

# BioCentury

REPRINT FROM JANUARY 4, 2016

## 2016 FINANCIAL MARKETS PREVIEW

# CURBED ENTHUSIASM

BY STEVE EDELSON, SENIOR EDITOR

Following three years of investor exuberance manifested in gains of at least 115% in biotech indices, buysiders say a good 2016 would see biotech merely keeping pace with the broader markets.

Nobody is calling an end to the biotech bull market, but volatility is the key word due to election year politics that will feature drug pricing as a central talking point, the sour performance of biotechs that tapped the markets in 2015, and an exodus of crossover investors that helped about 20 companies go public.

The consensus remains that biotech is still the best and perhaps only growth sector. As a result, many generalists will invest in biotech almost by default, even though momentum players — and their froth — are absent.

Expectations are for the generalists to remain in large cap biotech names until specialist investors show convincing wins in smaller cap companies. Specialists will have ample opportunities to build positions early in the year, as a glut of paper will be on offer in January.

The full year is likely to see fewer financings, in part because 908 companies stuffed their coffers with \$109.7 billion in 2015, making it the biggest year in the sector's history.

Another reason is that bankers don't think many financings will happen from August to year end, when the election will become a distraction. Face time with buysiders will therefore be hard to come by, and companies will need to heed bankers' advice to cast as broad a net as possible when courting investors.

Even if stump speeches about drug pricing lead to periods of volatility and an associated chilling of generalist interest, specialist investors still have no concerns about the pricing power of companies with innovative medicines that deliver measurable benefits to patients.

### BIG ENDING

Biotech beat the broader markets in 4Q15 and FY15, but not by as wide a margin as last year.

The NASDAQ Biotechnology Index (NBI) was up 12%, the NYSE Arca Biotechnology Index (BTK) gained 11% and the BioCentury 100 index advanced 8% in 4Q15. The NASDAQ Composite added 8% and the Dow Jones Industrial Average advanced 7% in 4Q15.

For the year, the NBI and BTK were up 11% and the BioCentury 100 was up 5%. The NASDAQ gained 6% and the DJIA finished in the red with a 2% decline.

In 2014 the BioCentury 100 advanced 28%, the NASDAQ added 13% and the DJIA brought up the rear with a gain of 8%.

Biotech's 2015 performance was on pace to match 2014 until the sector lost 23% in 3Q15. Afterwards, investors put their money into big cap biotechs, which posted a 16% gain in 4Q15 (see "Results by Market Cap").

In Europe, the preference for big names propelled the market cap-weighted BioCentury Europe index to a 40% gain in 2015 (see "London vs. Europe").

Even though companies valued at \$5 billion or more were up 7% for 2015 after climbing more than 100% over 2012-14, buysiders say big cap biotech still does not look expensive. The average P/E for the group was 24, up from a nadir of 20.2 at the end of the third quarter and just above where it began the year (see "Price-to-Earnings: BT vs. RX").

The average P/E to growth (PEG) ratio was 1.6 for big biotech based on 2015 EPS estimates, below telecommunications (2.2) and just above IT (1.4).

"From where valuations stand, just on pure price-earnings values, we are back to where we were three years ago," said Daniel Koller of BB Biotech.

Linden Thomson of AXA Framlington noted that her generalist colleagues “are paying much higher multiples for lower growth elsewhere.”

LSP’s Joep Muijers said if big biotechs report another quarter of strong earnings, the sector will be impossible for generalists to ignore. In 3Q15 almost every large cap company beat consensus estimates and raised guidance.

“I think that generalists will not shy away from the sector, but remain invested in large cap companies,” said Mario Linimeier of Medical Strategy. “They will definitely avoid small and mid-cap stocks.”

If he’s right, the proposed IPOs and follow-ons that bankers and buysiders expect this month will need to be taken up by an increasingly discerning group of specialists.

Andrew Bogan of Bogan Associates is unlikely to be among the buyers. “When the equity market is not generally booming, euphoric biotech buying of preapproval, non-profitable companies tends to disappear in a drastic and horrific way. I don’t know that 2016 will be when that happens, but it wouldn’t surprise me,” he said.

“I’m not itching to sell some of the younger, successful companies that we currently own, but I’m not necessarily expecting them to outperform,” Bogan added.

Bogan’s macro concerns include unemployment numbers that he thinks are worse than people expect, weakness in the semiconductor industry and the poor economies of Japan and Brazil.

He said demand for big biotech does not tend to fall off during weak economic times.

