



TOPIC 16

STOCK MARKET IN THE BIOPHARMACEUTICAL INDUSTRY

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Regional Workshop

IP Valuation for Biotechnology and Pharmaceutical Industry

Havana, February 5 to 7, 2019

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01 Overview of the Healthcare Stock Market

S&P 500 Sectors: Healthcare is the Third Largest Sector by Market Cap

As of Jan 25, 2019

Sector	Market Cap (US\$T)	Market Cap %	YTD % Change
1. Information Technology	7.10	16.7%	-2.5%
2. Financials	6.89	16.2%	-13.4%
3. Health Care	5.25	12.3%	0.1%
4. Consumer Discretionary	4.54	10.7%	-1.6%
5. Communication Services	4.42	10.4%	-9.4%
6. Industrials	3.80	8.9%	-12.0%
7. Energy	3.36	7.9%	-19.1%
8. Consumer Staples	2.95	6.9%	-11.7%
9. Materials	1.77	4.2%	-16.2%
10. Real Estate	1.17	2.8%	3.4%
11. Utilities	1.27	3.0%	6.2%
S&P 500	42.52	100.0%	-6.1%

Source: Fidelity Investments

01 Overview of the Healthcare Stock Market

S&P 500 Healthcare Industries: R&D Related Industries Account for Two Thirds of the Sector

As of Jan 25, 2019

Industry	Market Cap (US\$B)	Market Cap %	YTD % Change
Pharmaceuticals	2,170	41,3%	-0.8%
Biotechnology	948	18.0%	-8.7%
Life Sciences Tools & Services	303	5.8%	10.48%
HC Equipment & Supplies	976	18.6%	6.8%
HC Providers & Services	794	15.1%	1.2%
HC Technology	66	1.2%	-18.9%
Health Care	5,257	100.0%	0.1%

Source: Fidelity Investments

01 Overview of the Healthcare Stock Market

S&P 500 R&D Healthcare Related Industries: Definitions



Pharmaceuticals

R&D, development,
manufacturing, marketing
of pharmaceutical
products



Biotechnology

R&D, development,
manufacturing, marketing
of products based on
genetic engineering



LS Tools & Services

Analytical tools,
instruments, consumables,
supplies, clinical trial
services, CROs

