2012

Trends in Terms of U.S. Life Science Venture Financings

Full Year 2012

Fenwick

FENWICK & WEST LLP

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Survey Intro and Background

This survey reflects our analysis of the terms of venture financings for 363 life science companies headquartered in the United States that reported raising money during 2012. The results are summarized below.

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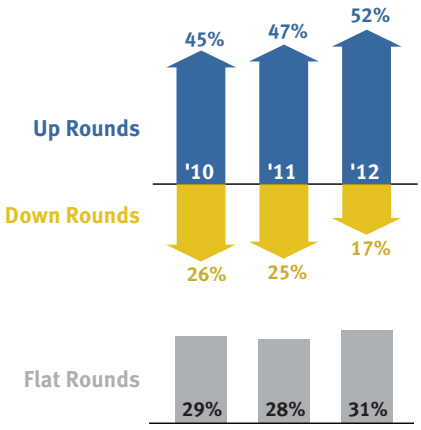
Overview of Fenwick & West Results

Valuations for life science companies receiving venture capital financing during 2012 continued to trend modestly upward from 2011 levels. However, total investment into venture-backed life science companies declined during 2012, and our analysis of fundraising trends indicates that fundraising by life science venture capitalists has continued to decline as well.

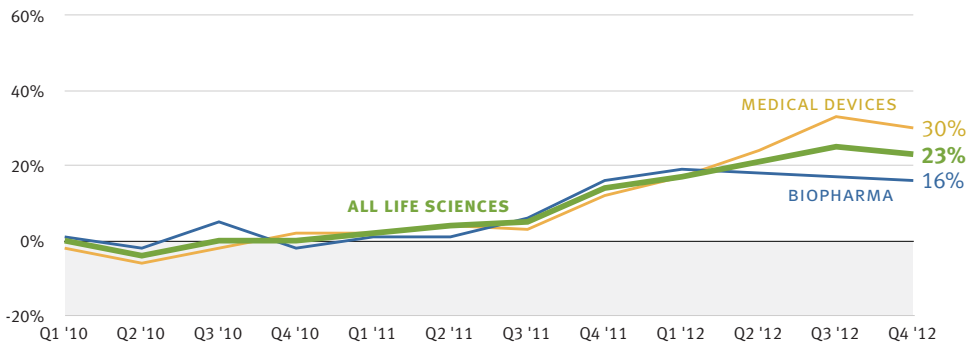
Key observations and highlights from our survey include the following:

- Up rounds outpaced down rounds 52% to 17% during 2012. This represents an improvement over results from 2011, which averaged 47% up rounds and 25% down rounds.
- The average round-to-round price increase for 2012, as measured by the Fenwick & West Life Science Venture Capital Barometer™, increased to 23%. For comparison, Barometer results for 2011 were 14%.
- Within life science industry sub-sectors, Barometer results for biopharmaceutical companies remained in line with 2011, averaging 16% for both 2011 and 2012. In contrast, Barometer results for medical device companies moved up from an average of 12% during 2011 to an average of 30% during 2012.
- Fundraising by life science venture capitalists, which fell off markedly following the 2008 recession, has continued to decline during 2012. We estimate that the percentage of VC fundraising allocable to life sciences has declined from 19% of funds raised in 2009 to 12.5% of funds raised in 2012. In absolute dollar terms, we estimate that fundraising has fallen from an average of $7.8 billion/year in 2007 and 2008 to $2.5 billion in 2012.
- Senior and participating liquidation preferences remained a common feature of 2012 life science venture financings, appearing in 51% (for senior preferences) and 66% (for participating preferences) of the financings we reviewed, which is in line with results observed during 2011.

Direction of Price Change, 2010-2012



Trend (Four Quarter Moving Average) of Barometer Results, 2010-2012



Analysis of Industry Data

The financing environment for venture backed life science companies remained challenging during 2012. Capital to fund life science startups is in increasingly short supply, despite indications that long-run demand for life science innovation will remain strong.

As industry participants are keenly aware, funding for life science startups is becoming scarce. Fundraising by life science-focused venture capitalists has been declining since 2009, and appears to be well below the level needed to sustain the current levels of investment. For example, in 2012 investments into venture-backed life science companies were over $6.2 billion, but we estimate that life science-focused venture capitalists raised only $2.5 billion in new funds. While funding provided by corporate investors, wealthy individuals and disease foundations will continue to help to fill some of the gap, there is clearly a shortfall between funds raised and funds deployed.

On the other hand, the potential demand for the innovation produced by life science startups remains strong. In the near term, larger life science companies continue to look to startups for promising new technologies that can bolster product pipelines and offer the potential for higher revenue growth. Consistent with this, 2012 M&A activity, while down from the highs of 2011, remained on par with the robust levels seen during 2010, and Nasdaq healthcare and biotech stocks significantly outperformed the broader market indexes during 2012. Furthermore, long run macroeconomic factors such as an aging world population and rising standards of living in emerging markets will drive increased demand for healthcare products, particularly innovative products that have the potential to improve outcomes and reduce overall system costs.

The current shortage of venture capital financing for life science companies is driving several trends that we see in the market:

- Life science venture capitalists are making fewer new investments, with PwC and NVCA reporting that 2012 saw the fewest "first time" investments in life companies of any year since 1995.
- Life science companies continue to go public, but the majority of life science companies going public in 2012 priced below their target range, suggesting that many IPOs are being driven as much by necessity as by choice. See Fenwick & West's IPO Survey for further information on recent trends in IPO activity.
- Large life science companies are playing an increasingly important role in providing funding to the sector, both through creative partnerships with life science startups and venture capital firms (as described in our 1H 2012 Survey) and through corporate venture investments.

In turn, companies and investors in the life science industry are adapting their strategies to account for current financing conditions. For example:

- Investors are favoring investments that are seen as having less technology and development risk, such as in-licensing later stage compounds and pursuing treatments for orphan diseases, which can be done with smaller clinical trials and an accelerated regulatory pathway.
- In a similar vein, investors are also favoring sectors and business models that require less capital to reach commercial potential. The growing interest in digital health and healthcare IT companies, including among investors in traditional FDA-regulated life science companies, represents one aspect of this trend. Likewise, investors continue to be interested in medical device companies, which typically require less capital than biotech companies to advance their products to commercialization, with our survey showing an uptick in medical device company valuations during 2012.

Analysis of Industry Data *(continued)*

- Furthermore, companies and investors are both accommodating, and in some cases actively planning for, earlier exits of investments. For example, life science acquisitions now frequently involve significant earn-out payments tied to achievement of post-closing milestones (e.g., analysis by Jon Norris of Silicon Valley Bank), which represents a way for investors and companies to exit at an earlier stage, prior to hitting key valuation inflection points, while still preserving the potential to realize upside returns. It is also becoming increasingly common for companies to take active steps – from the earliest stages of business – to enable an earlier exit. Examples of this trend include strategic partnerships involving a built-in option to purchase (e.g., Resolve Therapeutics recent partnership with Takeda Pharmaceuticals) or put-call structure (e.g., Warp Drive Bio's partnership with Sanofi-Aventis), and the use of tax-efficient structures involving limited liability companies to facilitate partial liquidation events and an earlier return of investor capital.

