

# SVB ANALYTICS RESEARCH SERIES

Volume 5

This report is the fifth in a series of research papers designed to address the value drivers 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 that we know to be extremely reliable. Volumes 3, 4 and 5 all focus on step-up values in the life science, software and hardware industries, respectively.

## THE IMPACT OF FUTURE ROUNDS: HARDWARE

As we study and develop corporate valuations, we are engaged in an on-going effort to attempt to quantify the dilutive effect of future rounds of financing on venture backed companies. Understanding this future dilution is a critical component of our analysis as we attempt to determine the portion of a company's value that should be ascribed to the common stockholders. We have recently focused on putting some science around understanding the pricing of these future rounds in an effort to reduce the subjectivity in our process. After conducting intense quantitative research we uncovered, by stage, the typical ranges of step-up values for the technology and life science industry sectors. In this volume of our research series, we share the results of this investigation into the hardware sector.

## A WORD ON OUR METHOD

We spent many months analyzing thousands of companies and financing rounds. We sought out groups of companies that behaved similarly with respect to step-ups, and looked for attributes that define those groups. We considered as many influencing attributes as

Ultimately, we found that the attributes that best separated low step-ups from high step-ups in the hardware sector were industry sector and round size: industry sector is important for earlier stages, and round size is important for later stages.

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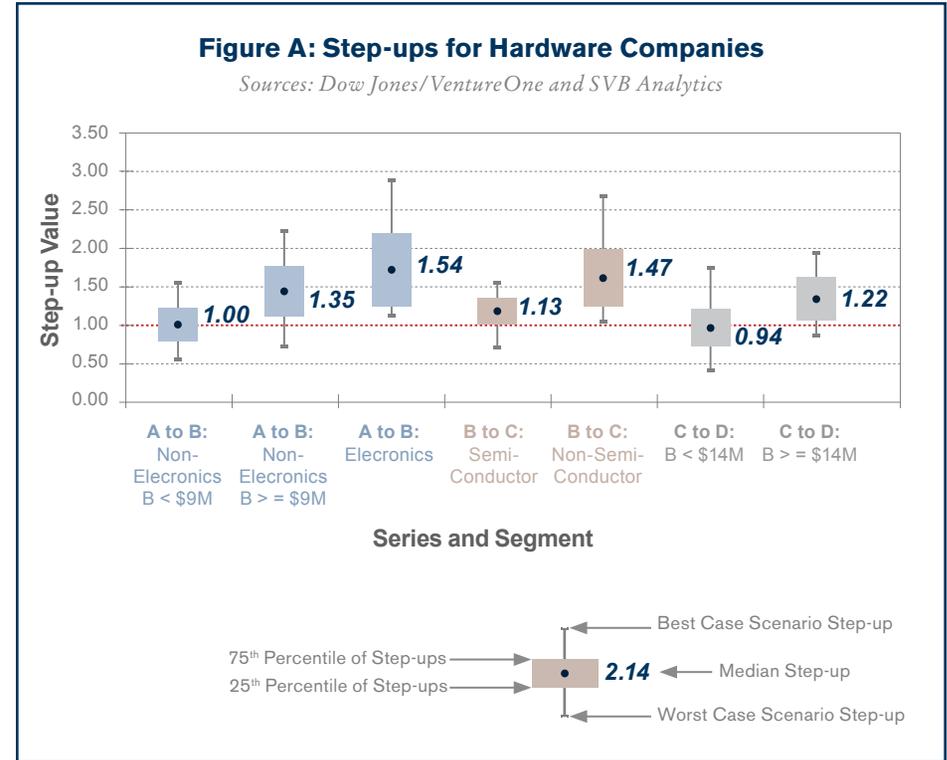
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possible including, but not limited to, round size, round close year, time-to-funding, time between rounds, industry sector, industry niche, geography, number of employees, total amount raised to-date and debt among others.

We then put these candidate attributes through rigorous statistical tests to determine if companies harboring them yielded step-ups that behaved differently from the rest of the field with statistical significance. For example, was there a correlation between the length of time between rounds of funding and step-up values? Did companies with rounds close together yield higher or lower step-up values than companies with rounds further apart?