Source: Fidelity Investments

01 Overview of the Healthcare Stock Market

Main Pharmaceutical and Biotechnology US Companies

Pharmaceuticals



Biotechnology



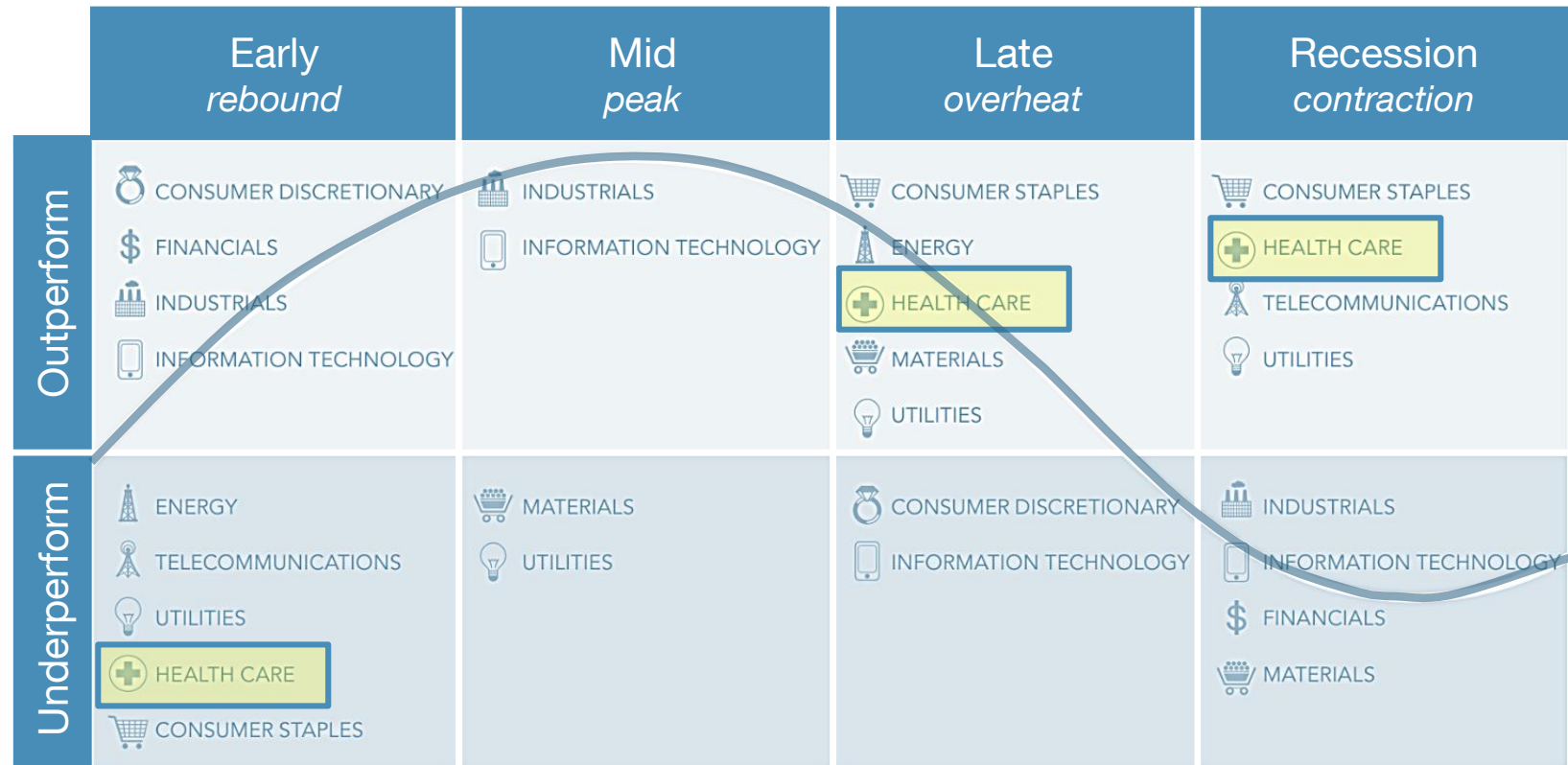
LS Tools & Services



Source: S&P 500

01 Overview of the Healthcare Stock Market

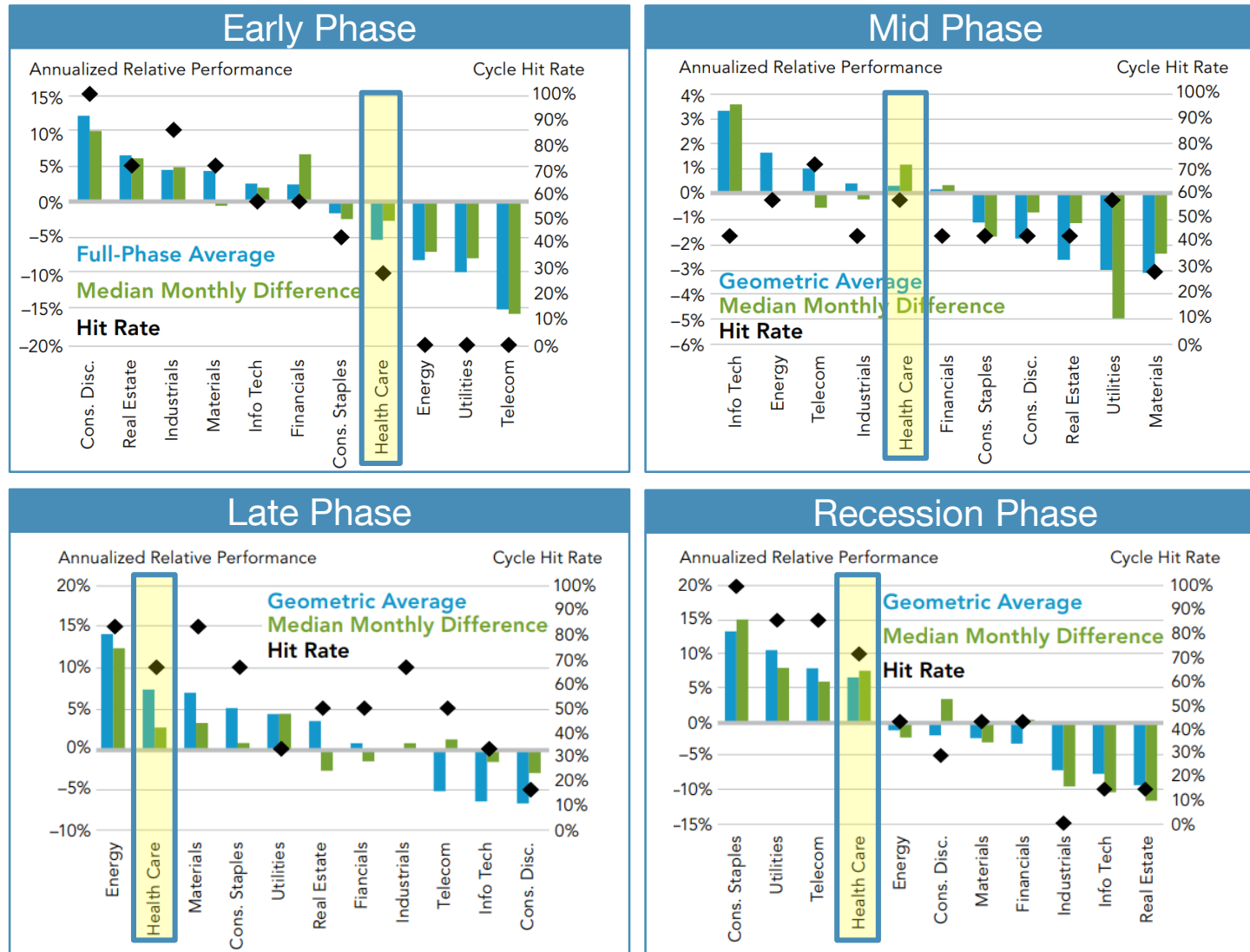
The Healthcare Sector Outperforms in Late Phases of the Cycle and Recessions



