

SVB ANALYTICS RESEARCH SERIES

Volume 3

This report is the third in a series of research papers designed to address what drives value in the unique world of private equity and venture capital. Our studies involve thousands of venture-backed technology and life science companies and data from multiple sources – some of which are survey-based and some from private sources, which we know to be extremely reliable.

THE IMPACT OF FUTURE ROUNDS: LIFE SCIENCES

Whether you are an entrepreneur, venture capitalist or valuations service provider, there is one topic that we are all keen on understanding: future rounds and their dilutive effect. Consider a typical life science company that closed its Series A in 2007, but doesn't expect the drug under development to generate revenue until 2014. Clearly the need for future rounds impacts the current value of the Series A shares. The entrepreneur is concerned about how the future rounds will affect dilution, and the investor is concerned about how it will affect ownership. As a valuations service provider, we have been focused on *quantifying* the effect of future rounds.

The timing, amount, price and terms of a future round are not always known when performing a valuation analysis. Historically these unknown factors have often made determining the impact of a future round an exercise in guesswork. In order to bring some science to at least one of those variables, the price, we have been conducting intense quantitative research into the step-ups in value between rounds for venture-backed companies. In particular, we wanted to uncover *the typical performance range* for step-ups in the technology and life science industry sectors. In this volume of our research series, we share the results of this exploration into the life science sector. The next two volumes of this series will share our results in the hardware and software sectors.

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A WORD ON OUR METHOD

We spent many months analyzing thousands of companies and financing rounds. We sought out clusters of companies that behaved similarly with respect to step-ups, and identified the attributes that define those clusters. We found segmentations within the industry sectors that yield step-up values differing **with statistical significance**.

For example, we found a cluster of *low* Series A to B step-up values in the life science sector. This cluster comprised most of the companies in our sample that had small (less than \$6 million) Series B rounds. Here, a less-than \$6 million Series B round was the candidate for the defining attribute of this low-step-up cluster. Why is \$6 million the break point? Why not \$2 million or \$10 million? Rather than select these break points ourselves, we let the data and the statistical algorithms reveal which values were the most statistically significant.

We considered as many influencing attributes as possible, including, but not limited to, round size, round close year, time-to-funding, time between rounds, industry sector, industry

niche, geography, number of employees, total amount raised to-date and debt, among others.

We then put these candidate cluster attributes through rigorous statistical tests to determine if the step-ups in the clusters, or segments, behaved differently from the rest of the field *with statistical significance*. The segments that passed these tests are published in this report.

Lastly, we restricted our sample to rounds that closed after the technology bubble of 2000 to keep our results recent and relevant. Specifically, when calculating the step-up value between two rounds, we required the earlier round to have closed after 2000, and later rounds to have closed after 2003.¹

Figure A illustrates the range of step-up values for each of these statistically significant segments, for each of the stages. The shaded boxes within the graph contain the middle 50 percent of step-up values for each segment, and lines extend from these boxes to those segments' best and worst case step-up scenarios.² This is a graphical illustration of the findings revealed throughout this report.

¹ The following formula was used for calculating the step-up value: $(\text{Step-up from Round X to Round Y}) = (\text{Pre-Money Value at Round Y}) / (\text{Post-Money Value at Round X})$