Marshall Gordon of ClearBridge Investments also is not expecting biotech indices to leave the broader markets in the dust. But, he added, “I’m planning on specific stocks doing well based on approvals or launches or milestones. I don’t think the sector will be off to the races, but there are still very few secular growth opportunities elsewhere.”

Carl Gordon of OrbiMed Advisors was perhaps the most sanguine. “Even with a pullback the biotech market remains strong and is completely changed from the climate even 10 years ago. If you look at the big picture, you realize it’s a great environment for biotech investing, and we’re all just debating how great it is,” he said.

OrbiMed ended 2015 by closing a \$950 million venture fund. The firm said it took about four months to raise the money, which was faster than prior funds.

## GETTING INTERESTED

As January kicks off, the question is which investor sentiment will prevail — the mood from 2015 that saw biotech beat the markets in quarters one, two and four, or the mood in 3Q15, which was biotech’s worst in more than 13 years.

“People could find nothing wrong with biotech in 2014 and the early part of 2015. It was perhaps the most remarkable year I’ve ever seen in terms of emotional investing — a conviction the market was going to keep going up,” said Edwin Gordon of Ladenburg Thalmann. “Now, people are looking for something to be wrong, and that resets prices. I don’t think the dance is over, but I do think buying will be selective.”

One reason Edwin Gordon and other bankers expect continued buying is low interest rates, which reward investing and punish saving.

## TACTICAL SHIFT

Venture capitalists are preparing for the possibility of their companies remaining private for longer periods than in recent years. Some are starting to explore tranched mezzanine rounds, while others are increasingly looking to syndicate with strategic investors.

In both cases, the defensive maneuvers reflect an expectation of a dearth of crossover investors to help bridge companies from their last private round to an IPO.

“We’ve already seen the slowdown on crossovers — two-thirds of them are gone,” said Robert Nelsen of [Arch Venture Partners](#). “The bar is clearly getting higher, and the momentum players are out.”

“We’re probably going to do some more deals with pharma and big biotechs as strategic investors for a little bit of defense,” he added.

Bruce Booth of [Atlas Venture](#), however, is not convinced strategic investors are the remedy. While crossover investors dramatically ramped up private investing over 2013-15, strategic VCs did not. Corporate venture arms participated in about 18% of all venture deals in each of the past three years.

“I typically would not view a strategic as an alternative to a crossover. They’re common co-investors with us on the early side. I haven’t seen them come in and price a company’s \$200 million premoney crossover round. That’s not where they participate, nor should they,” he said.

Arch also plans to continue to work with organizations that have large pools of capital and a long-term focus, such as Crestline Investors. Crestline represents the Alaska Permanent Fund.

The strategy led to the formation of immuno-oncology company [Juno Therapeutics Inc.](#) in 2013 and neurodegeneration company [Denali Therapeutics Inc.](#) in 2015. Juno raised \$176 million in its series A round, while Denali raised \$217 million.

Nelsen said Arch is working on another deal of similar magnitude.

“My continued theme is that innovation in biotech is unprecedented and accelerating, which gives the opportunity to disintermediate the 90% of the healthcare spend that we waste on hospitals and long-term care with potent, curative drugs. I aim to put hospitals out of business,” said Nelsen.

Bong Koh of Venrock is taking a more measured approach to mezzanine financings and wants to employ tranched structures. For example, Koh said Venrock will consider giving a company the first tranche of a mezzanine round at a \$100 million premoney valuation, followed by the second tranche at a \$200 million valuation if milestones are met.

“If you don’t execute, the rest of the capital is going to go in at a venture-like valuation. Most people wouldn’t have considered this in recent years,” said Koh.

Last year, VCs injected \$12.3 billion into the sector.

— STEVE EDELSON

Even with the modest interest rate hike in the U.S. in December, Gordon said, “The interest earned on cash in the bank is near zero, or it’s negative if your money is stored in Europe. People are still being rewarded for investing in stocks.”

“If you are going to be in Europe you are going to see interest rates go south,” Koller predicted. “I think the pressure starts to go up on considering where to invest.”

Jefferies’ Michael Brinkman said a lot of funds have been trying to lock in their gains through year end, which will change in the new year. “I think come Jan. 1 it is a clean slate, and people need to make money, and the only way to do that is by making investments,” he said.

Andrew McDonald of LifeSci Capital added, “There are 12 months ahead and investors are going to have to make new bets and find value.”

## RING IN THE NEW

Bankers contacted by BioCentury expect a rush to the public markets in January that will be met with an open but discerning IPO market, driven in part by disappointing performance of the class of 2015.