Source: Fidelity: The Business Cycle Approach to Equity Sector Investing

01 Overview of the Healthcare Stock Market

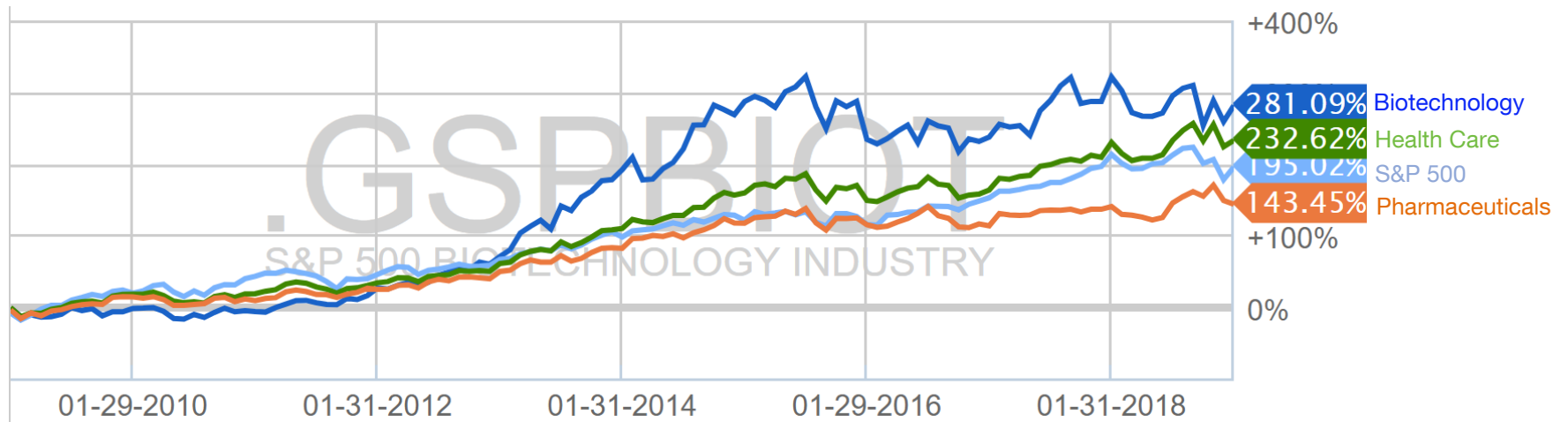
The Healthcare Sector Outperforms in Late Phases of the Cycle and Recessions



01 Overview of the Healthcare Stock Market

The Pharma Industry Underperforms S&P 500 while the Biotech Industry Wins Big

10-Year Performance (S&P 500 Sectors and Industries)



Source: Fidelity Investments

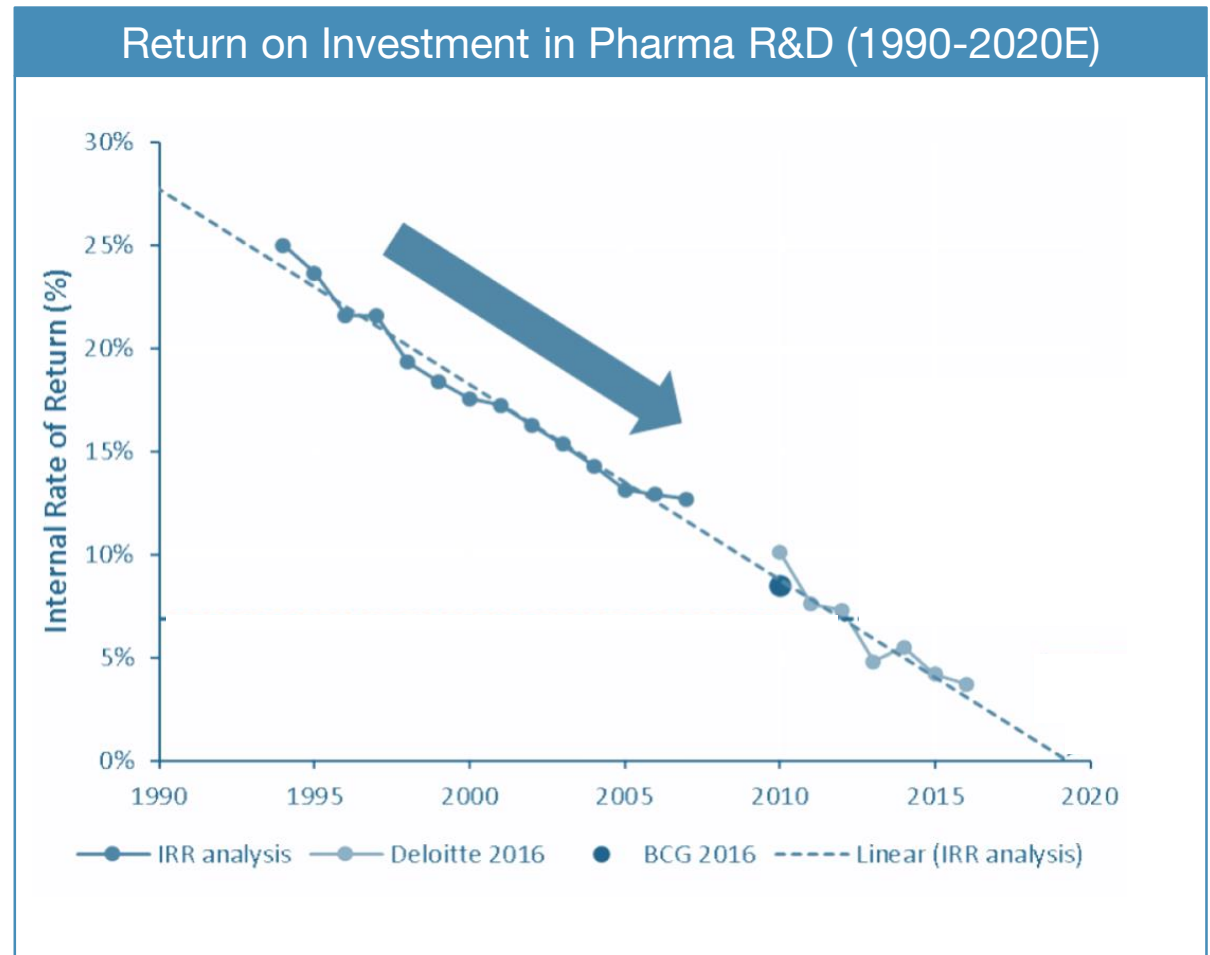
01 Overview of the Healthcare Stock Market