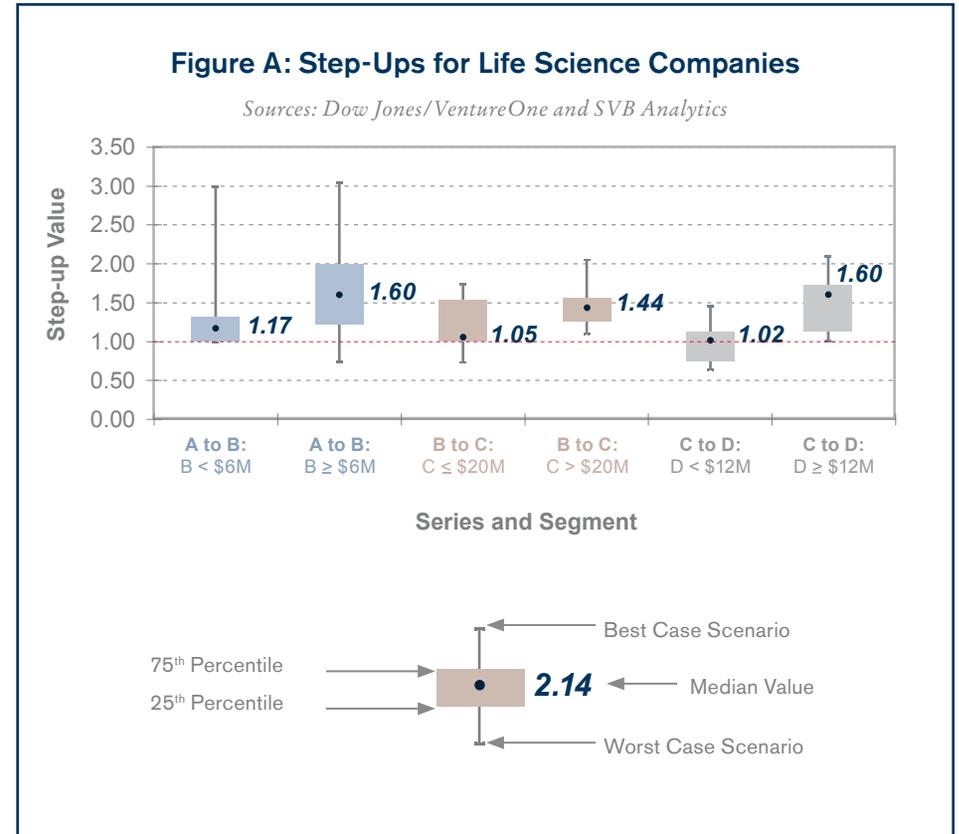
² The best and worst case step-up scenarios were determined *after* the elimination of outliers. An outlier would be something like Microsoft's recent deal to acquire a 1.6 percent stake in Facebook, valuing the company at a whopping \$15 billion—imagine the effect of this valuation on the step-up value—not to mention the strike price for 2008 new hires. Such outlier values are purposely excluded from our modeling and are not reflected in these results.



LIFE SCIENCE STEP-UPS: INTERPRETING THE DATA

The life science data sample is primarily composed of companies in the therapeutics and medical device sectors. Our analysis shows that the size of the later round had the most significant effect in separating the low step-ups from the high. For example, in A to B step-ups, those companies with B rounds that were *less* than \$6 million had step-ups that were smaller than companies that had B rounds *greater* than \$6 million. This relationship held true regardless of the company's life stage. We see from Figure A that while the break points differ at \$6 million, \$20 million and \$12 million, it is the size of the later round that consistently separates the low step-ups from the high.

In general, the low side of the break points appears to separate two types of companies from the rest of the field. The first is **therapeutics** companies with conspicuously small fundings that were either flat or down rounds (these are perhaps companies that just needed a “topping off” to their previous round in order to hit slated clinical milestones). The second is **medical device** companies with inside rounds that were flat or down rounds. This is clearer when we look at the results on a segment-by-segment basis.