Last year 83 IPOs raised \$8 billion, making 2015 the third best year in the sector’s history (see “IPO Performance”). However, even the 2%

median gain in companies that went public in 4Q is troubling to some bankers.

“Frankly, 2% is not enough to reward people for investing in IPOs,” said Annette Grimaldi of BMO Capital Markets. “We need to see IPOs perform better in the after-market to encourage more issuers to go out. Ideally, returns of 20% or more are what get investors excited. We’re far below what’s required.”

The IPO class of 2015 ended the year down 3 percent.

“The health of the IPO market is judged one deal at a time by the after-market performance,” said John Chambers of Roth Capital. “Right now, I’d say it’s a troubling sign.”

McDonald disagreed: “Biotech isn’t the median or the mean, it’s finding the one in 10 in the mix that did incredibly well. And you had that happen.”

BioCentury’s data back up his assertion: 38 IPOs ended the year above water, including 25 with a 20% or greater gain from their IPO prices.

Bankers contacted by BioCentury said for the 22 companies in the IPO queue, pricing power will reside with the investor because there is a limited pool of buyers.

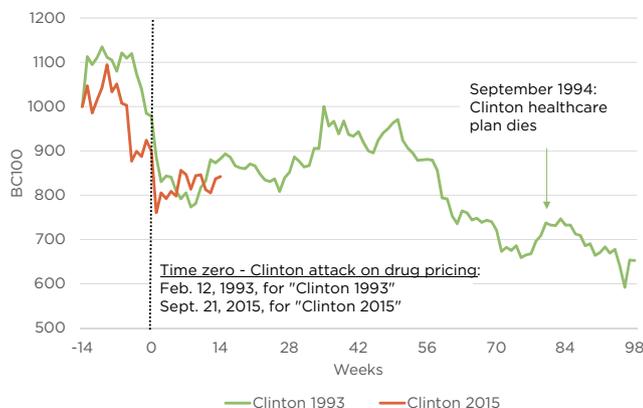
## CLINTON DÉJÀ VU

The market reaction to Hillary Clinton’s Sept. 21, 2015, tweet about drug pricing was strikingly similar to what happened when she tackled the same issue more than two decades ago. In mid-February 1993, President Bill Clinton and the first lady also sent biotech stocks tumbling with statements criticizing drug pricing.

The chart below superimposes the effects of each set of the Clintons’ remarks on sector valuations, starting on the date of the announcements, labeled as “time zero.” The Clinton 2015 line below (orange) shows that, as of Dec. 28, the BioCentury 100 is down 6% since Hillary’s remarks on Sept. 21, 2015.

The Clinton 1993 line (green) shows that, following the remarks made on Feb. 12, 1993, the BC100 dropped 21% to a low point on April 9, 1993. The index recovered by Oct. 15, 1993, only to drop 35% by the end of 1994.

The Clinton 1993 line starts just after Bill Clinton was elected president, at Nov. 6, 1992, which was 14 weeks prior to time zero. The Clinton 2015 line also begins 14 weeks prior to time zero, on June 15, 2015. The BC100 is indexed to 1,000 as of these two dates. *Source: BCIQ: BioCentury Online Intelligence*

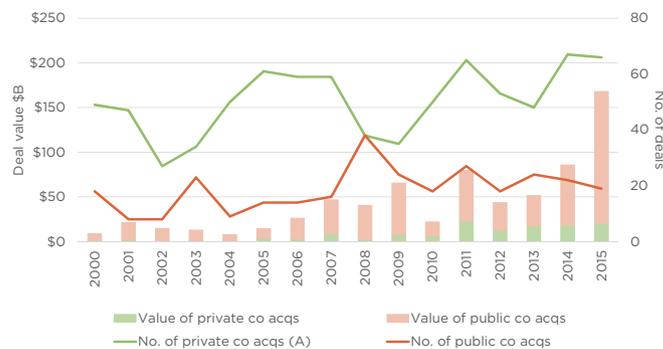


## M&A ACTIVITY

The aggregate transaction value for M&A deals completed in 2015 was \$168 billion. The figure was far and away the largest amount seen for the industry over the past 16 years, but it does not indicate that the future of all biotechs is to get swallowed by bigger fish. Three deals in 2015 accounted for more than half the dollar value: the \$66 billion takeout of Allergan Inc. by Actavis plc, now called **Allergan plc** (NYSE:AGN); the \$21 billion takeout of Pharmacyclis Inc. by **AbbVie Inc.** (NYSE:ABBV); and the \$11.4 billion takeout of Salix Pharmaceuticals Ltd. by **Valeant Pharmaceuticals International Inc.** (TSX:VRX; NYSE:VRX).