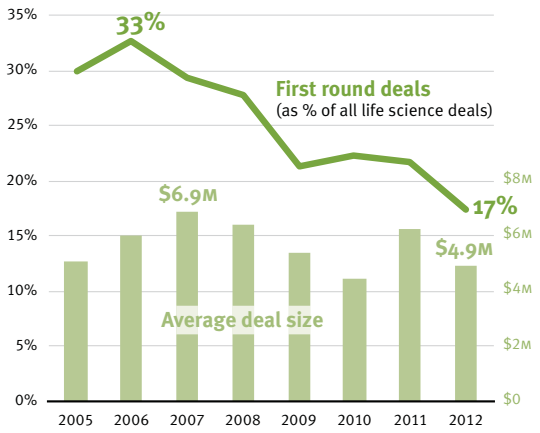
A more detailed summary and analysis of industry reports and data begins on the following page.

Analysis of Industry Data *(continued)*

Venture Capital and Corporate Investment

- Investments in venture-backed life science companies declined significantly during 2012, and remain at levels that are markedly below five-year historical averages.
- The number of "first round" (initial) life science venture financings reported by the MoneyTree Report fell to the lowest level seen since 1995.
- Corporate investors participated in 16.7% of life science deals and provided 9.6% of the funding received by life science companies during 2012, according to the MoneyTree Report. This represents an increase from participation in 15.3% of deals and providing 7.2% of funding during 2010 and 2011.

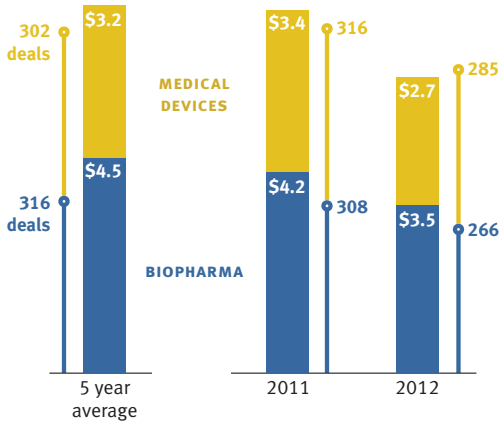
First Round Life Science Deals Decline



Source: The Money Tree Report

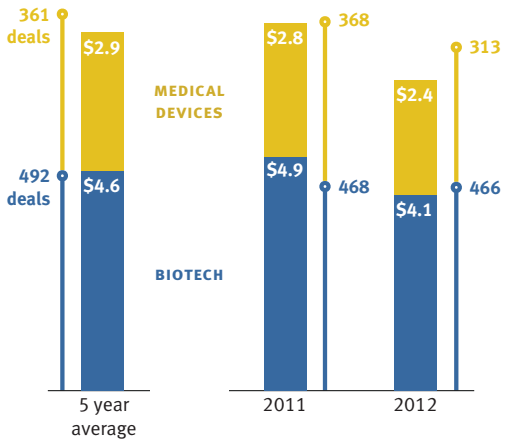
According to Dow Jones VentureSource ("VentureSource"), equity investments in U.S. venture-backed life science companies totaled $6.2 billion across 551 deals during 2012, a 19% decrease in dollars and 12% decrease in deals in comparison to 2011. Within the life science sector, biopharmaceutical investments were off 17% in dollars and 14% in number of deals during 2012 in comparison to 2011, and medical device investments were off 21% in dollars and 10% in number of deals.

VentureSource Results



The PwC/NVCA MoneyTree Report based on data from Thomson Reuters ("the MoneyTree Report") showed generally similar results, reporting that investments in venture-backed life science companies totaled $6.6 billion across 779 deals in 2012, a 15% decrease in dollars and a 7% decrease in deals in comparison to 2011. The MoneyTree Report showed somewhat more positive results for biotechnology investments, which were reported to be off 15% in dollars but approximately even in number of deals during 2012, as compared to medical device investments which were off 13% in dollars and 15% in number of deals.

The MoneyTree Report Results



For comparison, VentureSource reported that during 2012 overall equity investments into venture-backed companies (measured across all industry sectors) decreased 15% in dollars in 4% in number of deals in comparison to 2011. Similarly, the MoneyTree Report showed a 10% decrease in dollars and a 6% decrease in number of deals.

Analysis of Industry Data *(continued)*

Healthcare IT and Digital Health Trends

Investments in digital health and other healthcare-related information technologies are continuing to trend upward, with digital health incubator Rock Health reporting that venture capitalists invested $1.4 billion in the digital health sector during 2012, representing a 46% increase in dollars (and a 56% increase in number of deals) in comparison to 2011.

While the Rock Health report indicates that the largest digital health sector by funding was health consumer engagement (representing $237 million of total 2012 funding), the digital health sector also includes big data analytics tools and digital health technologies to support better clinical trials that offer the potential to help shorten the cycle and reduce the cost of biopharmaceutical and medical device R&D.

Analysis of Industry Data *(continued)*

Venture Capital Fundraising

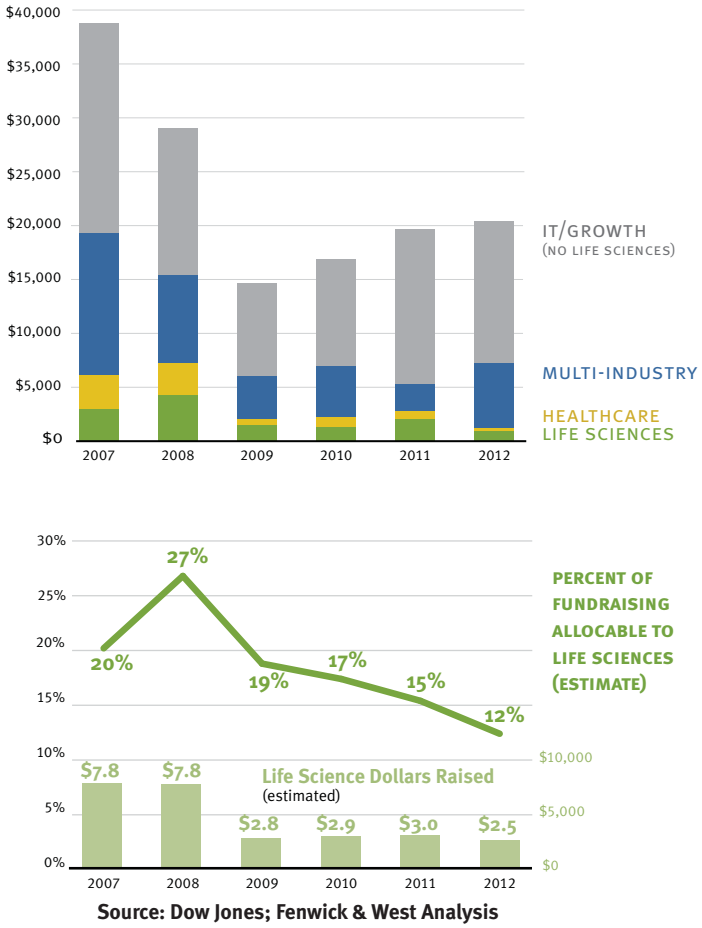
- The total amount raised by venture capitalists in all industries increased during 2011 and 2012, but fundraising by life science venture capitalists has continued to decline.
- We estimate that only $2.5 billion (i.e., 12.5%) of venture capital funds raised during 2012 are likely to be deployed toward life science investments, a decrease from $3.0 billion (i.e., 15%) of funds raised in 2011. For comparison, we estimate that during 2008 — the last year prior to the significant decline in venture capital fundraising that accompanied the recession — $7.8 billion (i.e., 27%) of funds raised by venture capitalists were likely to go toward life science investments.