Ultimately, we found that the attributes that best separated low step-ups from high step-ups in the hardware sector were industry sector and round size: industry sector is important for earlier stages, and round size is important for later stages. For example, companies that raised C rounds that were less than \$14 million had smaller C to D step-ups than companies that raised C rounds greater than \$14 million.

Why is \$14 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. Specific results will be revealed on a segment-by-segment basis later in this report.

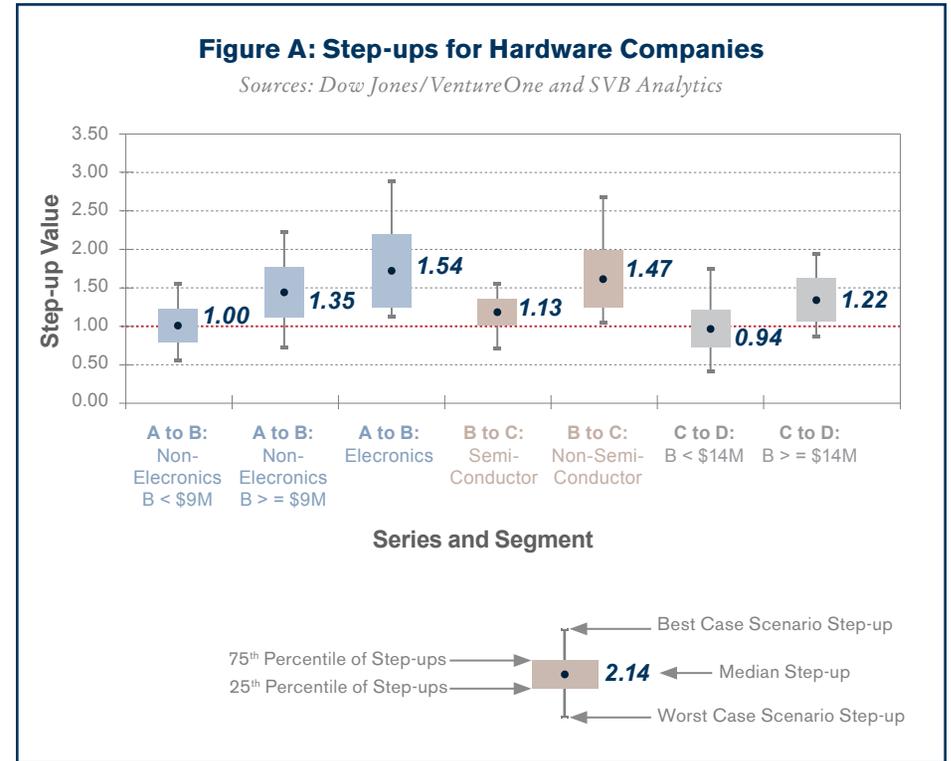
Lastly, it is important to note that we restricted our sample to rounds that closed after the technology bubble of 2000 to keep our results recent and relevant. Specifically, when calculating the

step-up value<sup>1</sup> between two rounds, we required the earlier round to have closed after 2000, and later rounds to have closed after 2003.

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

## HARDWARE STEP-UPS: INTERPRETING THE DATA

The hardware sector encompasses electronics (while the bulk of our electronics sample comes from consumer electronics, it also includes storage and storage area network (SANS) companies), semiconductor, data communications, telecom and wireless companies. For the earlier-stage companies, we found that the attribute that was most effective at separating low step-ups from



the high was industry sector. For the later stages, it was the size of the rounds. We will clarify this by looking at the step-up results on a segment-by-segment basis.

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

<sup>2</sup> 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.