The pace of private company takeouts continued in 2015 with 66 deals — just shy of the record-breaking 67 private biotech acquisitions in 2014. For the 47 private deals in 2015 that disclosed financial terms, the aggregate value was \$20.5 billion, up from \$18.5 billion for the 46 deals with disclosed terms in 2014.

The data below include takeouts of therapeutic companies counted in the year the deals closed. Data exclude deals in the agbio, diagnostics, generics, supply/service and veterinary segments, as well as reverse mergers, acquisitions of big pharma and acquisitions of divisions/subsidiaries. Deal values include milestones. (A) Includes deals with undisclosed values; *Source: BCIQ: BioCentury Online Intelligence*



## “IF YOU LOOK AT THE BIG PICTURE, YOU REALIZE IT’S A GREAT ENVIRONMENT FOR BIOTECH INVESTING, AND WE’RE ALL JUST DEBATING HOW GREAT IT IS.”

CARL GORDON, ORBIMED

“The fundamental investors are going to drive the market post-JPMorgan,” said Chambers. The annual healthcare conference runs Jan. 11-14. “They’re going to be very discriminating about the names they’re looking at. Not every offering is going to go exceedingly well, and not every investor will participate in all of them.”

Chambers is telling companies to leave some money on the table to reward investors for participating in the deal.

“If you take every penny from the table, it will continue to cause the IPO market to limp along,” he said.

Brinkman thinks it will be increasingly important in 2016 to have dedicated crossover investors before tapping the public markets. “It is highly challenging to impossible to think you can get an IPO done without having insiders,” he said.

Some of the most active biotech crossover investors curtailed their participation in private rounds in 4Q15. Fidelity and Rock Springs each participated in only three private financings in 4Q15 — half their average of six in each of the first three quarters of last year.

Cormorant also made three venture investments in 4Q15. It averaged 4.7 investments per quarter in the first three quarters. Jennison Associates disclosed no private biotech investments in 4Q15. It averaged 4.3 investments in each of the year’s first three quarters.

Of the 15 biotechs that have proposed IPOs on NASDAQ, five have crossover backers. Of those, buysiders agree the highest profile offering is likely to be [BeiGene Ltd.](#)

In October, the Chinese company proposed to raise up to \$100 million on NASDAQ in a deal underwritten by Goldman Sachs, Morgan Stanley, Cowen and Baird. In December, BeiGene amended the IPO and removed the proposed dollar figure. BeiGene has four compounds in Phase I testing that address hot targets including Bruton’s tyrosine kinase (Btk), BRAF, poly(ADP-ribose) polymerase (PARP) and PD-1.

Brinkman said companies that lack crossovers need to think about alternatives to the IPO market, including cutting the burn rate, partnering products and selling parts of a company.

Peter Kolchinsky of RA Capital said he does not want companies to cut spending if their science is working. But, he added, “If the science isn’t ambitious or isn’t working out as hoped, then a company has to watch its burn all the more carefully during a downturn because, while

specialists will back the best companies through thick and thin, they probably won’t be eager to back their second-tier programs.”

Many VCs still want to put large amounts of money to work in platform companies that pursue multiple programs in parallel. However, some are starting to change their tactics to account for an increased likelihood their portfolio companies stay private for longer (see “Tactical Shift”).

### HARD ACT TO FOLLOW

Follow-ons are likely to be an even harder sell in 2016.

Follow-ons from 2015 fared worse than IPOs, with a median performance that was a 15% decline. Despite the after-market moves, the \$29.3 billion raised in 2015 dwarfed any other year in biotech and even exceeded the 2013-14 combined total of \$21.1 billion. (see “Follow-on Performance”).

A disproportionate amount of the money was raised during the first three quarters. The final quarter saw \$4.8 billion raised by 24 companies.

After the sell-off that closed 3Q15, the consensus among bankers was that buysiders were interested almost exclusively in companies that had just executed on milestones.

Jeff Leerink of Leerink Partners expects that trend to continue in 2016: “We’ll have more of what we saw in the fourth quarter — buyers are selective, good companies will get financed, and buyers are driving the pricing conversation.”

Edwin Gordon noted that many companies can afford to wait for a more robust financing climate. The non-profitable companies in the newly rebalanced NASDAQ Biotechnology Index have 40 months of cash on average, he said.