In overall fundraising, Dow Jones reported that U.S. venture capital funds raised $20.3 billion during 2012, in line with the $20.0 billion raised in 2011, and an increase from the $16.9 billion raised in 2010. Similarly, Thomson/NVCA reported that U.S. venture capital funds raised $20.6 billion during 2012, up from $18.8 billion raised in 2011 and $13.7 billion raised in 2010.

However, our analysis of the underlying data from Dow Jones — which is detailed in chart on this page — indicates that while venture capital fundraising has recovered somewhat in recent years, the portion of funds likely to be allocated to life science investment has declined from 19% of funds raised in 2009 to 12.5% of funds raised in 2012.

In order to estimate life science-related fundraising, we categorized funds based on their stated investment objectives, as either dedicated life science funds (i.e., focusing exclusively on traditional FDA-regulated life sciences), healthcare funds (i.e., making both traditional life sciences and healthcare IT/services investments), multi-industry funds (i.e., making both healthcare and IT/growth investments) or pure IT/growth funds. We then assumed that one half of the amount raised by healthcare funds and one quarter of the amount raised by multi-industry funds would be allocated to life science investment. We would note that neither our analysis nor the underlying fundraising statistics reported by Dow Jones and NVCA capture funding provided by non-venture capital sources (such as corporate investments from "captive" or evergreen funds, and investments by angel investors and disease foundations), which may account for some of the disparity we observe between funds raised and funds invested.

Venture Capital Fundraising By Fund Type



Source: Dow Jones; Fenwick & West Analysis

Analysis of Industry Data *(continued)*

Merger and Acquisition Activity

- Industry reports indicate that life science M&A activity tapered off from the very strong levels seen during 2011, but remained in line with results from 2010.
- In the biopharmaceutical sector, various sources (e.g., HBM Partners and Ernst & Young) indicate that 2012 M&A activity was attributable to a broader range of buyers, with large biotech, small/mid-size pharma and specialty buyers participating alongside traditional big pharma players.

As a measure of industry-wide activity, Burrill & Co., which reports on public and private company M&A activity for U.S.-based companies across a diversified set of life science sectors, reported total deal volume of $73.7 billion for 2012, a 22% decrease from the $94.3 billion reported for 2011, but in line with 2010 volume of $71.8 billion.

In the biopharmaceutical sector, the HBM Partners Pharma/Biotech M&A Report ("HBM Report"), reported 22 sales of U.S. venture-backed companies during 2012 (for $2.1 billion upfront, $6.5 billion total possible value), in comparison to 18 sales during 2011 (for $3.7 billion upfront, $6.2 billion total). In the medical device sector, Dow Jones reported 21 medical device acquisitions of U.S. venture-backed companies during 2012, a decrease from the 29 acquisitions reported in 2011.

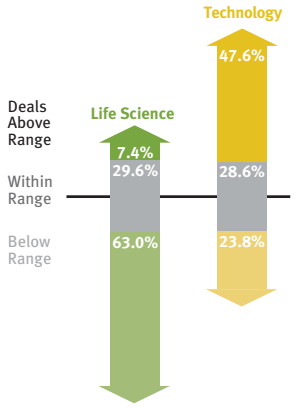
For comparison, Dow Jones reported that overall M&A activity for venture-backed companies (measured across all industries) decreased 23% in dollar terms and 21% in number of deals during 2012, as compared to 2011.

Analysis of Industry Data *(continued)*

Initial Public Offerings

- Life science IPO activity during 2012 remained on par with levels seen during 2011.
- However, life science companies seeking to go public continue to face a difficult pricing environment, with a majority of 2012 life science IPOs pricing below their target range according to a report by Burrill & Co. and Fenwick & West's IPO survey.

2011 -2012 IPOs: Red Herring to Final IPO Price Changes



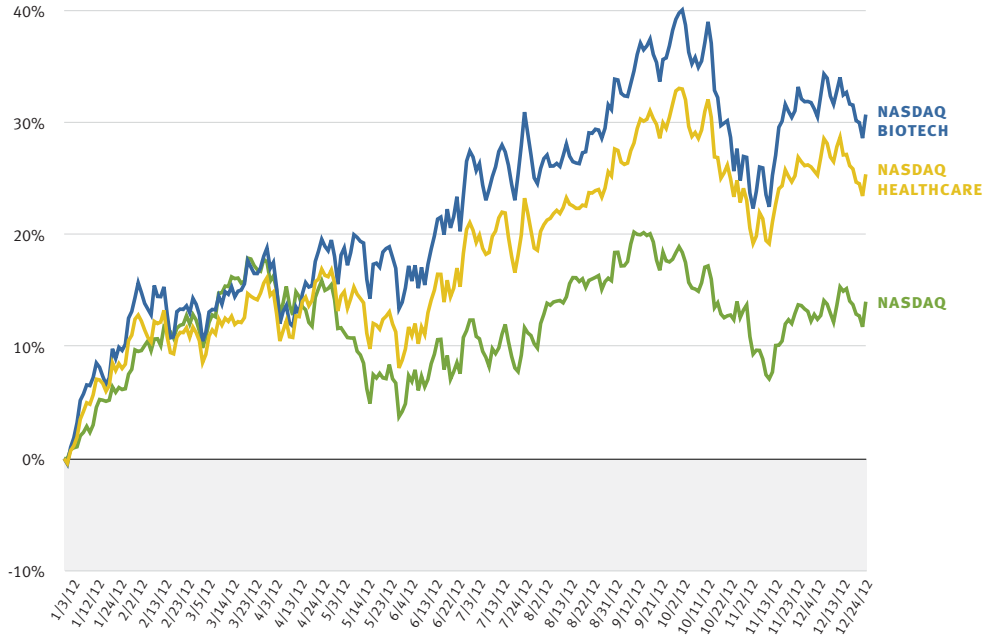
Dow Jones reported that 12 U.S. venture-backed life science companies (10 in the biopharmaceutical sector and 2 in the medical device sector) went public during 2012, on par with the 10 life science IPOs (8 biopharmaceutical and 2 medical device) reported for 2011. Similarly, Burrill & Co. reported 16 life science company IPOs during 2012, even with 16 life science IPOs in 2011.