## SERIES A TO B STEP-UPS

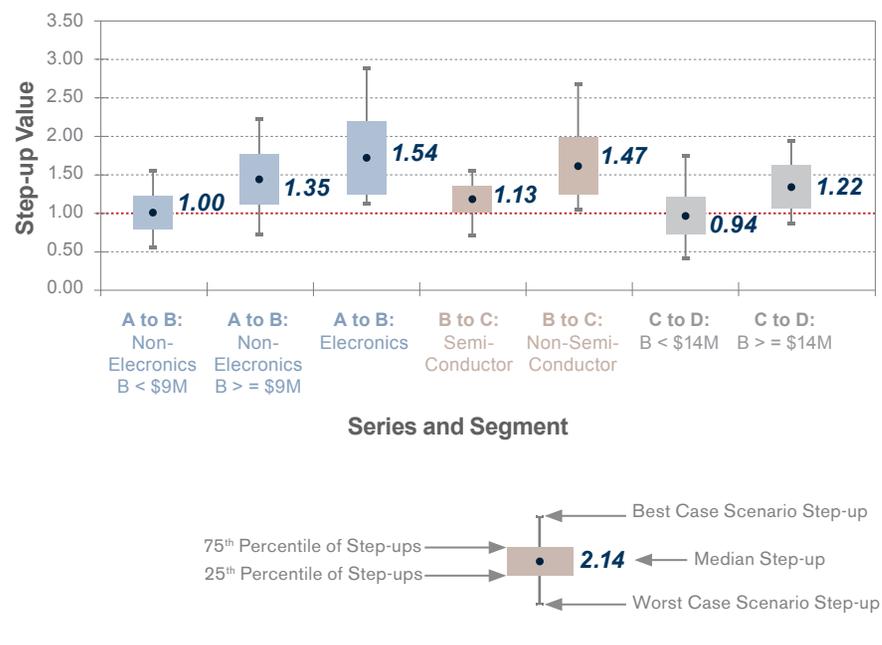
**High Step-up Segment: Companies from the Electronics Sector.** In the case of the Series A to B step-ups, we first found that electronics companies had higher step-ups than any other hardware industry sector. This is probably because the consumer electronics sub-sector has seen increased consumer spending since the technology bubble, opening an exit window after the B round and driving especially high Series A to B step-ups — with the median value reaching 1.54 (a 54 percent increase in value). Step-ups that fell below this median were primarily from electronics companies that had inside B rounds — suggesting that the area above the median, 1.50-2.90, is the typical range of step-ups for electronics companies receiving new money.

**Bottom Line:** For electronics companies receiving new money, 1.50-2.90 is the typical range of A to B step-up values.

Because the high step-up segment contains all of the electronics companies in our sample, the remaining low and medium step-up segments are therefore made up of non-electronics companies — companies from hardware sub-sectors other than electronics (i.e., the semiconductor, data communications, telecom and wireless

**Figure A: Step-ups for Hardware Companies**

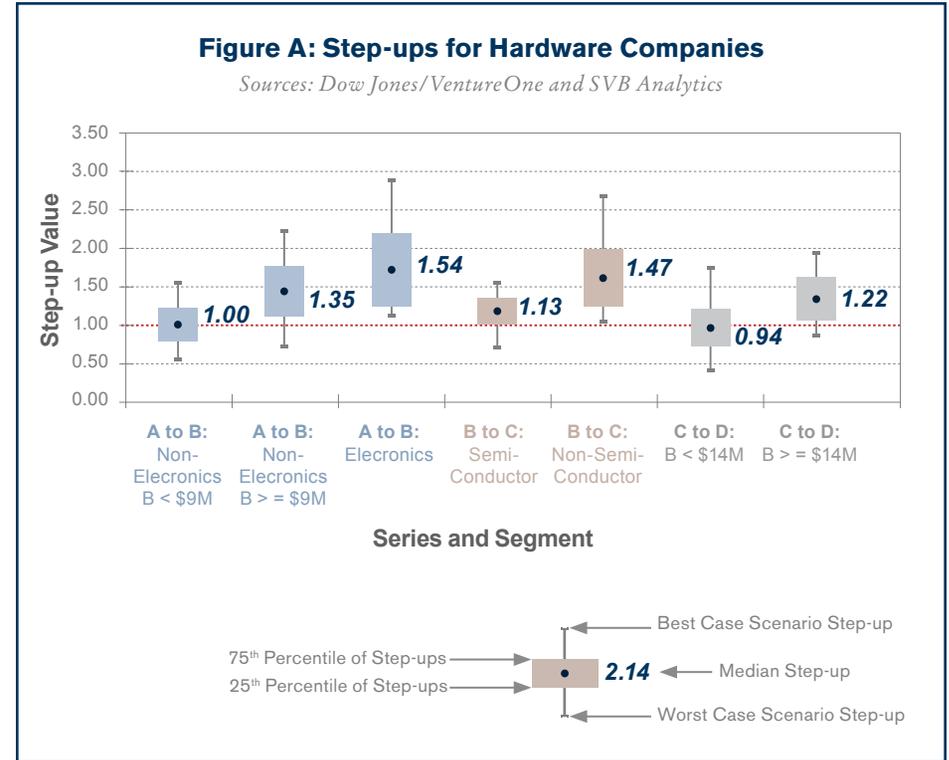
Sources: Dow Jones/VentureOne and SVB Analytics



