

INVESTMENT COMMENTARY

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The first quarter of 2023 was marked by a partial recovery of 2022s losses, though the path to recovery was not without emergent risk. In early March, Silicon Valley Bank failed after fears about the bank's mark-to-market losses on their held-to-maturity portfolio could impact its solvency. These fears escalated as modest deposit withdrawals rapidly turned into depositor flight. Silicon Valley Bank's problems reverberated through the regional bank space and dragged down several similarly situated banks, with Signature Bank failing on the same day. These two respective banks failed for somewhat different reasons, though the parallel fates of the banks demonstrated just how fragile confidence can be in individual banks and the system.

Silicon Valley Bank, as represented by its name, catered to the Silicon Valley, Venture Capital and technology community. As such, what appeared as a fragmented depositor base, was actually a highly concentrated deposit base, with an unusually large portion not subject to FDIC insurance limits and whose owners far too often act in a herd-like way. Silicon Valley Bank saw deposits swell as funding for startups surged during the COVID crisis. Unfortunately for the bank, who thought it was making a safe choice, those deposits were invested in longer-dated Treasuries at very low rates. The bank smartly was unwilling to take credit risk, but foolishly decided longer-dated Treasuries would be a method through which it could protect earnings at the expense of interest rate risk. In longer-dated Treasuries, as interest rates rise, the value of the bonds drop. Without deposit risk, Silicon Valley Bank could easily have waited out their problems and let their portfolio roll off consistent with its maturities; however, the concentration and fickleness of the deposit base precluded that option. More recently First Republic Bank failed for very similar reasons, albeit with a far less egregious portfolio.

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Building long-term portfolios through deeply researched investments.

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The failure of First Republic highlights herding behaviors around risk. When risk emerges suddenly, people then fear where that very same risk might manifest next. Importantly, each of these banks suffered from unique problems which are atypical system-wide. We own no banks, therefore we were not subject to the most pronounced market risks during the quarter. Despite this, an important fissure exacerbated during the March Bank Crisis that we think deserves the majority of this letter's attention. In fact, this might be one of the most important developments in markets over the past few years and a significant source of return in the years to come: the huge divergence in performance between small caps and large caps.

Year-to-date, as of the time of this writing, small caps as represented by the Russell 2000 are lagging the S&P 500 by 7.9%. Over the past year, these small caps are lagging by 7.7%. Over the past five years, small caps are lagging by a whopping 25.6%. Today, the Russell 2000 index sits at a level it first hit in the middle of 2018. In essence, small caps have generated no return for the past five years. This phenomenon of big outperforming small is evident in the S&P 500 as well. The two largest stocks (Apple and Microsoft) now represent 12.4% of the index. This is the highest level of concentration in the index going back to 1980 and in the 99.7th percentile ever.[1] So far this year, the rally in the S&P has 80% of the move attributable to the top five stocks, nearly 100% of the move attributable to the top 10 stocks and 105% of the move attributed to the top 20 stocks.[2] This is by some records, the narrowest market ever whereby the big are getting bigger and the small are left behind.

Jefferies offered some interesting stats in a recent note. The top five names in the S&P have three times the aggregate market cap of the Russell 2000. The aggregate market cap of small cap securities in the US equates to just 4% of the entire US market. Typically this is closer to 10%. This 4% level has only been hit twice ever: the 1930s and briefly during the COVID Crash in March of 2020.[3]

Some blame this phenomenon on interest rates punishing overvalued growth companies, which predominantly represent small and mid capitalizations, yet the 10-year Treasury is close to where it was in 2018 when the Russell 2000 first hit these levels. Meanwhile, valuations in Consumer Staples and in some large cap equities are at nosebleed levels. Apple and Microsoft have P/Es over 25x, Visa, Johnson & Johnson, Walmart, Proctor & Gamble, Mastercard and McDonalds are all at or around the 30x level. These companies experienced the benefits of inflation with ability to pass on cost driving accelerating top line growth, but as inflation slows, it is inevitable growth will revert to more normalized levels and volumes might fall off as consumers look for cheaper alternatives. Small caps in some respects benefited from the same top line trends; however, the lack of resilience to challenges wrought by COVID led to margin pressures where large companies experienced margin benefits. This is part of why we are so attracted to shares in Fever-Tree Drinks, as we expect supply chain pressures to recede alongside reopening, normalization, and disinflation. We bring up Fever-Tree here, because these forces are global, not just local in nature. Global small caps in some regions are even more beat up than their U.S. counterparts.