“Companies have enough money to go find answers, although nobody has ever gone broke adding money to the balance sheet,” he added.

### SPOTLIGHT ON PRICE

Biotech investors and VCs who spoke to BioCentury are unanimous in their opinion that the drug pricing issue will not affect innovative companies, but they are paying attention because it will affect generalist sentiment.

The hosing that followed Hillary Clinton's Sept. 21 tweet about drug pricing bore a striking similarity to what happened in 1993 when she and President Bill Clinton took aim at the pharma industry's pricing practices (see "Clinton Déjà Vu").

"We have two ETFs that are 100% biotech and appeal to the retail investor, and when they see headlines about drug pricing in specialty pharma it leads to selling pressure," said McDonald. "They are not able to discern between biotech and specialty pharma."

ClearBridge's Marshall Gordon said the phenomenon will play out differently for specialists.

"I realize we'll get times when the Democrats will turn up the volume on drug pricing and stocks will go down, but I don't really believe anything will come of it," he said. "There will be a lot of noise and you just have to hold your breath through all of it. Being long only, I personally look at it as opportunity rather than risk."

The drumbeat continued as 2015 drew to a close when Clinton went beyond attacking companies like [Turing Pharmaceuticals AG](#) and took aim at innovative medicine developers. Speaking at a town hall meeting in New Hampshire on Dec. 29, Clinton highlighted what she said was the high price of drugs in the U.S. versus other countries.

Without naming [Gilead Sciences Inc.](#), she alluded to the company's 2014 deal with Egypt to sell HCV drug Sovaldi sofosbuvir for \$900 in the country. In the U.S., she said, "The drug is so expensive that a lot of states can't afford it in Medicaid and a lot of private insurance companies can't afford it. So here we are once again: a company came up with a great lifesaving curative drug that we had something to do with, and they're willing to sell it at a really cheap price nearly anywhere else but here. We can't let that go on."

The markets did not react to the statement, as biotech traded in line with the broader indices.

And Andy Smith of Mann Bioinvest shot down any possibility of price controls in the U.S.

"Drug pricing is going to be top of mind rhetoric, but they need a change in the law" for any actual changes to occur, he said. "That's not going to happen, full stop."

Meanwhile, bankers want to get financings done well ahead of election season.

"I think we'll have the back half of January through August to raise money before the market becomes more questionable," said Chambers. "In the spring, the election will be far enough away that the market will perform on its own, but in the later months the market will be looking at the election and its implications. You'll have something creating uncertainty, and that's the last thing investors want." 

## COMPANIES AND INSTITUTIONS MENTIONED

BeiGene Ltd., Beijing, China

## RAISED BY MARKET CAP

Money raised by public companies more than doubled to \$97.4 billion in 2015 vs. \$45.7 billion in 2014. In 2015, there were 494 companies that tapped the markets vs. 475 companies in 2014.

A significant chunk of the capital raised in 2015 came from debt deals by companies valued above \$5 billion. **Biogen Inc.** (NASDAQ:BIIB), **Celgene Corp.** (NASDAQ:CELG), **Gilead Sciences Inc.** (NASDAQ:GILD) and **Valeant Pharmaceuticals International Inc.** (TSX:VRX; NYSE:VRX) each raised more than \$5 billion via note deals.

Large caps also pulled in \$12.2 billion in equity, 33x more than the \$367.7 million in 2014. Last year, six large caps raised money through equity issuances, including \$2.3 billion by **Endo International plc** (NASDAQ:ENDP; TSX:ENL) and a total of \$6.8 billion in two offerings by **Teva Pharmaceutical Industries Ltd.** (NYSE:TEVA). In 2014, there were only two — a \$117.7 million follow-on by **BioMarin Pharmaceutical Inc.** (NASDAQ:BMRN) and a \$250 million registered direct offering by **Alkermes plc** (NASDAQ:ALKS).

The total raised in the \$500-\$999 million and \$1-\$4.9 billion market cap segments also rose, driven by a sharp spike in equity financings. The bottom two market cap groups — <\$200 million and \$200-\$499 million — each saw less money in 2015 than in 2014.