sub-sectors). There was another statistically significant segmentation within this non-electronics group: non-electronics companies with B rounds greater than \$9 million had larger A to B step-ups than non-electronics companies with B rounds less than \$9 million. Non-electronics companies with B rounds less than \$9 million are defined as the low step-up segment.

**Low Step-up Segment:** Non-electronics companies with B rounds less than \$9 million. Since the median A to B step-up value for this low step-up segment is 1.00, we know that at least half of these Series B fundings were flat or down rounds. Interestingly, only one-third of these flat or down rounds were inside rounds. The bulk of the companies in this segment come from the semiconductor sector, and have flat to modest step-ups that fall primarily in the 1.00 – 1.30 range. The smaller size of the rounds and modest step-ups suggest that these are semiconductor companies that needed a bump to their Series A — perhaps to complete the proof-of-concept phase. Furthermore, we found that the handful of telecom and wireless companies in this segment had mostly down rounds — despite the bulk of their B rounds seeing new investors. Telecom and wireless start-ups are capital intensive, and have notoriously long sales cycles with carriers. These small down rounds suggest that these companies took longer than anticipated to secure meaningful contracts with carriers, possibly leaving them without sufficient validation to hold up their valuations. Conversations with our clients backup this explanation.

**Bottom Line:** Semiconductor and data communications companies that raised Series B rounds less than \$9 million, typically have A to B step-up values in the 1.00-1.30 range. However, telecom



and wireless companies that raised Series B rounds less than \$9 million have A to B step-ups that typically fall in the 0.50-0.80 range (i.e., down rounds).

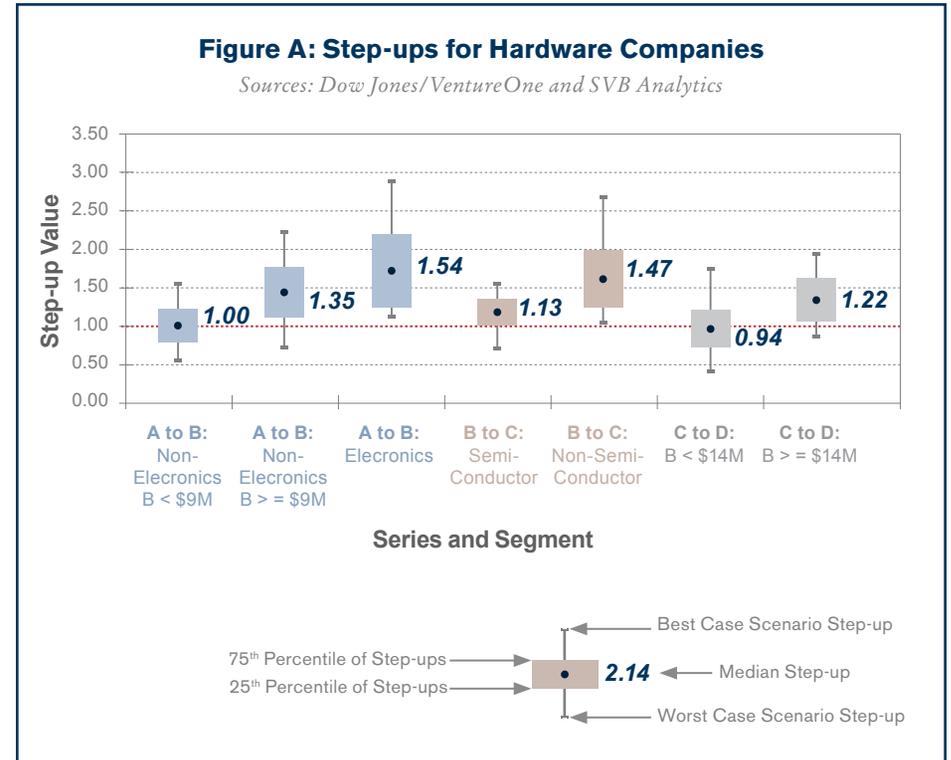
**Medium Step-up Segment:** Non-electronics companies with B rounds greater than \$9 million. Figure A shows that this medium A to B step-up segment has a shaded box with little overlap