For comparison, 2012 IPO activity for venture-backed companies, measured across all industry sectors, began strongly in Q1 2012 but then tapered off, ending the year approximately even with 2011 levels. Dow Jones reported= a total of 50 venture-backed IPOs during 2012 (20 of which occurred during Q1), in line with the 46 venture-backed IPOs during 2011.

Public Markets

In the Nasdaq public markets, life science stocks significantly out-performed the broader market index during 2012. The Nasdaq Composite (IXIC) increased 16% during 2012. In comparison, the Nasdaq Biotech Index (NBI) increased 32% during 2012, and the broader Nasdaq Healthcare Index (IXHC) increased 27%.

Nasdaq Market Indexes, Percentage Change 2012



Detailed Fenwick & West Results

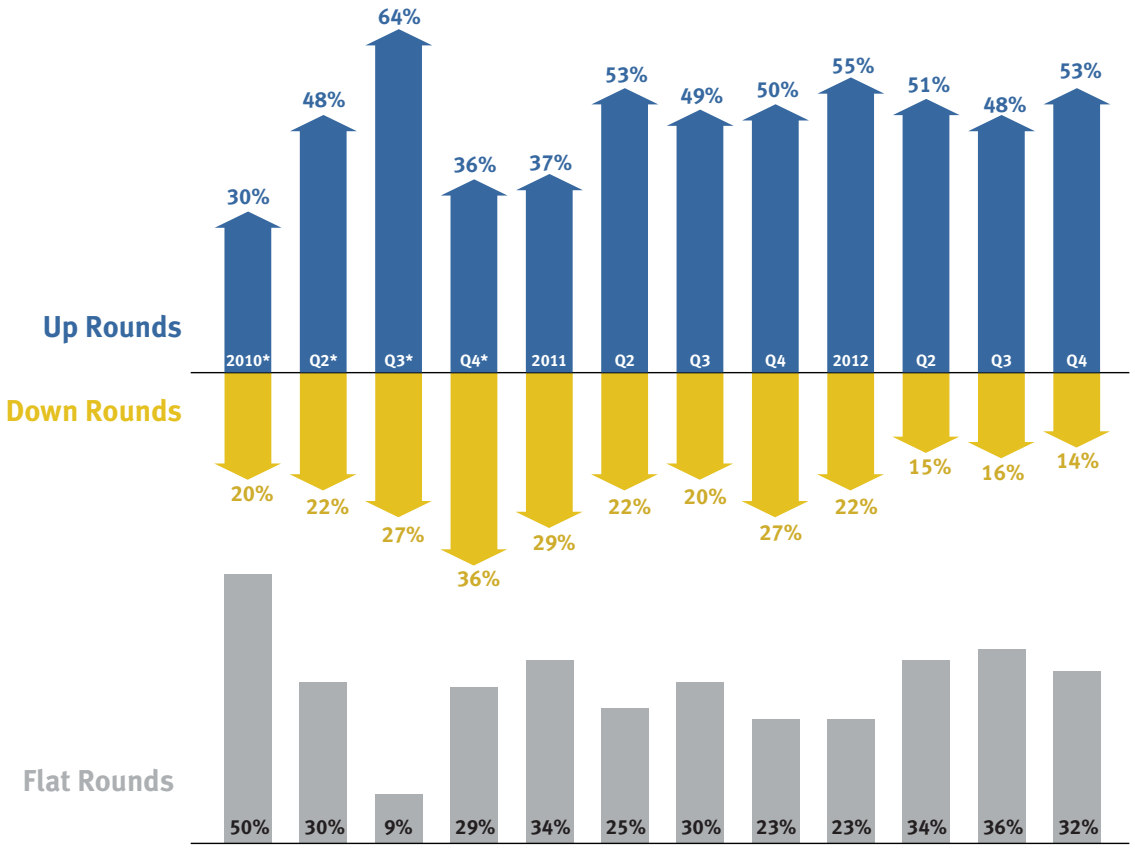
Valuation – Direction of Price Change

Up rounds outpaced down rounds during 2012, with a substantial number of flat rounds in each quarter. This is similar to the pattern from our 2011 results, although the ratio of up rounds to down rounds has increased slightly over 2011 averages. The results from 2012 are a clear improvement over 2010 life science results from our Silicon Valley Survey, which show several quarters in which down rounds exceeded up rounds.

Results from this survey and our earlier Silicon Valley surveys indicate that flat rounds occur more often in life science deals, as compared to other industry sectors. This is likely due to the higher percentage of life science financings that are "inside led" (i.e. where funding is provided entirely by existing investors, without a new outside party setting the valuation).

Direction of Price Change

Percentage of deals in which the direction of price change was up, down or flat



Note: in some cases results may sum to less than 100% due to rounding.

** Includes data from Silicon Valley companies only, so reflects fewer data points than 2011 nationwide results.*

Detailed Fenwick & West Results

Valuation – Magnitude of Price Change (Barometer)

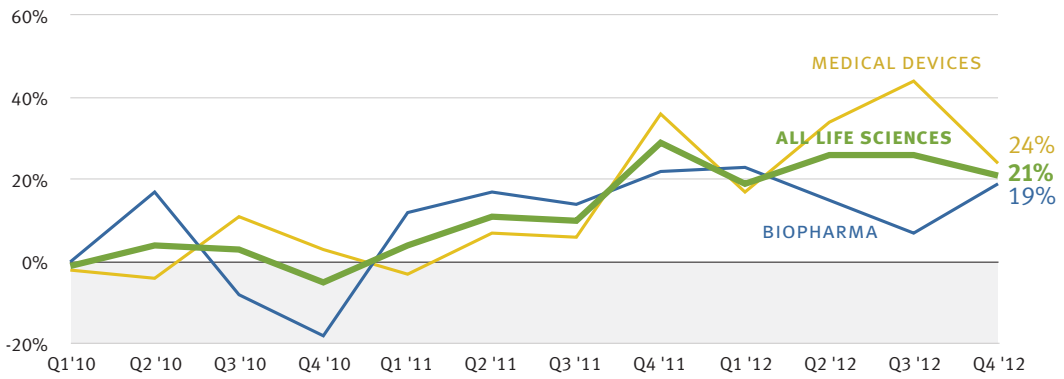
The Fenwick & West Life Science Venture Capital Barometer™ showed average round-to-round price increases of between 19% and 26% for quarters during 2012. The four-quarter moving average increased over 2012, ending the year at 23%, in comparison to a four-quarter moving average of 14% as of Q4 2011. (For an explanation of how the Barometer is calculated, see "Notes on Methodology" at the end of this survey.)

Within life science industry sub-sectors, Barometer results for biopharmaceutical companies remained in line with 2011, averaging 16% for both 2011 and 2012. In contrast, Barometer results for medical device companies moved up from an average of 12% during 2011 to an average of 30% during 2012.