Pharma's IRR Has Constantly Declined since 1990

Biotech Startups Can Revert Pharma's Decline in Returns

Several Causes

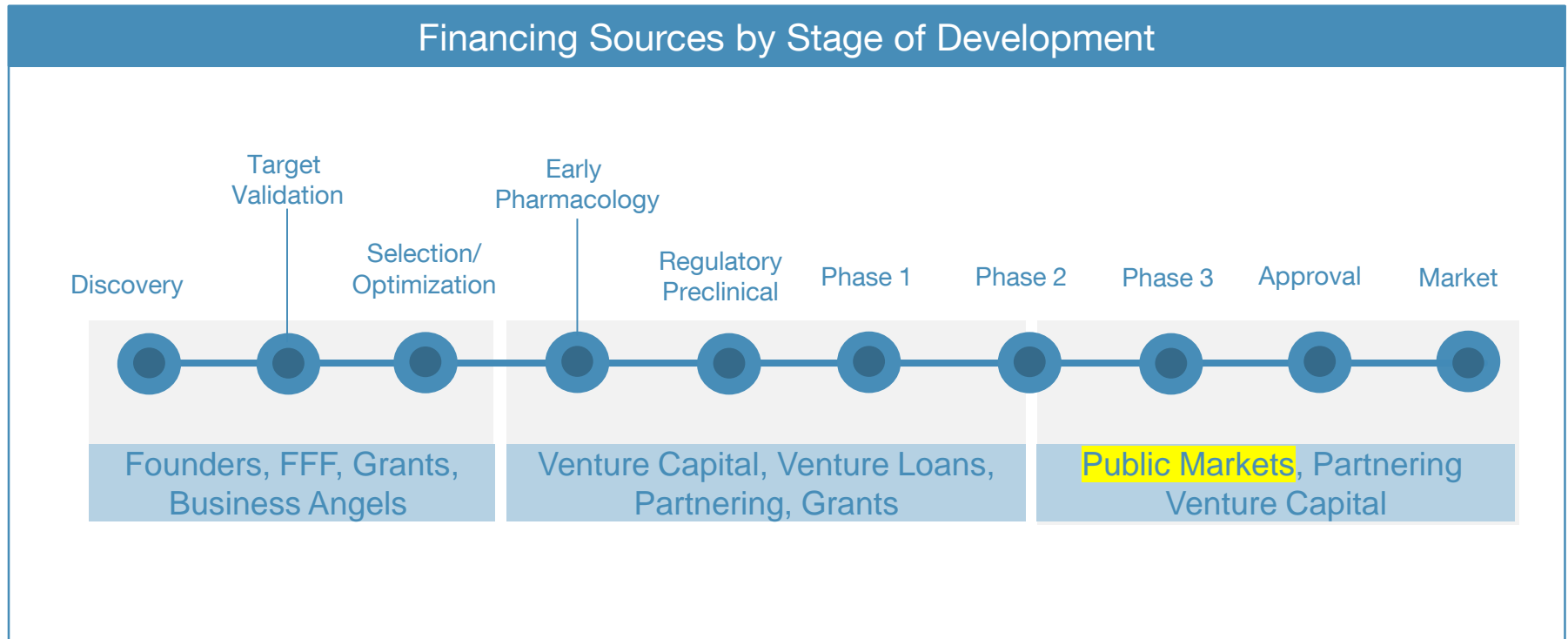
- Rising trial costs
- Decision-making processes
- Pressure from payers
- Generic competition
- Law of diminishing returns



Source: Evaluate Pharma, IRR analysis (2017)

01 Overview of the Healthcare Stock Market

Public Markets Allow Biotech Startups to Obtain Substantial Proceeds



Source: Own analysis

01 Overview of the Healthcare Stock Market

Going Public: Why? Why Not? Where?

Why?

- Cash
- Liquidity
- Diversify shareholders
- Gain exposure
- Catalyze Value

Why Not?

- Dilution
- Public scrutiny
- Cost
- Price fluctuations

Where?