with the shaded box from the low step-up segment, highlighting the difference in behavior between the two: Non-electronics' A to B step-ups fall in a much higher range when the B round is more than \$9 million. The bulk of this segment is made up of companies from the semiconductor sector, and while step-ups fall mainly between 1.15 – 2.15, there is a high concentration in the 1.20 – 1.55 range. Series B rounds in this segment range from \$10-\$20 million, and there are virtually no inside rounds.

**Bottom Line:** Semiconductor, data communications, telecom and wireless companies that raised Series B rounds over \$9 million, are receiving money from new investors, and are performing to some degree of investor satisfaction, typically have A to B step-ups that fall in the 1.20 – 1.55 range.

## SERIES B TO C STEP-UPS

**Low Step-up Segment:** Companies from the Semiconductor Sector. When we analyzed the Series B to C step-ups, we found that the semiconductor sector stuck out with significantly lower step-ups than the other hardware sectors with a modest median step-up of only 1.13 (a 13 percent increase in value). Historically, this industry sector has been burdened with a tough economic



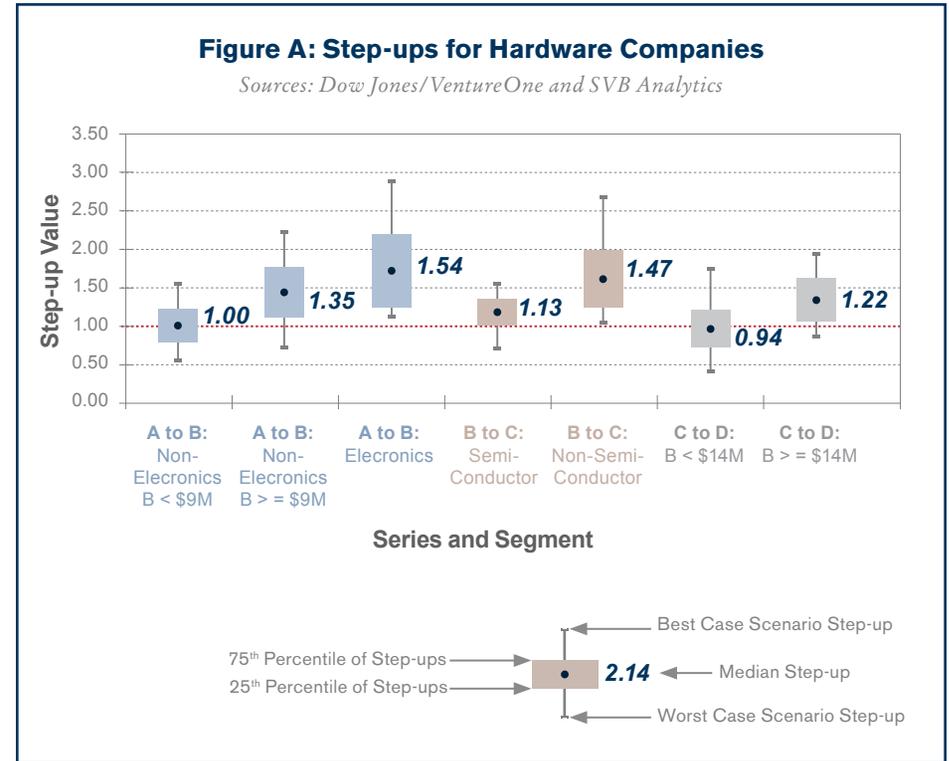
equation: its companies are expensive to fund and exit modestly, calling for low step-ups in value. Compounding this, the Series C stage is considered by many to be the riskiest time to invest in a semiconductor company, as it signals the winding down of technical risk and the beginning of market risk and is subject to massive variations from plan. Companies typically underestimate the difficulty in getting initial sales traction, and this is where

investors sometimes abandon their investments. All of this applies downward pressure on step-ups.