The graph immediately below shows the average percentage change between the price per share at which companies raised funds in a given period, compared to the price per share at which such companies raised funds in their prior round of financing, which is a calculation we refer to as the Fenwick & West Life Science Venture Capital Barometer. Subsequent graphs show a four-quarter moving average of Barometer results and results by series of financing.

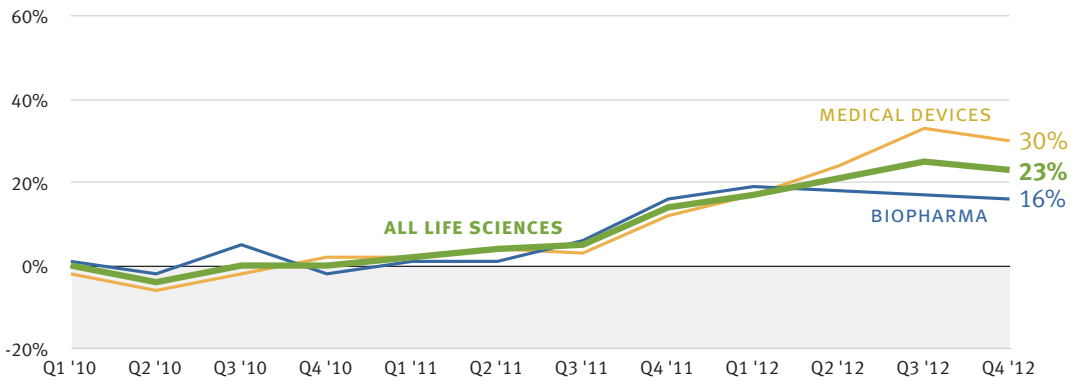
Fenwick & West Life Science Venture Capital Barometer™

Average percentage change in per share price for companies raising financing during the quarter



Note: Separate biopharma and medical devices results not reported prior to 2011 due to smaller data set.
** Includes data from Silicon Valley companies only, so reflects fewer data points than 2011 nationwide results.*
*** Please note that Q3 2010 results include one company that had a 500% up round among a small data set; if this result were excluded the Barometer result would have been 5%.*

Trend (Four Quarter Moving Average) of Barometer Results, 2010-2012

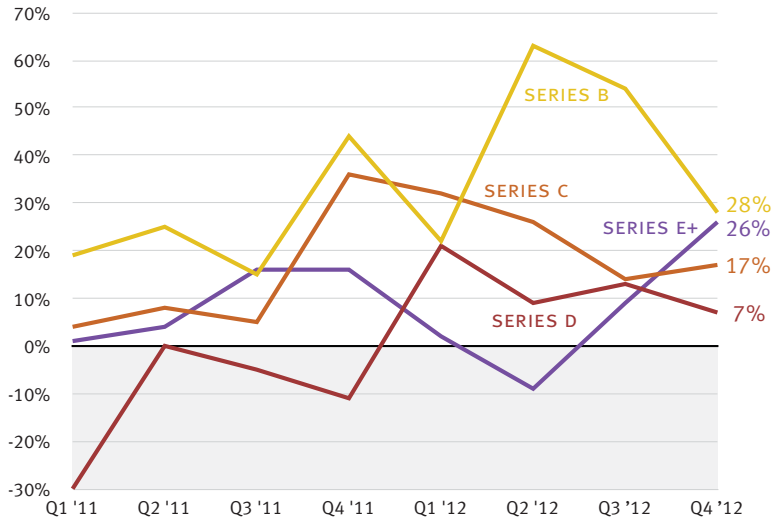


Detailed Fenwick & West Results

Valuation – Magnitude of Price Change (Barometer)

Barometer Results by Series of Financing

Average percentage change in per share price for companies raising financing of a given series during the quarter



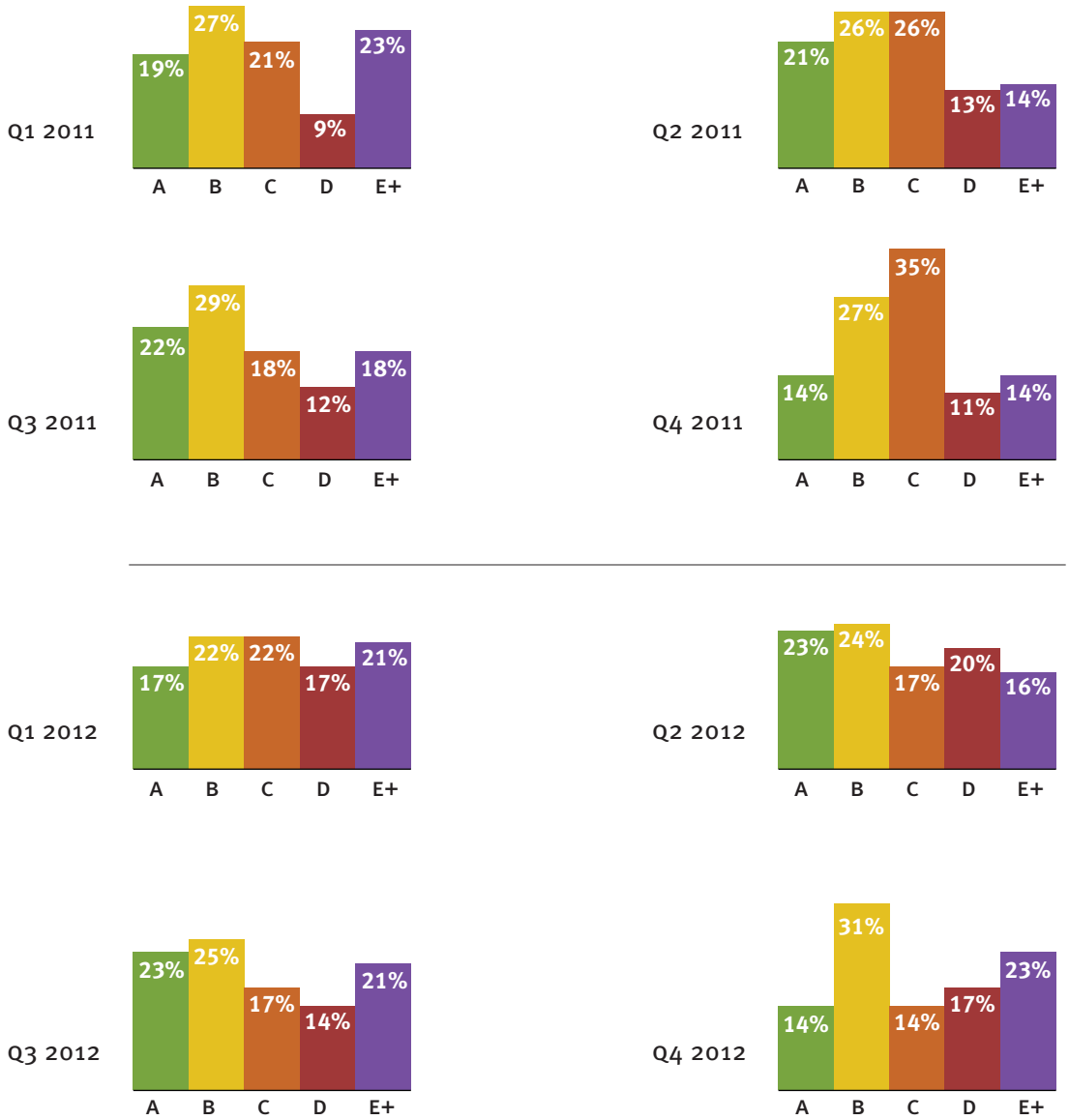
Detailed Fenwick & West Results

Financing Rounds Included in Survey

The financing deals covered by this survey broke down by series as shown in the graphs below.