- NASDAQ (US)
(578 biotechs)
- EuroNext (Europe)
(88 biotechs)

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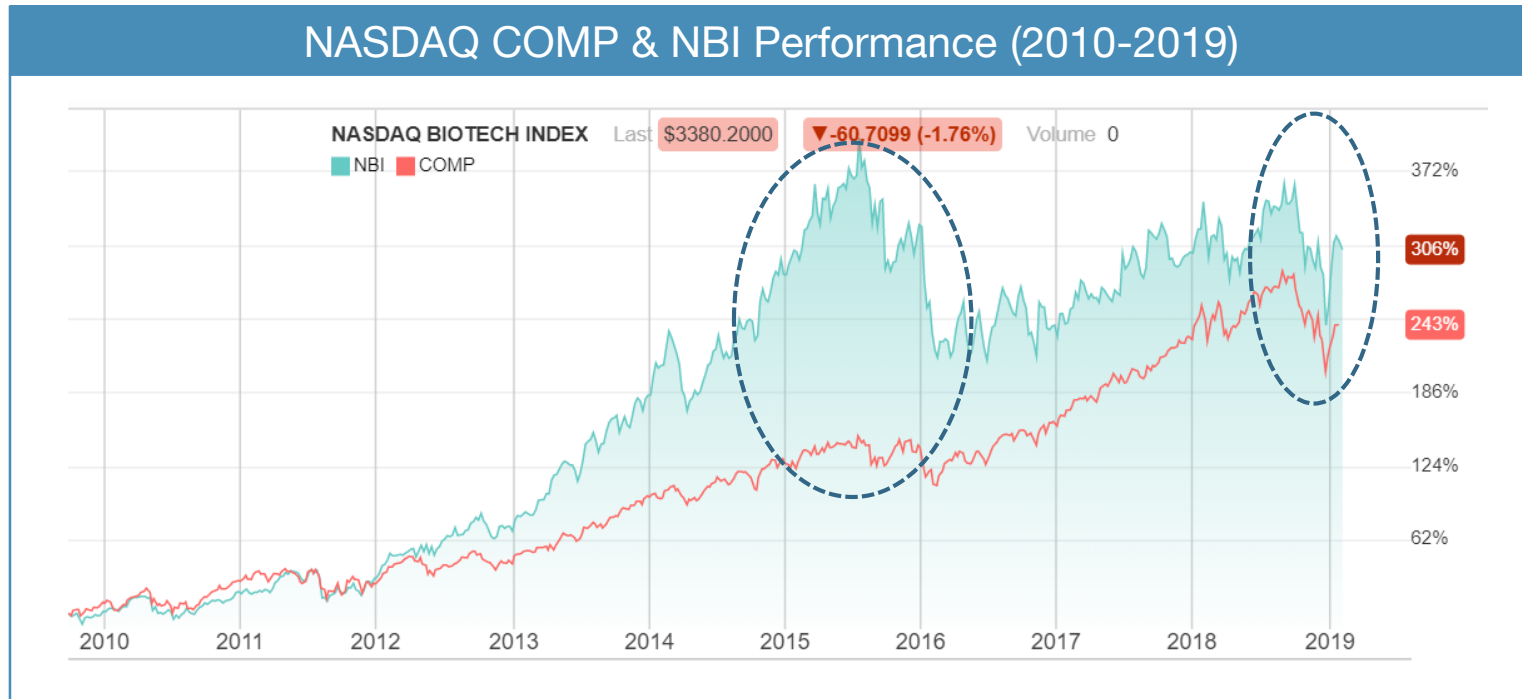
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02 Performance

NBI Is The Main Biotech Index (222 components)

It is Significantly More Volatile Than Other Market Indexes



Source: NASDAQ

02 Performance

Among the Three Main Types of Public Offerings, Follow-Ons Raise Most of the Proceeds

Initial Public Offering (IPO)

New shares of a private company are created and sold to the public for the first time

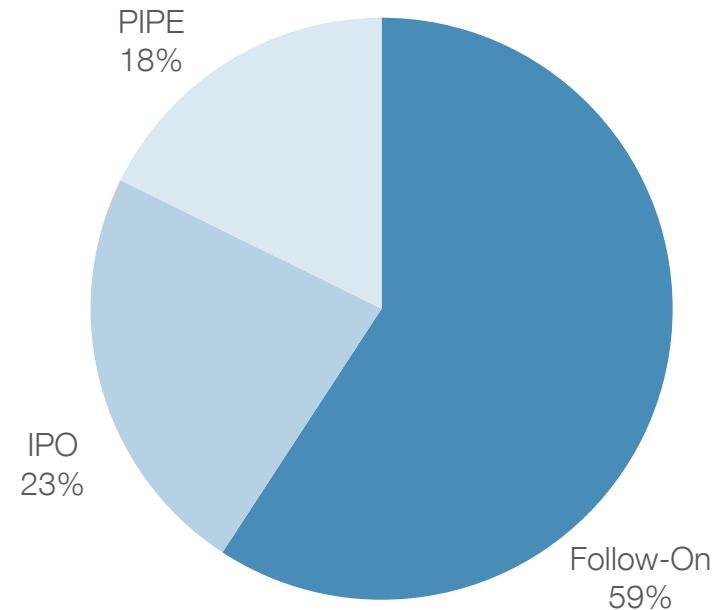
Follow-On

New shares of a public company are created and sold to the public after IPO

Private Investment in Public Equities (PIPE)

New shares of a public company are created and sold to qualified investors at a discount to current market value

Public Offerings (2013-2018)