**Bottom Line:** Series B to C step-ups for semiconductor companies typically range from 1.00 to 1.50 (with half of them under 1.13).

**High Step-up Segment:** Companies from non-semiconductor hardware sectors. The other non-semiconductor sectors (i.e., the electronics, data communications, telecom and wireless sectors) together show much higher step-ups, with a median of 1.47 (a 47 percent increase in value). This is highlighted again by the very small overlap between shaded boxes for the semiconductor and non-semiconductor segments. The non-semiconductor companies have step-ups that fall in a much higher range. In this segment, electronics and data communications step-ups fell primarily above the median, and telecom and wireless B to C step-ups fell primarily below the median. While telecom suffered an extended post-bubble decline, we have recently seen its investing begin to steadily strengthen — and conversations with our clients suggest there was a marked increase in carrier expenditure in 2007.

**Bottom Line:** Series B to C step-ups for telecom and wireless



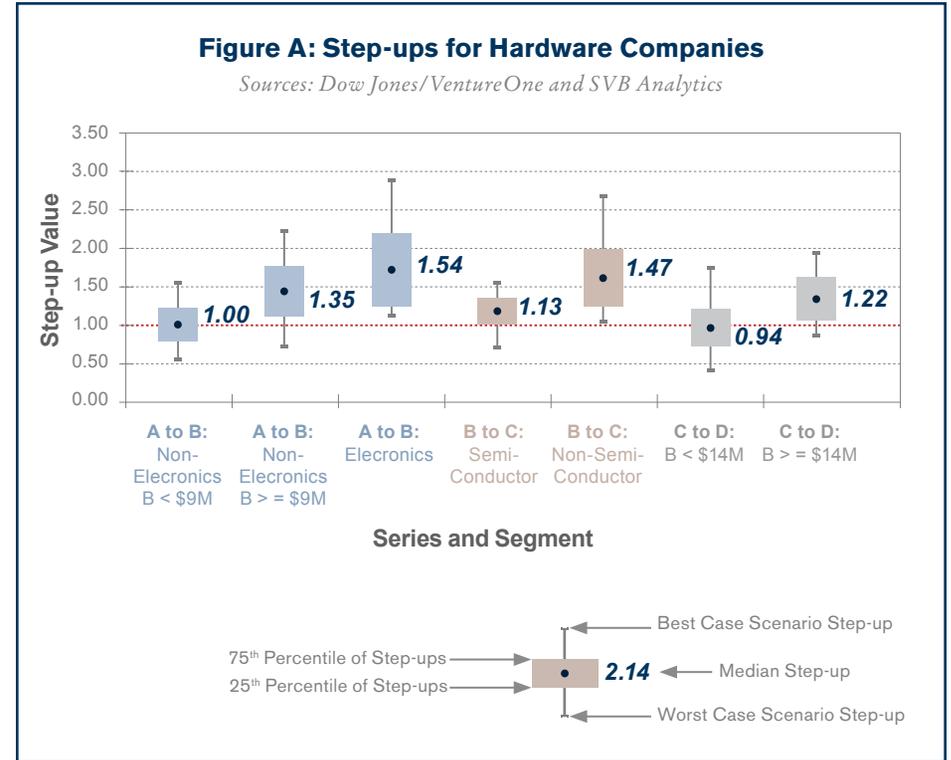
companies typically fall from 1.00 to 1.50 (with over half of them under 1.10). Electronics and data communications companies' Series B to C step-ups typically fall in the 1.40 – 2.00 range.