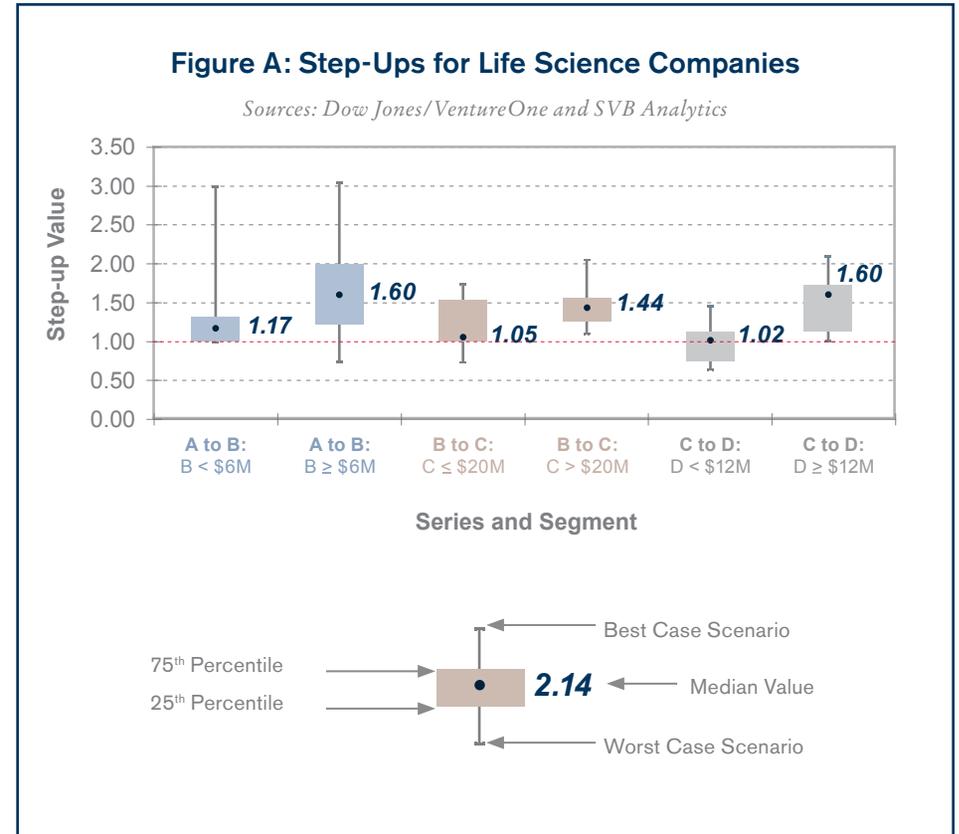
SERIES A TO SERIES B STEP-UPS

Low Step-up Segment: Companies with Series B rounds less than \$6 million. Figure A shows a shaded box for this Series A to B step-up segment that is compact (indicating

tightly concentrated data) with low step-ups between 1.00 (a flat round) and approximately 1.30 (a 30 percent increase in value). There is a particularly high concentration of flat rounds here. Further investigation revealed that the bulk of the rounds in this step-up segment belong to medical device companies that had *inside* B rounds — thus explaining the concentration of flat and small step-ups.

High Step-up Segment: Companies with Series B rounds greater than \$6 million. Here we see significantly higher A to B step-ups, including a lofty median at 1.6 (a 60 percent increase in value). There are almost *no inside rounds* in this group. Overall, these high step-up values reflect what we see in the market and with our VC clients. The continued appetite of large pharmaceutical for smaller biotech companies, combined with the run of strong exits in the medical device sector is sparking premiums to get in at the B round across the life science industry.

Therapeutics. The therapeutics sector had B rounds that fell primarily between \$15 million and \$50 million, and step-ups that fell mainly in the (shaded box) range of 1.20 - 2.00. The appropriate size of these rounds combined with the lack of inside rounds suggests that this 1.20 - 2.00 range is the expected performance range of Series A to B step-ups for therapeutics



companies that are receiving new money and showing indications of promising products.

Medical Devices. The medical device sector had B rounds that fell primarily between \$6 million and \$20 million, and *high-reaching*