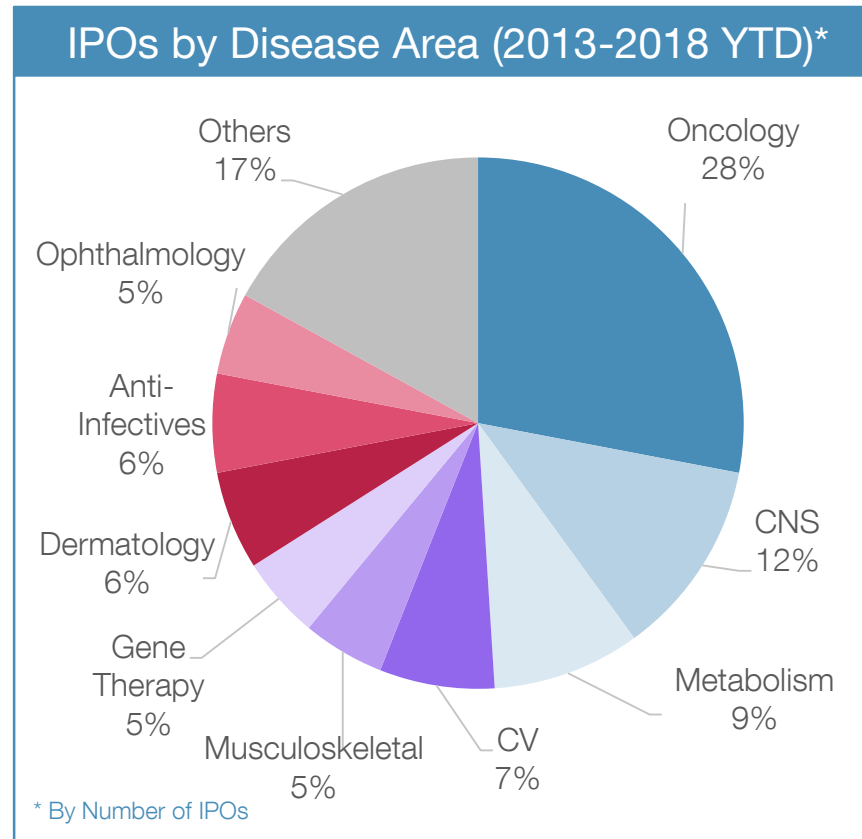
* By Proceeds Raised

Source: Global Data

Filters: Completed deals between \$10-600M raise in Europe, US and Canada

02 Performance

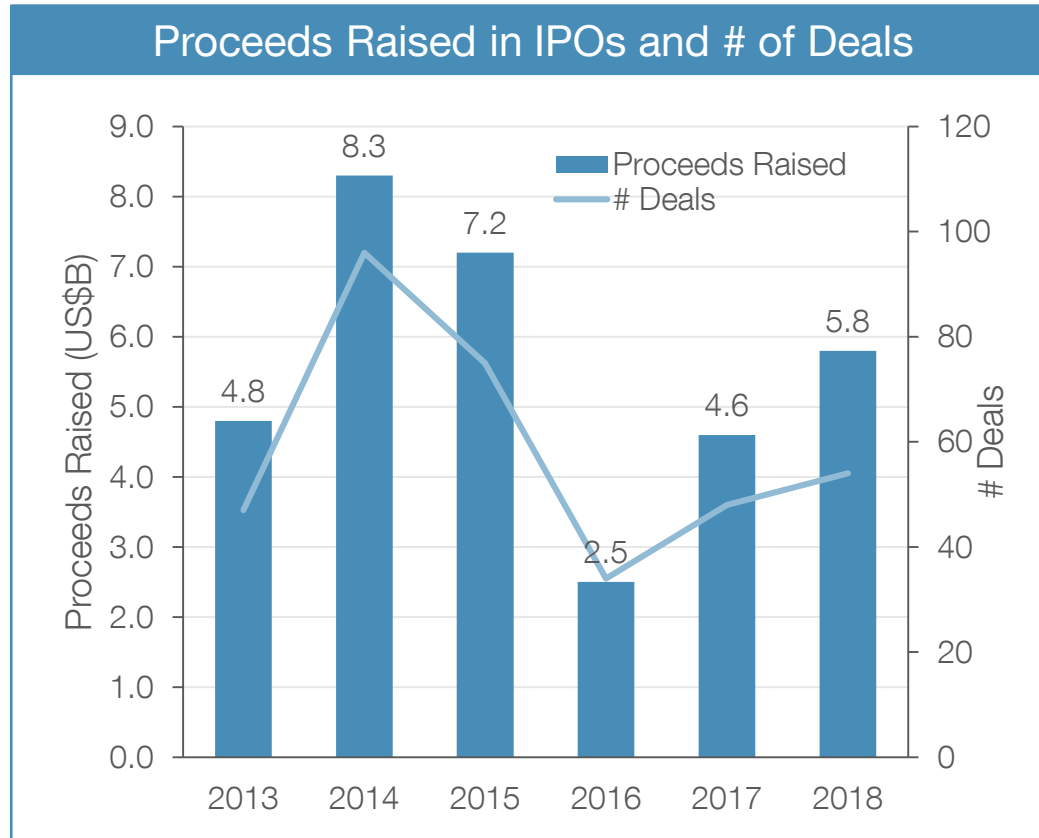
Companies Developing Oncology and CNS Assets Account for Most of the IPOs