A common question is, “Why does the electronics segment stand out in A to B step-ups, and the semiconductor segment stand out

in B to C step-ups?” The answer has to do with the dynamics of the industries and the subsequent impact on the composition of the data set. Increased consumer spending has allowed the electronics segment to heat up in recent years, causing an increase in Series A fundings and amplified A to B step-ups. This healthy environment gives these electronics companies a quicker (and more volatile) path to revenue and thus opens an exit window (specifically, M&A) after the Series B round. As a result, there are far fewer electronics companies in the B to C step-up data. This segment now is disproportionately populated with semiconductor companies. By its nature, the semiconductor sector has lower step-ups, but the B to C stage is even more challenging as this is the point at which execution becomes an additional variable in the valuation equation. This is all borne out in the data with markedly lower B to C semiconductor step-ups.

## SERIES C TO D STEP-UPS

As we move on to Series C to D step-ups, there is not one particular industry sub-sector that stands out with respect to step-ups — rather the size of the Series C round is the differentiating attribute separating the low step-ups from the high, specifically if the Series C is more or less than \$14 million.



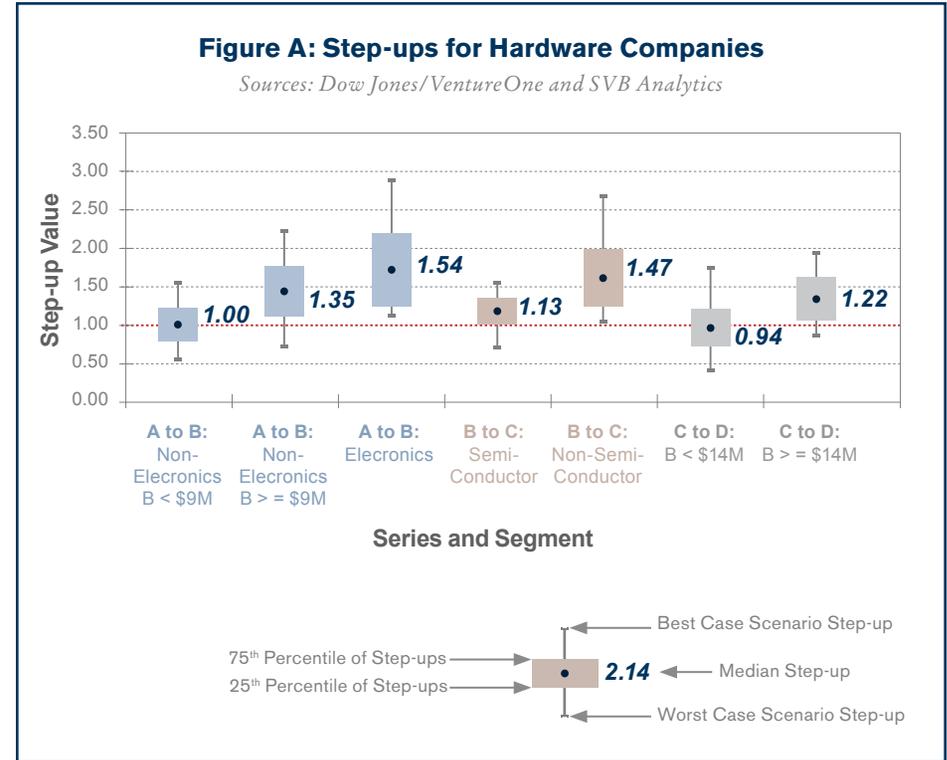
**Low Step-up Segment: Companies with Series C rounds less than \$14 million.** Companies raising Series C rounds that were less than \$14 million probably ran into trouble with market adoption and/or customer acquisition — and consequently ran into trouble with their valuations. These smaller rounds were primarily inside rounds, suggesting they were structured as an extension of the B round. Notably, the median Series C to D step-up was 0.94 —

a down round. There are equal parts electronics, semiconductor, and wireless or telecom companies in this segment, along with a handful of data communications companies.

**Bottom Line:** Hardware companies that raised a Series C round less than \$14 million have C to D step-ups that typically fall from 0.5 to 1.4 (with more than half of them under 1.00).