Debt financings include convertible note deals. Equity financings include IPOs, follow-ons, PIPEs, rights offerings, preferred stock placements and warrant exercises. Market cap tiers defined at the start of each period analyzed. *Source: BCIQ: BioCentury Online Intelligence*



- Denali Therapeutics Inc.**, South San Francisco, Calif.
- Gilead Sciences Inc.** (NASDAQ:GILD), Foster City, Calif.
- Juno Therapeutics Inc.** (NASDAQ:JUNO), Seattle, Wash.
- Turing Pharmaceuticals AG**, Zug, Switzerland

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## IPO QUEUE

At least eight companies have announced plans to go public since the start of 4Q15, bringing the IPO queue to at least 22. Unless noted, companies are seeking to list on NASDAQ. Filings are listed from most to least recent. (A) If proposed shares and price range are available, the midpoint was used to calculate the amount to be raised; (B) Status at time of filing; (C) To obtain a formal listing on the Taipei Exchange, companies must first trade as an emerging stock for at least six months; *Source: BCIQ: BioCentury Online Intelligence*

Company	Date filed	To be raised (A)	Status (B)
<b>Proteostasis Therapeutics Inc.</b>	12/23/15	Up to \$86.3M	IND
<b>Cancer Prevention Pharmaceuticals Inc.</b> (NYSE)	12/23/15	Up to \$30.1M	Ph III
<b>Therapure Biopharma Inc.</b> (TSX)	11/26/15	TBD	Mkt (services)
<b>Viventia Bio Inc.</b>	10/21/15	TBD	Ph III
<b>Merus B.V.</b>	10/19/15	Up to \$60M	Ph I/II
<b>BeiGene Ltd.</b>	10/16/15	TBD	Ph I
<b>Apellis Pharmaceuticals Inc.</b>	10/14/15	TBD	Ph II
<b>PLx Pharma Inc.</b>	10/5/15	Up to \$80.5M	Approved (drug)
<b>AnaptysBio Inc.</b>	9/9/15	TBD	Preclin
<b>Bora Pharmaceuticals Co. Ltd.</b> (TPEX-E:6472) (C)	8/31/15	TBD	Mkt (drug)
<b>Sancilio Pharmaceuticals Co. Inc.</b>	8/31/15	TBD	Preclin
<b>Acelity Holdings Inc.</b> (NYSE)	8/26/15	Up to \$1B	Mkt (device)
<b>Advanced Inhalation Therapies Ltd.</b>	8/25/15	TBD	Ph II
<b>Excelsior Biopharma Inc.</b> (TPEX-E:6496) (C)	7/28/15	TBD	Mkt (drug)
<b>Body Organ Biomedical Corp.</b> (TPEX-E:4177) (C)	7/22/15	TBD	Mkt (device)
<b>GenSight Biologics S.A.</b>	7/7/15	\$65.1M	Ph II
<b>Aeglea BioTherapeutics Inc.</b>	6/16/15	TBD	IND
<b>BioCardia Inc.</b>	6/16/15	\$50M	Ph II
<b>Patheon Holdings Cooperatief U.A.</b> (NYSE)	6/8/15	Up to \$100M	Mkt (services)
<b>Anterios Inc.</b>	3/31/15	\$50.7M	Ph II
<b>Exagen Diagnostics Inc.</b>	9/19/14	TBD	Mkt (diagnostic)
<b>Mapi-Pharma Ltd.</b>	3/26/14	TBD	Ph II

## IPO PERFORMANCE

In 4Q, 19 companies raised \$1.2 billion in IPOs. For the full year, 83 companies raised \$8 billion, which was the third largest annual amount raised since 1994, when BioCentury started tracking industry financings. In 2014, 116 IPOs raised a total of \$9.1 billion, while 2000 saw 102 companies raise \$8.7 billion.

The class of 2015 ended the year down a median of 3% from their postmoney valuations. 4Q IPOs were up 2%. Deals are listed from most to least recent. (A) IPO of units comprising stock and warrants are excluded from the postmoney and percentage change calculations because the price per share was not available; (B) Totals for postmoney and Dec. 31 market values exclude unit deals; (C) Median percentage change; \$M; Source: BCIQ: BioCentury Online Intelligence