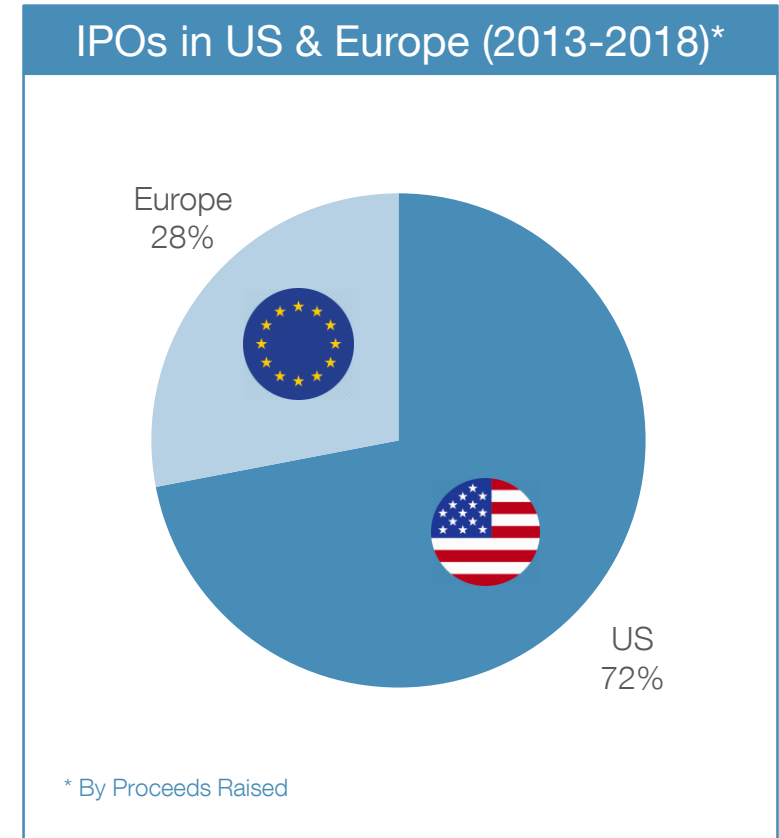
Source: Dealogic, compiled and presented by Jefferies / YTD: June 11, 2018

02 Performance

IPOs Have Raised between \$2.5 B to \$8.3 B in the Last Six Years, with a Market Boom in 2014



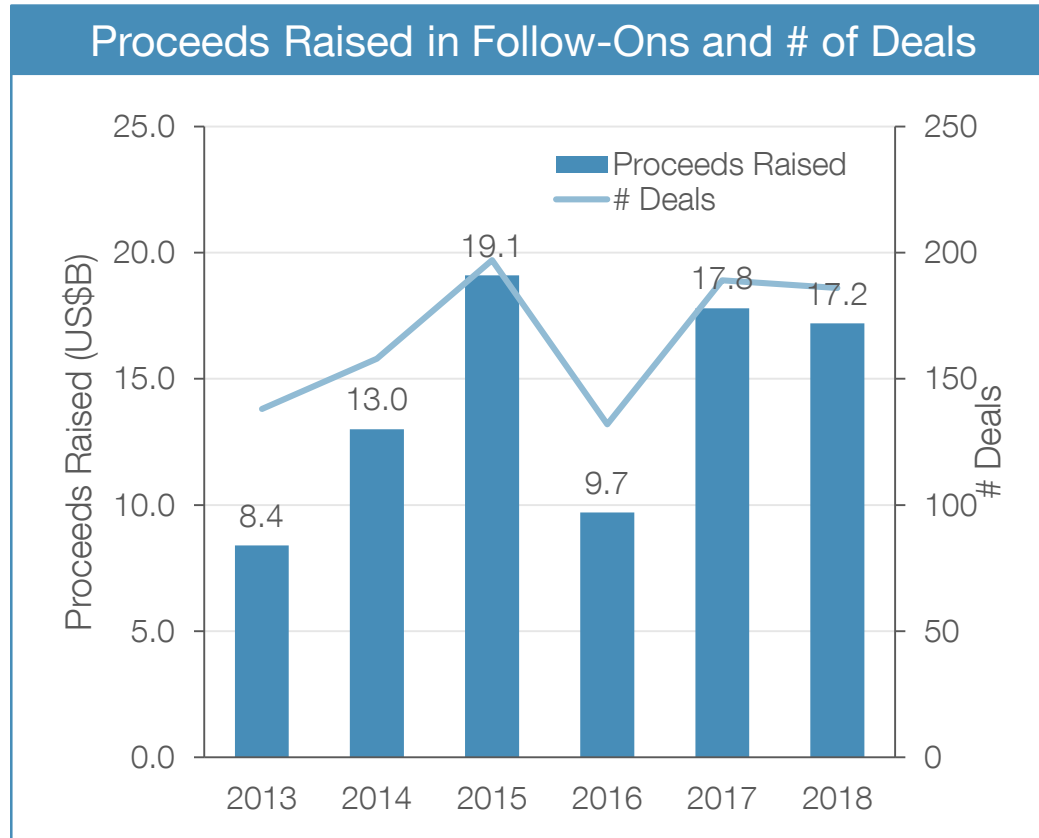
Source: Global Data
Filters: Completed deals between \$10-600M raise in Europe, US and Canada



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Filters: Completed deals between \$10-600M raise in Europe, US and Canada