Financing Rounds Surveyed

Detail on proportion of deals included in survey from each financing round



Detailed Fenwick & West Results

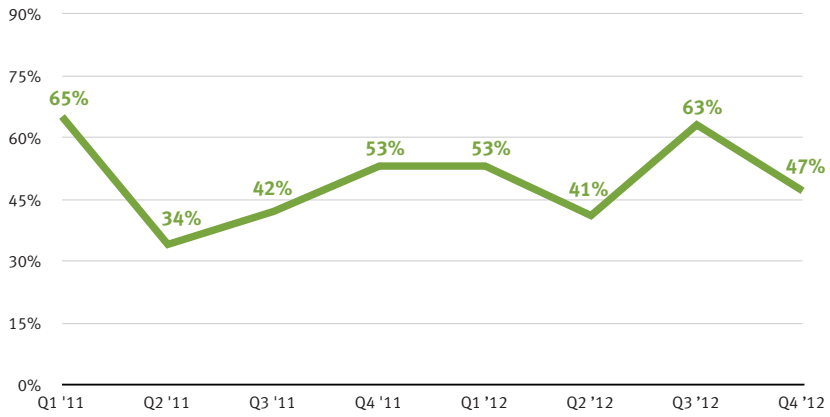
Terms – Liquidation Preference

Senior liquidation preferences appear in a substantial portion of life science deals, and are more frequent in later rounds of financing. Participation rights are also common, appearing in an average of 66% of life science deals during 2012, and uncapped in an average of 70% of the deals in which they are used.

The following graphs show the percentage of deals in which senior liquidation preferences were used, both overall and by series of financing.

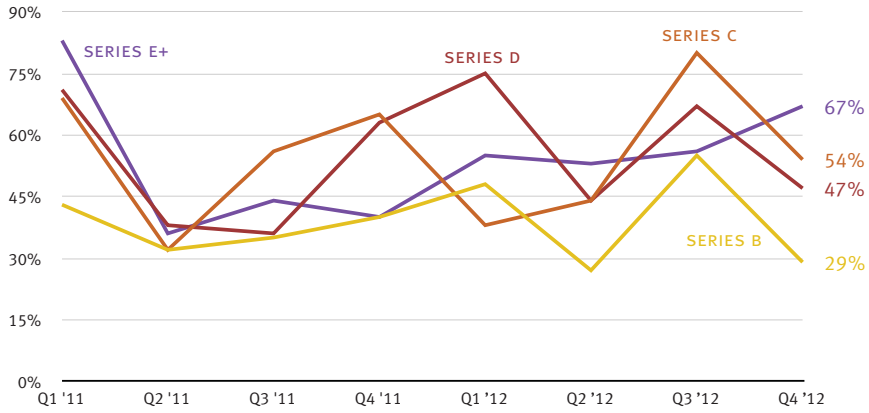
Senior Liquidation Preferences

Percentage of non-Series A deals involving senior liquidation preferences



Senior Liquidation Preferences by Series

Percentage of deals of a given series involving senior liquidation preferences



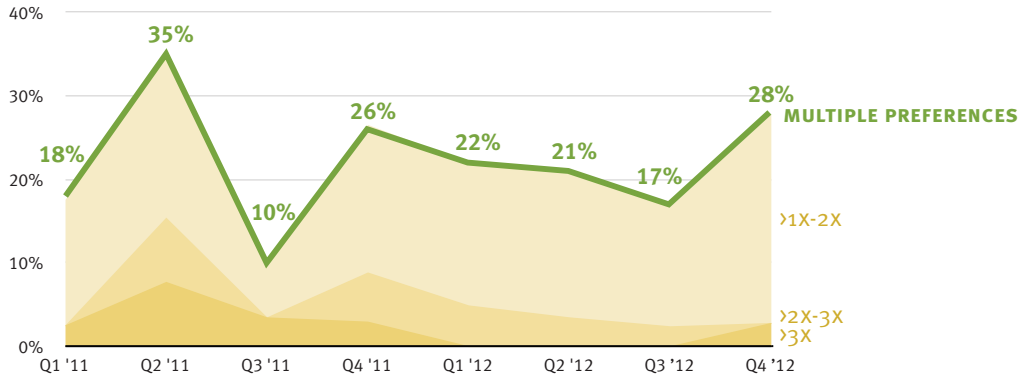
Detailed Fenwick & West Results

Terms – Liquidation Preference

The following graph shows the percentage of deals involving senior liquidation preferences in which the preference was greater than the investors' purchase price (i.e., involving multiple preferences). The color bands indicate the proportion of multiple liquidation preference deals in which the total preference was 1-2x, 2-3x or greater than 3x the investors' purchase price.

Multiple Preferences

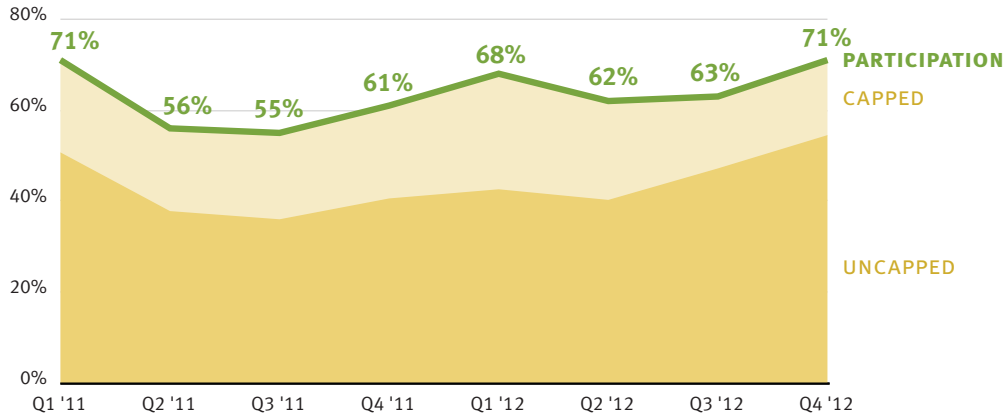
Percentage of senior liquidation preference deals involving multiple preferences



The following graph shows the percentage of deals involving participation rights. The color bands indicate the proportion of participation right deals in which the participation rights were capped (i.e., limited to a specific multiple of liquidation preferences or other amount) and uncapped.