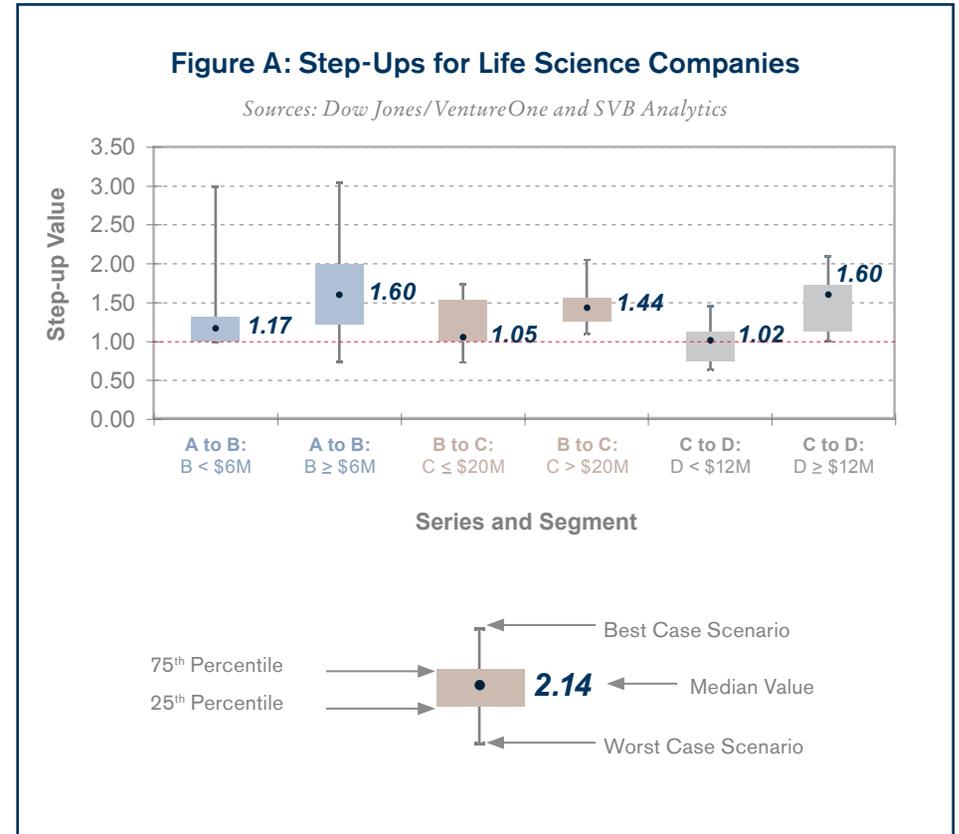
step-ups that fell mostly above the median in the 1.60 – 3.10 range. Particularly notable is that a quarter of these life science companies have step-ups of at least 200 percent, and are almost exclusively medical device companies with B rounds in the \$12-20 million range. It appears that the quicker exits and more predictable return profiles of mid-stage device deals are attracting investors from a broader range of funds, resulting in greater valuation step-ups.

SERIES B TO SERIES C STEP-UPS

Low Step-up Segment: Companies with Series C rounds less than \$20 million.

Therapeutics. These therapeutics companies had predominantly flat or down C rounds (step-ups mostly in 0.75 – 1.00), and more than half were inside rounds. A Series C funding of this size (less than \$20 million) in therapeutics is underwhelming, and likely indicates that the Series B required a “bump” to hit slated clinical milestones – accounting for the lackluster step-up performance.

Medical Devices. Alternatively, the medical device sector had step-up values that were flat (mostly inside rounds), or hovered high in the 1.45 – 1.75 range. Series C rounds under