How did we get here?

The institutionalization of the investment industry has been ongoing. These forces are exacerbated with indexation. Indexation has democratized investment for the masses; however, as dollars increasingly chase the indices, the small cap indices are increasingly ignored. The average 2040 fund that most 401ks default to uses little if any small cap indices in its construction.

[1] JP Morgan Macro Research, BTIG Narrative Note

[2] Ibid

[3] Jefferies SMID-Cap Strategy – Thoughts and Observations. April 13, 2023

Beyond indexation, concentration in the largest funds is increasing. Industry analyst Markets Media “expect[s] 5% of hedge fund organizations..., to attract 80-90% of net flows within the industry.”[4] This has been the case for the last several years with the big getting bigger. Inevitably the accelerating scale at the biggest funds has consequences for small cap equities. The 20 largest hedge funds all manage over \$20 billion. Not all these funds are equity-centric investment operators, though the majority are. Assuming one of these funds wanted to allocate a 5% position to a \$2 billion company, they would have to buy half of the entire business. A 1% position would require buying 5% of the company's shares. Now think about a \$500 million company. With increasing concentration at the top of the industry, there are simply fewer dollars swimming around the small cap landscape, and the net flows are increasingly directed away from areas where managers can seek out small caps towards areas where small caps are not in the investable universe.

Fundamentally, the margins and growth at today's dominant tech behemoths is historically unique. These companies deservedly have been rewarded with massive market caps and consequently they are crowding out competition in the fastest growing areas.

What gets small caps out of this?

Several factors will help small caps from here. One reality is that with the carnage across a wide variety of names, formerly large cap companies have become small or mid cap ones. These companies inherently are more “grown up” than ones who started and stayed small all along, which help institutionalize the small cap investor world. They also offer attractive acquisition targets. The acquisition environment has been quiet with a combination of expensive financing versus the recent past and an unwillingness of would-be sellers to adjust to today's new pricing realities; however, this new environment has lasted long enough now that companies will be forced to reconsider what is and is not fair. We also are seeing many companies take control where possible, with actions like share repurchases and rationalization of cost structures.

Where we are hunting for value in smalls:

We expect the best (highest of business quality, growth prospects, and execution) of the small and mid-caps to recover quicker than the representative indices. These are what proverbially has been called “baby out with bathwater” kind of companies. In the past, we have spoken about our affinity for the “post-hype sleepers.[5]” Post-hype sleeper is a term borrowed from fantasy baseball. These are players who rose to the Major Leagues with considerable hype, were drafted highly in drafts on the back of that hype and subsequently disappointed. In the next year, with the hype gone, these post-hype sleepers can be acquired for far less money or in a much lower round than the prior year, but still have the same overall ability. In the stock market, we look for a series of traits to identify post-hype sleeper status:

1. A big following and a lot of momentum based on what could be in the future.
2. Key metrics continue moving in a positive direction.
3. Growing intrinsic value, albeit at a slower rate than years past.
4. A sharp drop in the company's shares.
5. The stock is not quite cheap enough for deep value investors, but has far better growth than the average company and a reasonable path in our forecast period to below market multiples.