Participation Rights in Liquidation

Percentage of deals involving participation right



Detailed Fenwick & West Results

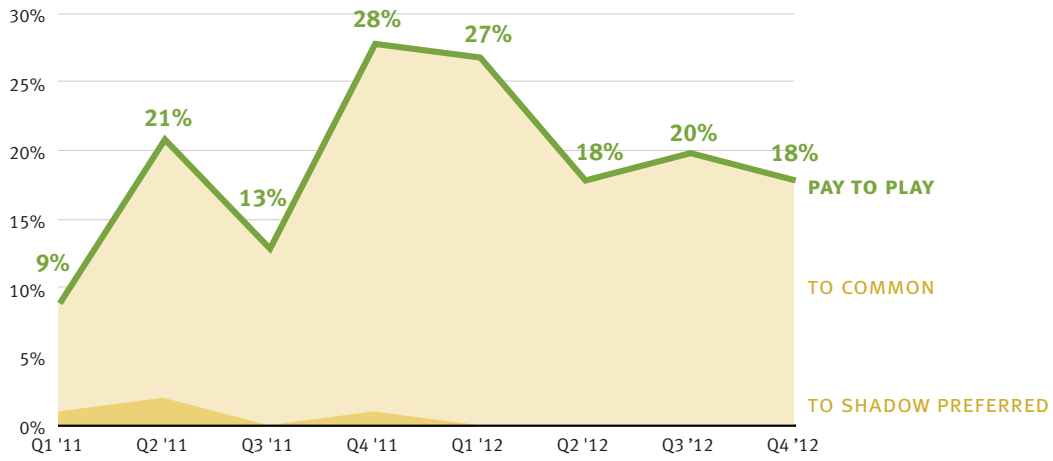
Terms – Pay-to-Play Provisions

Pay-to-play provisions appeared in an average of 21% of life science deals during 2012. All pay-to-play provisions included in the 2012 results provided for conversion to common stock, as opposed to a shadow series of preferred stock.

The following graph shows the percentage of deals involving pay-to-play provisions. The color bands indicate the proportion of pay-to-play provisions that involve conversion to common stock and shadow preferred stock.

Pay-to-Play Provisions

Percentage of deals involving pay-to-play provisions



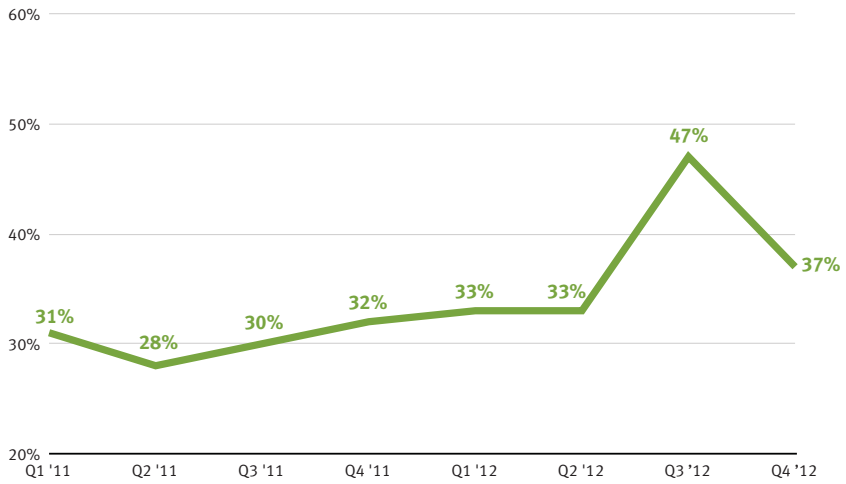
Detailed Fenwick & West Results

Terms – Other Provisions

Cumulative dividends and redemption rights appeared in an average of 37% and 44%, respectively, of life science deals during 2012. Anti-dilution provisions were predominantly weighted average.

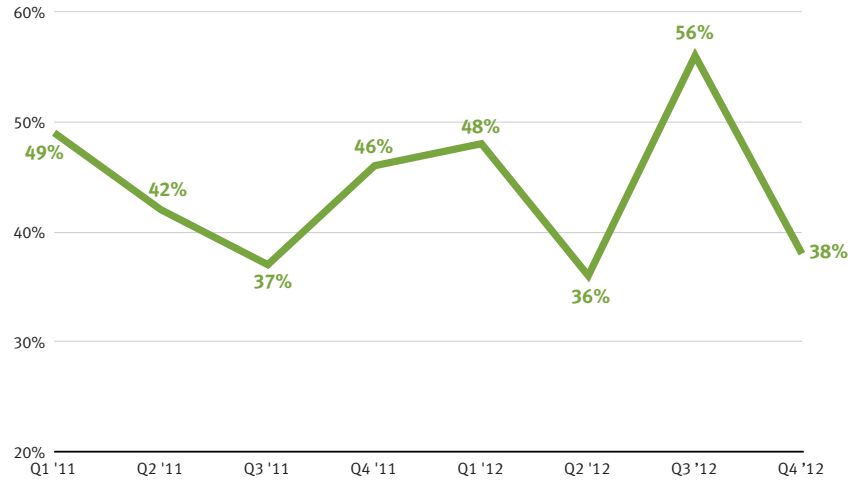
Cumulative Dividends

Percentage of deals involving cumulative dividends



Redemption Rights

Percentage of deals involving mandatory redemption or redemption at the option of the investor