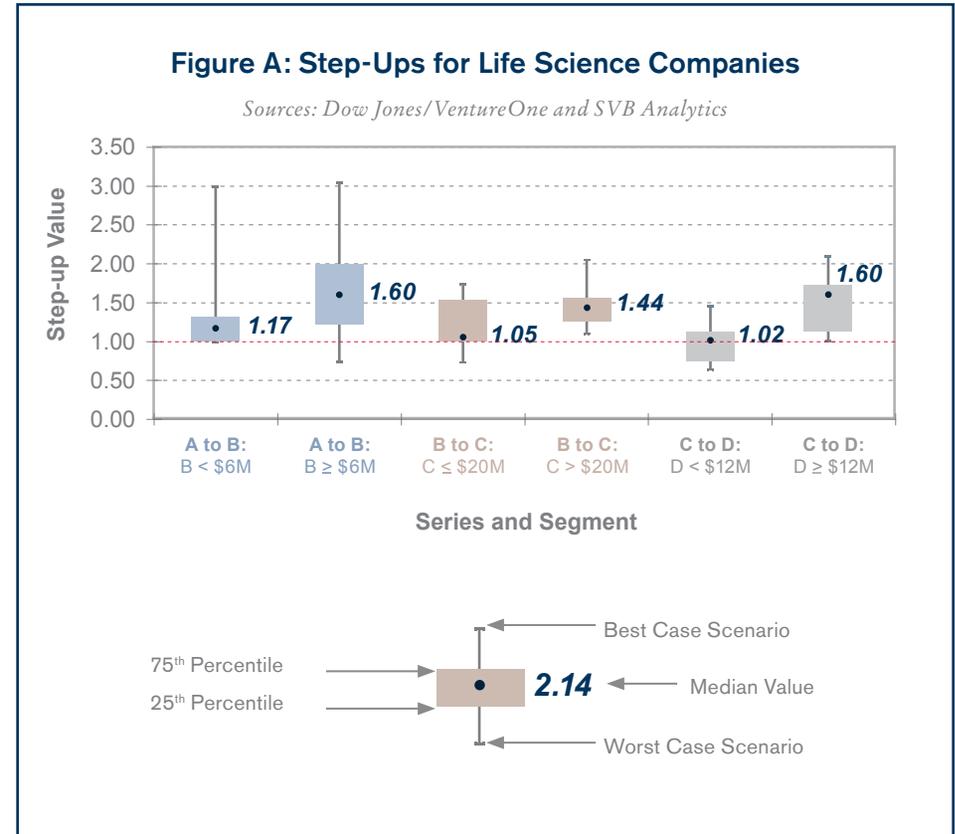


\$20 million are expected for medical device companies, suggesting that this 1.45 – 1.75 B to C step-up range is standard performance for medical device companies that receive new money and perform to some level of investor satisfaction.

High Step-up Segment: Companies with Series C rounds greater than \$20 million. The C rounds in this step-up segment fall primarily in the \$20-\$40 million range for both medical device companies and therapeutics companies, and there were virtually *no inside rounds* here.

Therapeutics. The therapeutics sector had step-ups that fell primarily in the shaded box again (1.25 - 1.60). The appropriate size of the fundings combined with the lack of inside rounds suggests that this 1.25 - 1.60 range is the *expected performance range for therapeutic companies that receive new money* and perform more or less to plan. These companies were also responsible for the handful of values in the worst-case-scenario range, but here the worst case scenario is still a 10 percent increase in value.

Medical Devices. In the medical device sector, the step-ups fall primarily at or above the median, and are responsible for pushing the best-case-scenario up over 2.0 (a more than 100 percent increase in value). A Series C funding in the \$20-\$40 million range is especially large for a medical device company, and combined with their high step-ups suggests that these companies are onto something particularly compelling.