**High Step-up Segment:** Companies with Series C rounds greater than \$14 million. We see higher C to D step-ups from hardware companies when the C round is *greater* than \$14 million. Electronics, telecom, wireless, and data communications step-ups were concentrated primarily in the 1.20 to 1.90 range, and more than half of these rounds were inside rounds. Semiconductor step-ups fell much lower, and were primarily concentrated in the 1.00 to 1.12 range with almost no inside rounds. We rarely see semiconductor valuations exceed \$100-\$200 million, and it is likely these step-ups reflect companies that are beginning to bump up against this cap yet still need more money — consequently forcing down step-up values.

**Bottom Line:** Electronics, telecom, wireless and data communications companies that raised a Series C greater than \$14 million typically have C to D step-up values in the



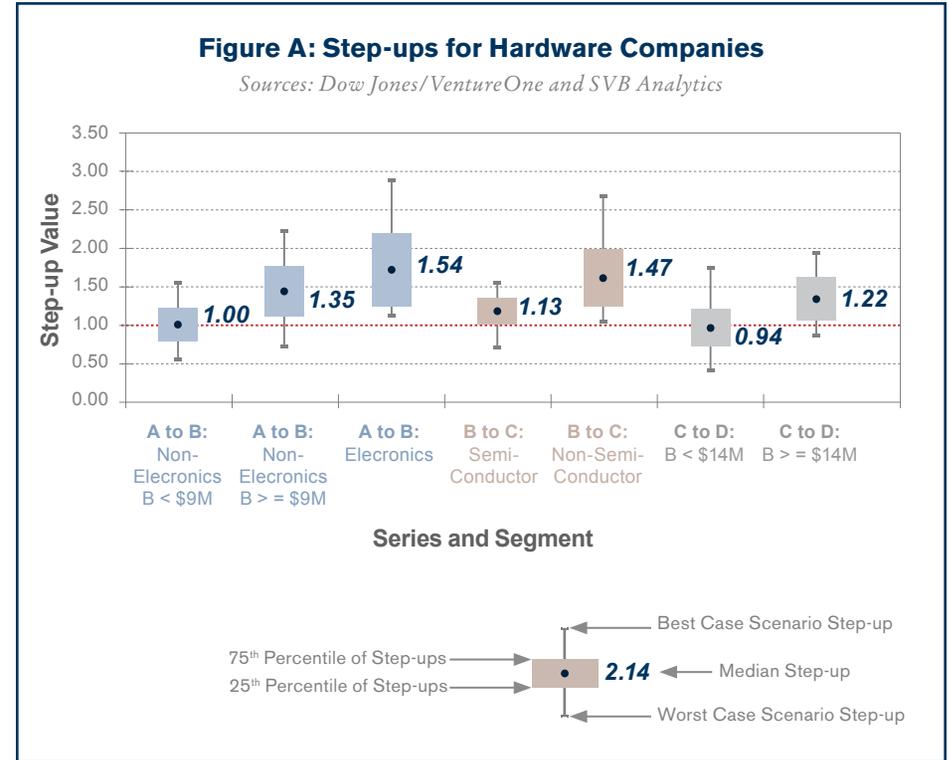
1.20-1.90 range. The typical range for semiconductor companies that raised a Series C greater than \$14 million is 1.00-1.12.

## WRAP UP

The post-bubble pick up in consumer spending in the electronics sector has opened an exit window for consumer electronics

companies after the Series B round. Additionally, we have recently observed (via our portfolio companies) that big Japanese and Korean consumer electronics manufacturers have been more willing to make strategic investments in these companies, even before they generate any revenue. All of this combines to influence higher step-ups in the early stages of the electronics sector. As we move into the C round, semiconductor companies must typically go through a long evaluation cycle followed by production validation prior to obtaining a design win with a customer. They are then at the mercy of these prospective customers (ideally big clients that can be referenced) as to when they will get the first meaningful purchase order — a significant milestone for attracting new investments and higher step-ups. By the Series D round, we see across the hardware sectors a fair number of smaller, inside rounds with low step-ups that are typically used to help companies buy runway to get more material customer validation prior to closing a bigger round. While the industry sub-sector drives step-up behavior during early rounds, the business dynamics converge in the later rounds and round size becomes a better indicator of step-up performance.

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Jim Anderson is president of SVB Analytics. Anderson joined 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 \$20 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.

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