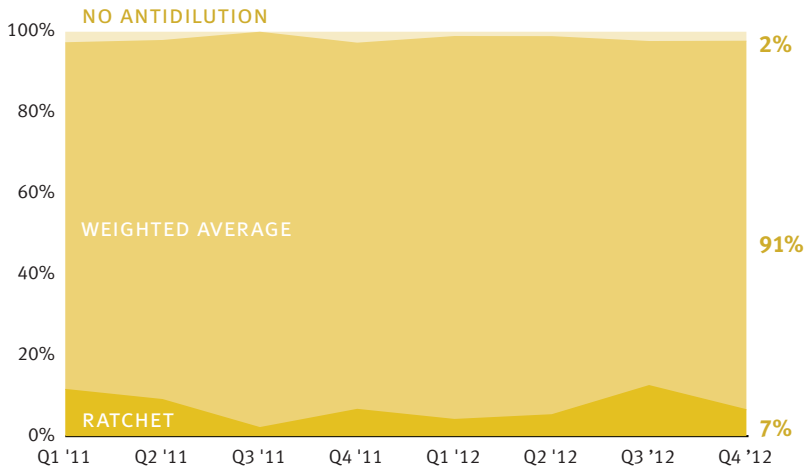


Detailed Fenwick & West Results

Terms – Other Provisions

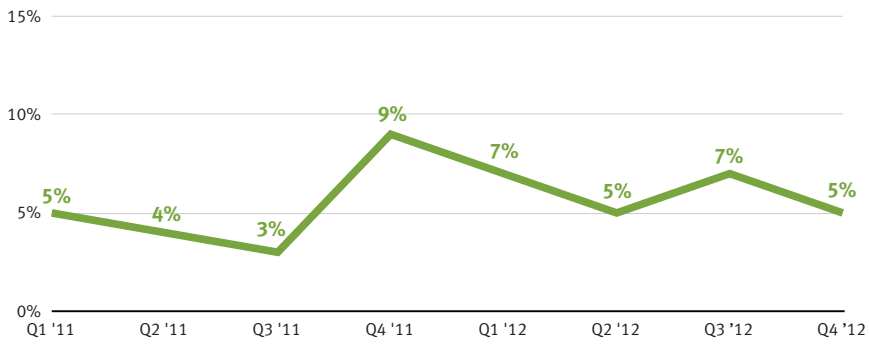
Antidilution Provisions

Percentage of deals involving weighted average, full ratchet or no antidilution



Corporate Reorganizations

Percentage of post-Series A financings involving a corporate reorganization



Detailed Fenwick & West Results

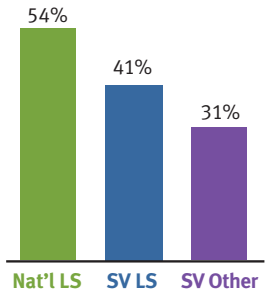
Terms – Regional and Industry Variations

In comparing results from our 2012 nationwide life sciences survey to the corresponding results from our quarterly Silicon Valley surveys, we observed several notable variations in the frequency of certain financing terms.

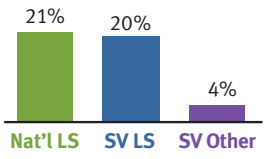
In particular,

- Senior liquidation preferences and pay-to-play provisions are significantly more common in life sciences deals as compared to non-life sciences deals. This is consistent with the fact that, in comparison to other industries, life science companies typically need to raise more capital over longer periods of time.

Senior Liquidation Preference

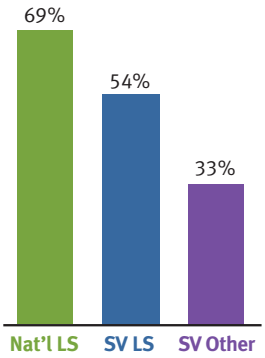


Pay-to-Play Provisions

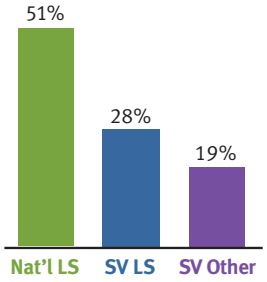


- Participating preferred stock is used frequently in life science deals, and more frequently still outside of Silicon Valley. The frequency of uncapped participating preferred, on the other hand, varies between Silicon Valley and non-Silicon Valley deals.

Participating Preferred Stock



Uncapped Participation

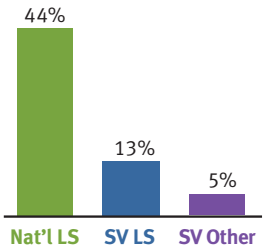


Detailed Fenwick & West Results

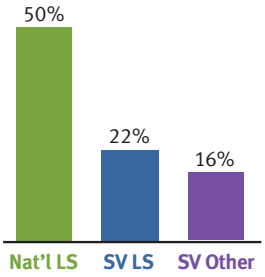
Terms – Regional and Industry Variations

- Cumulative dividends and redemption rights are significantly more common outside of Silicon Valley, but within Silicon Valley are no more common in life sciences deals than in other industries.

Cumulative Dividends



Redemption Rights



The graphs above compare the frequency of various deal terms between (1) nationwide life science deals, not including deals from Silicon Valley, (2) Silicon Valley life science deals, and (3) Silicon Valley deals for industries other than life sciences. The percentages in the graphs above represent the average frequency of a particular term across all 2012 results.

Notes on Methodology

For purposes of this survey, we use the term "life sciences" to refer to companies operating in the traditionally FDA-regulated biopharmaceutical and medical device sectors. We recognize that companies operating in adjacent sectors such as healthcare IT or biofuel production also comprise part of the life sciences industry, broadly defined. But because companies in these sectors are subject to different regulatory requirements and business conditions, and often are funded by venture capital firms that do not participate in the biopharmaceutical and medical device sectors, we have elected to exclude these companies from the survey to provide more comparable and relevant results.

The Fenwick & West Life Science Venture Capital Barometer™ measures the average percentage change between the price per share at which companies raised funds in a given period, compared to the price per share at which such companies raised funds in their prior round of financing. In calculating the average, all rounds (up, down and flat) are included, and results are not weighted for the amount raised in a financing. When interpreting the Barometer results please bear in mind that the results reflect the average price increase of companies raising money in a given quarter compared to their prior round of financing, which was in general 12-18 months prior. Given that venture capitalists (and their investors) generally look for at least a 20% IRR to justify the risk that they are taking, and that by definition we are not taking into account those companies that were unable to raise a new financing (and that likely resulted in a loss to investors), a Barometer increase in the 30-40% range should be considered normal.

About the Firm

Fenwick & West provides comprehensive legal services to technology and life sciences clients of national and international prominence. Fenwick is committed to providing innovative, cost-effective and practical legal services that focus on global technology industries and issues. We have built internationally recognized practices in a wide spectrum of corporate, intellectual property, tax and litigation areas, all focused on the unique business needs of emerging and established companies, investors and research institutions. Over 40% of the attorneys in our life sciences group have advanced degrees in disciplines such as molecular biology, organic chemistry, electrical engineering and immunology, as well as business or research experience prior to their legal careers. Fenwick attorneys differentiate themselves by having a deep understanding of our clients' technologies, industry environments and business needs.

About the Authors

Mr. Matthew Rossiter, Partner in the Corporate and Intellectual Property Groups, represents start-up companies, established public companies and venture capital investors, with particular focus on the life science industry. He seeks to provide thoughtful, practical advice to clients on a variety of corporate finance and corporate governance matters, as well as on complex commercial and intellectual property transactions.

Mr. Barry J. Kramer, Partner in the Corporate Group, represents a wide range of technology and life science companies, from privately held start-ups to publicly traded companies, as well as prominent venture capital funds. Mr. Kramer is the co-author of Fenwick & West's quarterly venture financing terms survey.

Mr. Michael J. Patrick, Partner in the Corporate Group, provides general corporate representation, including merger and acquisition counsel, for a broad array of life science and medical device companies, start-ups and venture capital firms. Mr. Patrick is the co-author of Fenwick & West's quarterly venture financing terms survey.

Contact/Sign Up Information

For additional information about this report please contact Matt Rossiter at 415-875-2372 or mrossiter@fenwick.com; Barry Kramer at 650-335-7278 or bkramer@fenwick.com or Michael Patrick at 650-335-7273 or mpatrick@fenwick.com.

To be placed on an email list for future editions of this survey please visit: www.fenwick.com/subscribe-lifesciencesurvey.

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