The 2021 vintage of IPOs featured numerous over-hyped companies that hardly deserved consideration for public listing. For this reason, many refuse to even look for 2021 IPOs that deserved the opportunity to list and whose management teams took advantage of enthusiastic markets to raise capital for strategic purposes—this is in stark

[4] <https://www.marketsmedia.com/top-hedge-fund-industry-trends-for-2023/>

[5] RGA Investment Advisors LLC Q2, 2019 Investment Commentary

contrast to the average IPO who merely cashed out existing owners at high valuations. Companies who raised money strategically tend to be founder-led with substantial insider ownership and ambitions beyond the scope of the company today. In the right situations, the cash was raised for the company's balance sheet to ensure executing on a vision, which may or may not include M&A, irrespective of whether the economic environment changes. We have purchased shares in several such busted IPOs and have built a deep file on a few we are watching with interest.

One company we have done considerable work on, and built our position in is Cytek Biosciences (NASDAQ: CTKB). A recent note from Morgan Stanley is very representative of the general approach towards small caps today. Specifically, Morgan has a price target about 40% above where CTKB's shares ended the quarter, yet is equal weight rated (i.e., neither a buy nor a sell). One would think 40% upside were worthy of a buy in any environment, but not today! Morgan Stanley's reasoning was as follows: given the nascent nature of CTKB's business, particularly on the reagent front, and the sustained growth-to-value rotation as investors seek low-risk mature assets given an increasingly uncertain macro backdrop." Cutting aside the jargon, the reasoning is effectively that this is a small, young, growing company and investors do not want that today.

Why we like Cytek:

CTKB is the leader in full spectrum flow cytometry (FSFC). In its simplest form, flow cytometry analyzes samples for the kinds of cells or particles present and studies cells to determine their characteristics like size and shape, surface markers, proteins, DNA, as well as the impact that potential treatments can have on cells. In other words, these are extremely versatile, widely deployed instruments used by core labs at universities, pharmaceutical and biotech companies, CROs, CDMOs, oncologists, immunologists, hematologists and more. Beckton Dickinson (NYSE: BDX) explained the significance of flow cytometry on their Q1 2023 earnings call by remarking that: "When you think about who is getting Nobel Prizes in [cell therapy and immune-oncology]..., almost all of them were using flow cytometry and I'm convinced you're going to see a whole new set of discoveries being uncovered with the new technologies that we're rolling out right now." BDX was speaking about their own instruments; however, CTKB is far head in FSFC both technologically and in selling instruments to practitioners.

The pivotal moment in CTKB's history occurred in June of 2017, when CTKB debuted its Aurora flow cytometer, featuring full spectrum technology. Founders Wenbin Jiang and Ming Yan realized that technology from telecom could be applied to flow cytometry. Flow cytometry has been used for over half a century and historically has been dominated by Becton Dickinson, Beckman Coulter and Thermo Fisher (Invitrogen). These technologies were built on vacuum tubes. Jiang and Yan built their flow cytometer on avalanche photodiodes, which are light detectors used for fiber optics. Avalanche photodiodes cost a fraction of vacuum tubes and are far more efficient and effective at detecting fluorescence. This enabled CTKB to come to market with a lower cost, higher quality instrument. At the core of CTKB is a mission to drive costs down for the industry. Since debuting the Aurora, CTKB added their Northern Lights platform optimized for Clinical (i.e., diagnostic) use cases, the Aurora Cell sorter, and a fledgling reagent business, each with a unique angle for lowering costs for users.

FSFC is the biggest change for the industry in over half a century. A department head of flow cytometry at a leading biotechnology company explained the evolution of flow cytometry in their workflow as follows:

Based on my experience, we're doing about 40% full spectrum. I see that increasing. We've been acquiring more of these machines comparing to the conventional; the same thing applies across the board according to colleagues I've been talking to. Sometimes it's a bit dependent on adoption, so some places if they've been really open to training people on the full spectrum, on the Aurora for instance, and having good training practices. With a full spectrum flow cytometer, because it's looking at a wide range of emitted wavelengths, you end up with more details. When you are looking in a conventional flow cytometer, you're looking only at the peak emitted wavelength, so a traditional flow cytometer may miss certain things.