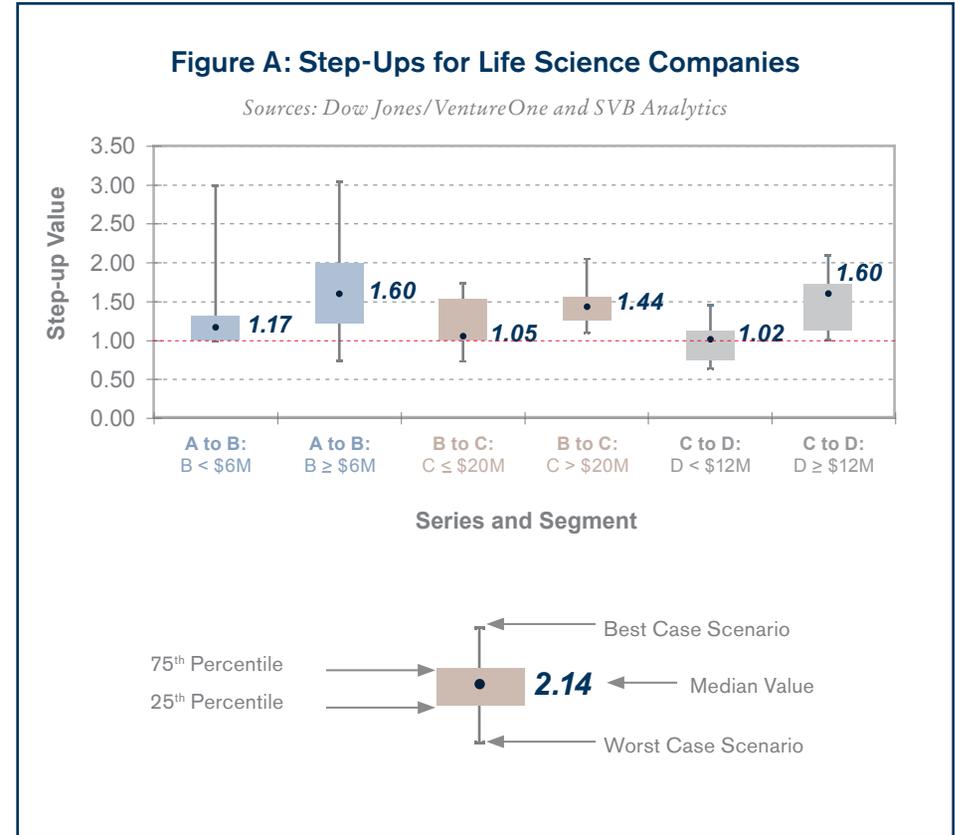
SERIES C TO SERIES D STEP-UPS

Low Step-up Segment: Companies with Series D rounds less than \$12 million. In this step-up segment there was no distinctive behavior between therapeutics and medical device companies. *Almost all the fundings were inside rounds*, and

with the median at only 1.02 we know that half of them were essentially flat or down rounds. The shaded box sinks lower here than in any other segment, highlighting this group's particularly dismal valuation performance. Given the later timing (Series D), round size (less than \$12 million), and abysmal step-ups, it is likely that these companies are mostly medical device restarts, and therapeutics companies that needed a top-off to their C round.

High Step-up Segment: Companies with Series D rounds greater than \$12 million.

Therapeutics. These therapeutics companies had virtually no inside D rounds. Their fundings fell primarily in the \$20-\$40 million range, with uninspired step-ups largely between 1.00 - 1.20. These meager increases in value reflect the general view that it's a red flag when therapeutics companies seek D rounds. After the Series C, there is an expectation that these companies will either exit or sign a collaboration deal to satisfy their capital needs. The combination of these late-stage venture financings, their larger size (\$20-\$40 million) and low step-ups indicate that these therapeutics companies are those taking longer than planned to get to their exit or collaboration deal.