Company	Date	Raised	Post-\$	12/31 mcap	% chg
<b>Genscript Biotech Corp.</b> (HKSE:1548)	12/30/15	\$67.6	\$270.4	\$272.4	1%
<b>Nuevolution AB</b> (SSE:NUE)	12/10/15	\$29.4	\$87.8	\$72.5	-17%
<b>TaiMed Biologics Inc.</b> (TPEX:4147)	11/23/15	\$105.6	\$869.6	\$1,940.3	123%
<b>Axsome Therapeutics Inc.</b> (NASDAQ:AXSM)	11/19/15	\$51.0	\$172.2	\$177.4	3%
<b>Immunovia AB</b> (SSE:IMMNOV)	11/19/15	\$6.9	\$30.3	\$57.9	91%
<b>Faron Pharmaceuticals Oy</b> (LSE:FARN)	11/17/15	\$15.2	\$91.3	\$84.5	-7%
<b>Wave Life Sciences Ltd.</b> (NASDAQ:WVE)	11/11/15	\$102.0	\$334.9	\$333.9	0%
<b>Advanced Accelerator Applications S.A.</b> (NASDAQ:AAAP)	11/10/15	\$86.3	\$628.4	\$1,228.2	95%
<b>Curetis N.V.</b> (Euronext:CURE)	11/10/15	\$47.6	\$167.2	\$170.1	2%
<b>Voyager Therapeutics Inc.</b> (NASDAQ:VYGR)	11/10/15	\$80.5	\$375.0	\$586.6	56%
<b>MyoKardia Inc.</b> (NASDAQ:MYOK)	10/28/15	\$62.5	\$270.6	\$396.6	47%
<b>Dimension Therapeutics Inc.</b> (NASDAQ:DMTX)	10/21/15	\$72.9	\$324.8	\$280.6	-14%
<b>Strongbridge Biopharma plc</b> (NASDAQ:SBBP)	10/16/15	\$25.0	\$212.1	\$161.2	-24%
<b>Cerecor Inc.</b> (NASDAQ:CERC) (A)	10/15/15	\$26.1	NA	\$28.9	NA
<b>GreenPeptide Co. Ltd.</b> (Tokyo:4594)	10/13/15	\$24.3	\$118.8	\$69.7	-41%
<b>CytomX Therapeutics Inc.</b> (NASDAQ:CTMX)	10/7/15	\$92.0	\$431.0	\$751.8	74%
<b>Aclaris Therapeutics Inc.</b> (NASDAQ:ACRS)	10/6/15	\$63.3	\$221.7	\$543.0	145%
<b>Mirna Therapeutics Inc.</b> (NASDAQ:MIRN)	10/1/15	\$48.7	\$145.3	\$130.2	-10%
<b>Novocure Ltd.</b> (NASDAQ:NVCR)	10/1/15	\$173.3	\$1,827.2	\$1,869.7	2%
<b>4Q15 total (19 deals) (B)</b>		<b>\$1,180.0</b>	<b>\$6,578.8</b>	<b>\$9,126.8</b>	<b>2% (C)</b>
<b>3Q15 total (15 deals) (B)</b>		<b>\$1,854.0</b>	<b>\$7,557.8</b>	<b>\$6,764.0</b>	<b>-6% (C)</b>
<b>2Q15 total (27 deals) (B)</b>		<b>\$3,068.1</b>	<b>\$13,190.5</b>	<b>\$15,105.9</b>	<b>-8% (C)</b>
<b>1Q15 total (22 deals) (B)</b>		<b>\$1,934.2</b>	<b>\$9,633.2</b>	<b>\$9,984.4</b>	<b>-13% (C)</b>
<b>2015 total (83 deals) (B)</b>		<b>\$8,036.2</b>	<b>\$36,960.2</b>	<b>\$40,981.1</b>	<b>-3% (C)</b>

## FOLLOW-ON PERFORMANCE

Although the volume of follow-ons steadily declined throughout 2015 — dipping to 24 deals in 4Q from 46 in 3Q, 60 in 2Q and 94 in 1Q — last year saw companies raise a total of \$29.3 billion, the largest annual amount since BioCentury started tracking industry financings in 1994.

After-market performance, however, left much to be desired. The 2015 class of follow-ons ended the year down a median of 15% from their postmoney valuations. 4Q follow-ons were off a median of 3%. Deals are listed below from most to least recent. (A) Follow-ons of units comprising stock and warrants are excluded from the postmoney and percentage change calculations because the price per share was not available; (B) Totals for postmoney and Dec. 31 market values exclude unit deals and follow-ons by companies that have been acquired; (C) Median percentage change; \$M; Source: *BCIQ: BioCentury Online Intelligence*