This same practitioner said that three fourths of their incremental flow cytometer purchases are CTKB's instruments and he expects their market share to rise from high single/low double digit industry-wide market share to over 50% in the next five years. Although these expectations might be aggressive (and we are far more modest in our modeled expectations), we have heard similar sentiments from other industry key opinion leaders. Customers and competitors alike respect CTKB's field team for their expertise and partnership. This field team is a critical pillar behind the company's growth strategy. A former employee in strategy at Thermo Fisher further validated CTKB's customer-centric approach explaining that:

A core value proposition is their expertise in their key research areas. They will engage their customers and build out white papers on best practices and new innovations coming up. [This] gives a lot of visibility and thought leadership which differentiates themselves from other competitors. Broad spectrum of expertise across research areas gives them an edge as an entrant/provider....Based on my experience at Thermo, we do a lot of competitive intelligence, when interviewing different customers and they say Cytek has really good salesforce effectiveness.

Reagents are a critical pillar of CTKB's growth, as these form a high margin, recurring revenue stream. When CTKB and their team speak about reagents, they actually talk about "applications" or "apps" because their efforts start with automating workflows and understanding their customer needs. The company's strategy starts leverages their team of field application specialists in two critical ways:

1. The application specialists introduce customers and instrument users to the portfolio of reagents with samples and demonstrations to prove results. All the field application specialists are scientists themselves and this is different from competitors where the FAS and sales team are predominantly sales representatives with knowledge, but not expertise about the science.
2. The application specialists speak with their customers in order to understand their greatest needs and most frequently used combinations of reagents in order to build kits that simplify workflows in the lab. Whereas competitors like BD charge a premium for compiling separate reagents into kits, CTKB anticipates needs of their customers in order to pre-produce the kits and sell them at a discount to the price of each reagent purchased individually. Reagents in kits from CTKB cost about 1/3rd less than BD's and this affords researchers the opportunity to do more experimentation on the same budget.

CTKB IPO'd in the summer of 2021 amidst euphoric valuations in technology and life science related securities. The vast majority of the shares sold in the IPO were by the company itself. This \$200m raise helped to build a strong cash position that today represents over 1/4th of the company's market cap. Since late 2021, shares have been under pressure as market sentiment has shifted and investors have fled growthier securities for more stable ones. Unlike other high-flying IPOs of the 2021 vintage, CTKB has been and will continue to be profitable on an EBITDA and adjusted EPS, as well as on a GAAP basis for the FY 2022.

The flow cytometry market did approximately \$5 billion in annual sales in 2022 and is expected to grow at a CAGR of approximately 7.5% over the next decade. Instruments account for 30-35% of those sales, reagents and consumables are about 30%, services approximately 15%, with software and accessories the residual. Academic and research account for approximately 2/3rds of industry needs, with diagnostic the rest. Traditional flow cytometry is approximately 60-70% of sales to date, though the pendulum will flip towards full spectrum by 2030-35 and become the dominant share. FSFC is more cost effective, is improving faster and the innovations in AI and software will compound those advantages to tip towards full spectrum. CTKB has dominant market share in full spectrum flow and should continue to maintain their market share with superior technology and the lowest cost offering. Competition comes from BD's FACSymphony line, Sony's line of spectral analyzers and Thermo's Bigfoot. As of today, this adoption of full spectrum is Western centric, with AIPAC the laggard.

We build a 30-year DCF on CTKB with \$0 terminal value and triangulate with nearer-term EBITDA multiples. Our numbers in our estimation are exceedingly conservative. We apply a 9.4% growth CAGR over the 30-years, in an industry with 7.5% annual growth. Our five year sales CAGR is 21.3% and ten-year CAGR is 16.7%. EBITDA margins rise from an 8.3% in 2022 to 28.1% and 36.3% respectively in 2028 and 2033. The EBITDA margin growth is attributable to three primary forces:

1. Reagents evolving from a high single digit percentage of sales in 2022 to approximately one third of sales in five years and nearly half of sales in ten years. Gross margins on reagents are 75% throughout our model, though we think there is upside above 80%. This compares to 70% on the instruments themselves.
2. Services gross margin rising from 14.6% in 2022 to 60% in ten years, driven by a more mature installed base, with a far smaller percentage of the installed base subject to warranty and replacement obligations by Cytek, as well as leverage on the service team's heavy fixed cost structure (when the installed base was entirely new, the service margin was actually negative). Even if you believe the service margin would never rise above the 30% target management provided in their 2022 investor day, the impact on the price target would not even be \$1/share. For additional context, service gross margins have already improved to over 40% as of Q1 2023.
3. Leverage on corporate OPEX from 62.7% of sales in 2022 to 44.2% in five years and 37.7% of sales in ten years. Importantly, the primary lever in OPEX stems from G&A as a percent of revenue more than halving, while R&D and S&M continues to grow at double digit rates in gross terms, albeit at a slower pace than top line affording modest leverage.

Summing this all up and adding in \$296 million of net cash post-Luminex asset acquisition, our base case price target is approximately \$18.25 per share. In this DCF, we fully expense all stock-based compensation. These numbers triangulate to 38x 2024 adj EBITDA, on revenue growth of 24.6% and 10.7x 2028 adj EBITDA on revenue growth of 17.7%.

We also run an IRR analysis with an exit multiple of 25x adj EBITDA in each year. High quality assets in the space trade with EBITDA multiples ranging from 20x up to 40x. The lower end tend to grow in the high single/low double digits. In our base case, we expect Cytek to grow at a double digit pace for the next decade, supported by flow cytometry's strong growth and full spectrum gaining an increasingly greater share each year. Should Cytek trade for 25x 2028's \$322m in base case EBITDA, today's price would return a 24% IRR over that time frame. There are numerous potential acquirers who could pull forward this return at even higher multiples. Potential acquirers include Thermo Fisher, Danaher, Perkin Elmer, Beckton Dickinson, Beckman Coulter, Waters, Agilent and Mettler-Toledo to name a few.

We think our numbers are generally conservative. One important sanity check is looking at Cytek revenues relative to industry scale in five and 10-years time. In five years, flow cytometry revenues in aggregate will be approximately \$7.7b. We are assuming \$610m in revenue for Cytek, or 7.9% share of industry revenue. In 10-years, industry revenue will be approximately \$11b and we are using \$1.1b for Cytek, which approximates to 9.8% revenue share. Our numbers are driven by the company's installed base growing from 1,607 at the end of 2022 to 6,600 in five years and 11,600 in ten years (excluding the acquisition we discuss above). For perspective, the industry-wide installed base is upwards of 50,000 units.

The foremost risks we face for Cytek from here are the following:

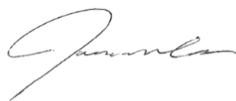
- In the near-term the company is exposed to funding cycles in academia and across the pharmaceutical and biotech industries. They have grown strongly through these pressures, though the situation could worsen.
- The path to clinical approval in the U.S. could lengthen or even fall-through. Though we think this is unlikely, we are assuming clinical adoption in our model.

- The company could spend considerable R&D dollars and building the Amnis imager into the Cytek equipment lineup without commercial uptake following through. Importantly, we are not yet assuming a contribution from this asset, but it could suppress margins if the path is more challenging than hoped.
- Competition could intensify with existing players like Sony, BD or BC achieving breakthroughs that lead to cost parity with Cytek. We believe Cytek's customer support is a critical source of advantage; however, some large customers prefer working with one single vendor and the broad portfolios of these other players could hurt Cytek's marketshare.
- Reagent adoption is a critical driver of our expectations and the company could fail to gain share given most researchers are reluctant to change their suppliers.

This feature on CTKB is part of a bigger write-up we have done. If you are interested in the full piece, please contact either Jason or Elliot and we would be happy to share it with you.

Thank you for your trust and confidence, and for selecting us to be your advisor of choice. Please call us directly to discuss this commentary in more detail – we are always happy to address any specific questions you may have. You can reach Jason or Elliot directly at 516-665-1945. Alternatively, we've included our direct dial numbers with our names, below.

Warm personal regards,



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