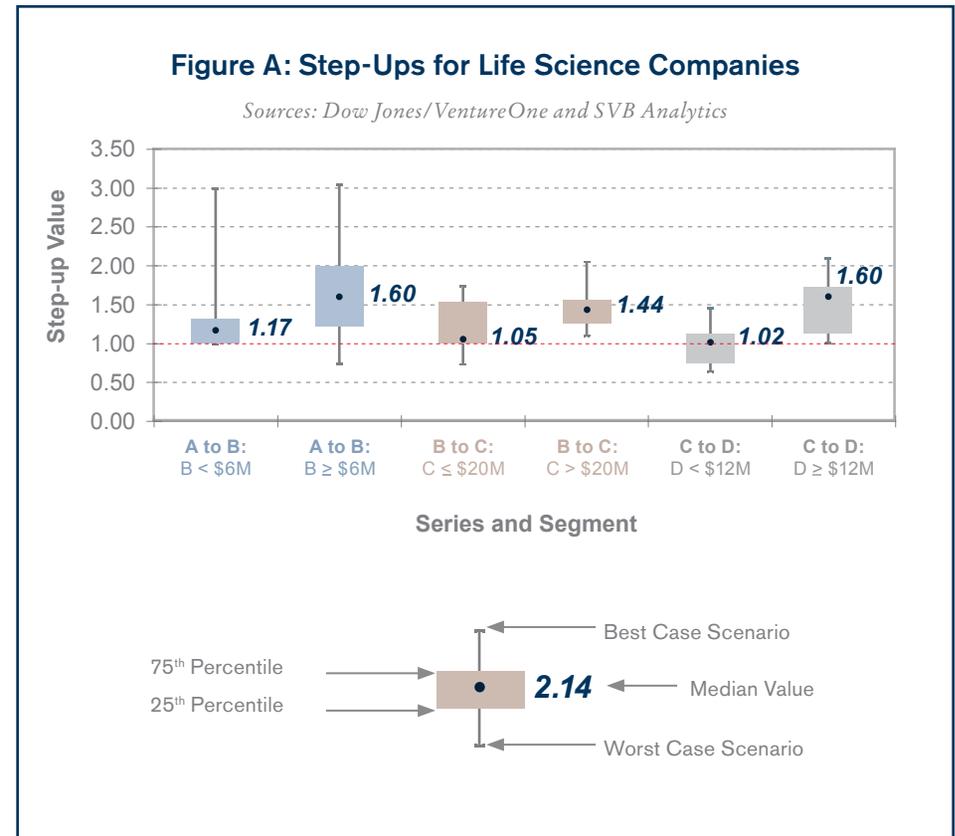


Medical Devices. Medical device companies in this high step-up segment also had Series D rounds primarily in the \$20-\$40 million range, but their step-ups dominate the area above the median. They fall mostly between 1.60 to just over 2.00, with a high concentration of step-ups in the 1.60 -

1.75 range. It is common for medical device companies to model the B or C round as the exit round, where the plan is to get the product developed and/or approved and then license (or sell) it to a bigger player that already has both a large sales force and advantageous alignment with established distribution channels. The later timing (Series D), liberal round size (\$20 - \$40 million), and stellar step-ups suggests these medical device companies may be those that not only have a hot product, but also intend to create their own sales force and make a run at selling the product themselves.

LIFE SCIENCES: RECORD YEAR IN 2007

According to the National Venture Capital Association, the life science sector hit record investment levels in 2007, with \$9.1 billion going to 862 deals — that is nearly a 20 percent increase over 2006 in capital, and almost a 10 percent increase in deals. The FDA’s recent addition of a suicide protocol to drug trials will likely only increase the capital required from investors. Meanwhile, we will keep an eye out to see if the cooling IPO market will allow investors to get in at smaller valuations, or if next-generation diagnostic tools and the unabated appetite



of large pharmaceutical companies will pull valuations even higher in 2008.

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Cindy Moore joined SVB Analytics as a research director in 2007. She brings more than ten years' experience in mathematical modeling and statistical analysis. Moore has worked for Andersen Consulting (Accenture) and the Federal Reserve Bank, as well as software start-ups in the affinity recommendation, price optimization and supply chain collaboration sectors. She holds a bachelor's degree in theoretical mathematics from the University of California at Davis and a master's degree in theoretical mathematics from the University of Oregon.

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Jim Anderson is president of SVB Analytics. Anderson joined SVB Silicon Valley Bank in 1999 and has served in a variety of capacities most recently as a founder, president and chief investment officer of SVB Asset Management and founder of SVB Securities. These groups hold total client assets in excess of \$15 billion. He is the editor of the weekly *Investment Strategy Outlook*, published by SVB Asset Management and is a frequent speaker on the economy and financial issues affecting the technology and life science sectors.





ABOUT SVB ANALYTICS

SVB Analytics offers valuation and corporate equity administration services to SVB Financial Group's core constituencies of private, venture capital-backed companies and venture capital firms. SVB Analytics' services offerings include fair market IRC409A/FAS123R valuations and corporate equity tracking and administrative services. SVB Analytics is a member of global financial services firm SVB Financial Group, with SVB Silicon Valley Bank, SVB Capital, SVB Global and SVB Private Client Services, which serve the unique needs of technology, life sciences and private equity firms. More information on the company can be found at www.svb.com.



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