Company	Date	Raised	Post-\$	12/31 mcap	% chg
<b>Sunesis Pharmaceuticals Inc.</b> (NASDAQ:SNSS)	12/16/15	\$9.2	\$72.6	\$77.6	7%
<b>Spark Therapeutics Inc.</b> (NASDAQ:ONCE)	12/15/15	\$94.0	\$1,259.5	\$1,214.2	-4%
<b>Kite Pharma Inc.</b> (NASDAQ:KITE)	12/10/15	\$287.6	\$3,336.1	\$2,979.3	-11%
<b>Accelerate Diagnostics Inc.</b> (NASDAQ:AXDX)	12/9/15	\$109.3	\$869.8	\$1,099.5	26%
<b>Aeterna Zentaris Inc.</b> (TSX:AEZ; NASDAQ:AEZS)	12/9/15	\$16.7	\$55.1	\$44.5	-19%
<b>Portola Pharmaceuticals Inc.</b> (NASDAQ:PTLA)	12/4/15	\$150.0	\$2,679.9	\$2,872.5	7%
<b>T2 Biosystems Inc.</b> (NASDAQ:TTOO)	12/3/15	\$34.1	\$232.9	\$261.3	12%
<b>Teva Pharmaceutical Industries Ltd.</b> (NYSE:TEVA)	12/2/15	\$3,375.0	\$63,437.5	\$66,624.6	5%
<b>Biofrontera AG</b> (Xetra:B8F)	11/23/15	\$3.9	\$51.5	\$51.0	-1%
<b>Kitov Pharmaceuticals Holdings Ltd.</b> (Tel Aviv:KTOV; NASDAQ:KTOV)	11/20/15	\$13.0	\$15.7	\$12.0	-24%
<b>Alcobra Ltd.</b> (NASDAQ:ADHD)	11/13/15	\$40.1	\$177.8	\$171.8	-3%
<b>Mesoblast Ltd.</b> (ASX:MSB; NASDAQ:MESO)	11/13/15	\$68.3	\$607.5	\$482.9	-21%
<b>Loxo Oncology Inc.</b> (NASDAQ:LOXO)	11/11/15	\$76.2	\$518.4	\$556.6	7%
<b>Marinus Pharmaceuticals Inc.</b> (NASDAQ:MRNS)	11/6/15	\$30.0	\$116.0	\$147.7	27%
<b>Kura Oncology Inc.</b> (NASDAQ:KURA)	11/4/15	\$55.1	\$171.1	\$179.7	5%
<b>Revanche Therapeutics Inc.</b> (NASDAQ:RVNC)	11/4/15	\$134.6	\$1,009.8	\$958.6	-5%
<b>VBL Therapeutics Ltd.</b> (NASDAQ:VBLT)	11/3/15	\$15.0	\$134.5	\$118.1	-12%
<b>Vital Therapies Inc.</b> (NASDAQ:VTL)	10/28/15	\$34.5	\$166.6	\$350.5	110%
<b>NovaBay Pharmaceuticals Inc.</b> (NYSE-M:NBY)	10/23/15	\$2.5	\$17.3	\$7.0	-59%
<b>Oasmia Pharmaceutical AB</b> (SSE:OASM A; NASDAQ:OASM)	10/23/15	\$9.5	\$141.9	\$127.4	-10%
<b>WaferGen Bio-systems Inc.</b> (NASDAQ:WGBS) (A)	10/16/15	\$17.3	NA	\$10.6	NA
<b>ContraVir Pharmaceuticals Inc.</b> (NASDAQ:CTRV)	10/7/15	\$15.0	\$81.9	\$42.0	-49%
<b>Sarepta Therapeutics Inc.</b> (NASDAQ:SRPT)	10/6/15	\$126.8	\$1,745.8	\$1,746.6	0%
<b>Medgenics Inc.</b> (NYSE-M:MDGN)	10/1/15	\$46.0	\$208.1	\$197.8	-5%
<b>4Q15 total (24 deals) (B)</b>		<b>\$4,763.5</b>	<b>\$77,107.3</b>	<b>\$80,323.2</b>	<b>-3% (C)</b>
<b>3Q15 total (46 deals) (B)</b>		<b>\$5,412.4</b>	<b>\$46,119.6</b>	<b>\$38,830.3</b>	<b>-18% (C)</b>
<b>2Q15 total (60 deals) (B)</b>		<b>\$7,757.7</b>	<b>\$63,524.0</b>	<b>\$55,436.4</b>	<b>-20% (C)</b>
<b>1Q15 total (94 deals) (B)</b>		<b>\$11,412.3</b>	<b>\$163,391.1</b>	<b>\$125,595.1</b>	<b>-9% (C)</b>
<b>2015 total (224 deals) (B)</b>		<b>\$29,345.9</b>	<b>\$350,142.0</b>	<b>\$300,184.9</b>	<b>-15% (C)</b>

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