about the old guard of the Internet: AOL, Yahoo, Ebay, and eventually Amazon. Now it is Amazon, Facebook, Google. The difference in Software vs. Internet is while there are economies to scale in both, I think the huge advantage of having all the users is diminished in a

B2B sales world, making for a much more vibrant, rich, and diverse group of stocks and eventual winners. It is hard not to look at the group of 100+ software cos (or the 20 best ones) over the past 3-5 years and not think “there is something big going on here.”

HyperScalers

One reason to be bullish on all the “little” software companies is the hyperscalers which at ~\$75+bn today are still growing ~40% y/y. AWS today is ~\$50bn in revenue growing nearly 30% (and it was HURT by COVID, but its backlog grew 64% in Q3).

Azure is a \$20+bn business growing 47% + GCP a ~\$5+bn business growing 60+% (excluding GSuite); 5 years from today, overall growth rates will likely slow to <20% but the numbers will be massive (\$200+bn of revenues).

While cloud computing is often quoted in workload penetration (~20% of workloads are cloud), similar to eCommerce, I think while some of this penetration is workloads shifting to the cloud, a lot of the growth is also just a better model enabling more innovation and growth.

Encouraging to me is that while there are 3 Public Cloud players that start with storage and compute and also have many actual software services on top of those base offerings, there is a thriving ecosystem of smaller independent players.

They thrive because 1) they have better tech; 2) smaller is sometimes better (you live and die by your product/service); 3) there is value in being Switzerland.

SaaS as told through 3 stories: NOW vs. CRM vs. WDAY; 3 Success Stories but be more like NOW

- NOW founded in 2003, IPOed in 2012 (~\$100mn in revenue) at ~\$2bn valuation. Fast forward to today, NOW is a \$100bn company (44% annualized return vs. SP500 14.5% and XLK 20.5%)

with ~\$4.5bn in revenue growing 30% mid 20% Adj Op Margins (albeit with a ~18-19% SBC buffer).

- CRM founded in 1999, IPOed in 2004 (at <\$100mn in revenue) at ~\$1bn valuation. Fast forward to today, CRM is a \$230bn company (28% annualized return vs. SP500 9.4% and XLK 14%)

with ~\$20bn in revenue growing ~20% still and ~17% Adjusted Opmargins. KEY complaints with the company are 1) bigger and bigger M&A, propping up Revenue growth diluting shareholders and 2) Opmargins have gone nowhere for 4 years (not helped by M&A).

- WDAY founded in 2005, IPOed in 2012 (~\$250mn in revenue) at ~\$5bn valuation. Fast forward to today, WDAY is a ~\$50bn company (19% annualized returns vs. SP500 14.2%, XLK +20.6%) with ~\$4.5bn in revenue growing high teens and ~23% adj. Op margins (though SBC is 26% of REVS!).

Some investors are very skeptical of 10, 20, 30X sales multiples. Why would anyone pay that much?

<https://t.co/FGox0No4y8>

Let me flip that around. I think paying ONLY 10X sales is silly for companies that grow fast, even if they aren't profitable.

As 2020 draws to a close, an observation: When paying 10, 20, 30 times revenues for an established, publicly traded company, you should be thinking, \u201cI'm going to make a modest return as the fundamentals grow into the valuation,\u201d OR, \u201cI'm going to spectacularly blow myself up.\u201d

— Christopher Bloomstran (@ChrisBloomstran) December 27, 2020

Say a company is growing 50%, so in 1 year, with no price appreciation, that multiple compresses to 6.7X. Say the company grows 40% the following year again with no appreciation. The company is now 4.8X sales.

Now, if you think eventually the right end-game multiple is 1-2X sales, 10X sales might seem like an absurdly high number. If you think the company ends up looking more like MSFT (realize this is a lofty goal), then 10X sales is actually the right end-game sales multiple.

Said another way, In 2012, you could have paid 36X ntm revenues for \$NOW and still generated 30% annualized returns. For 20% annualized returns, you could have paid 68X. Note, NOW grew 74% in '13 and beat ests by 25%.

How did NOW become such a great investment? By extending growth for longer than anyone thought possible. During its 2012 IPO, NOW quoted Gartner's TAM of \$13.6bn. Today, NOW targets \$10bn in revenue for itself, and industry reports peg the TAM at \$112bn by 2024.

Which Software company to Invest in?

I'd much rather own best in breed than the 3rd or 4th player with a cheaper mult. With a very scalable product and valuation dependent on getting big and eventual profits, the 3rd/4th player doesn't look that cheap if it never makes money.

Things I personally like to see. R&D>S&M or at least ~equal. If your tech is infinitely scalable with strong incr margins, it makes sense to me to invest heavily in the R&D.

- CRM with S&M at 40% of revs vs. R&D 14% (a ~3:1 ratio) is not as appealing to me.

Brief Thoughts on Billings

Some people really care about Billings (Billings>revs). I don't really care and try to look at it holistically. Billings, like Cashflow metrics are Lumpy.

For example. After ZS reported a billings deceleration in the July 2019 quarter (74% -> 55% -> 32%), the stock got hit. Hard. But if you just 2-year stacked it, it all made sense, and the decel was reasonable.

SBC Thoughts.

Software often gets criticized for high SBC and inflated adj earnings. Some quick thoughts on why it matters and why it doesn't.

For more mature companies that can't kick the SBC drug (WDAY), it matters. 2-4% dilution on a stock that is returning ~15% matters.

In its most recent quarter, WDAY reported Adj Op Margin 24.2% GAAP Op Margin -1.3% SBC as a % of Revs 25.5%. With a Revenue Base of ~\$5bn annualized, WDAY is paying out \$1+bn of SBC every year. This results in ~2+% dilution every year.

For High Growth companies, it doesn't matter. At least not yet.

For a stock trading at 20+X sales, assuming it grows 40% with SBC = 20% of revenue, this results in <1% share dilution every year ($20\% / (1.4X * 20X) = 0.7\%$).

If anything I posted was wrong or missing the mark, feel free to correct me. I welcome feedback and recognize my education in software is just beginning.