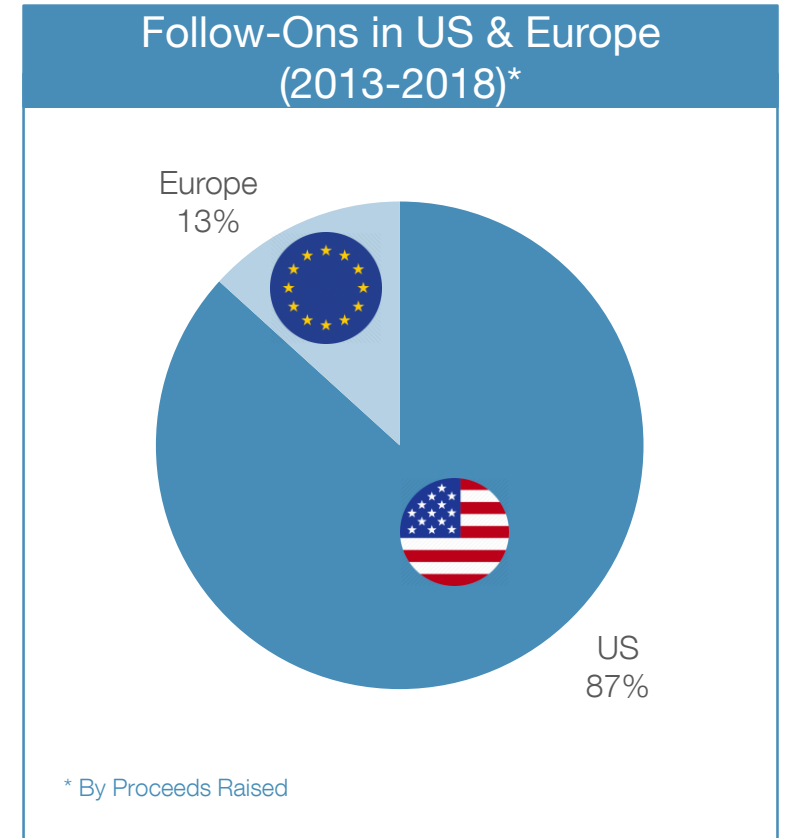
02 Performance

Follow-Ons Have Raised between \$8.4 B to \$19.1 B in the Last Six Years



Source: Global Data

Filters: Completed deals between \$10-600M raise in Europe, US and Canada

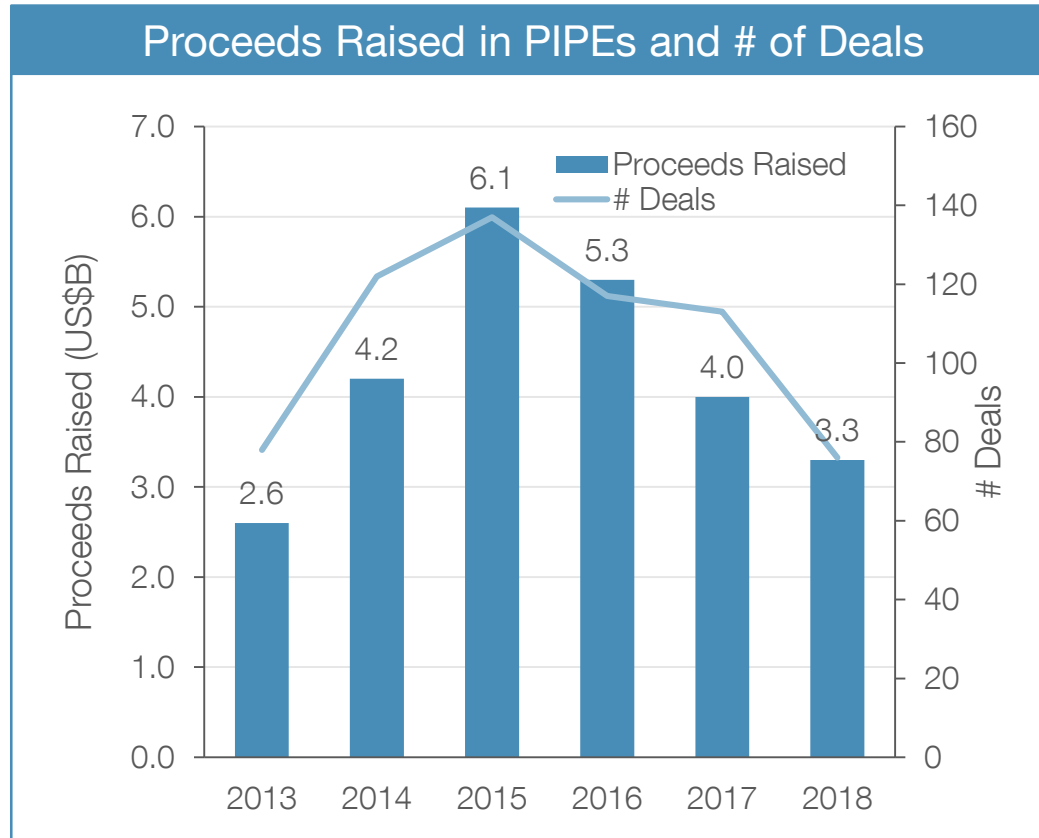


Source: Global Data

Filters: Completed deals between \$10-600M raise in Europe, US and Canada

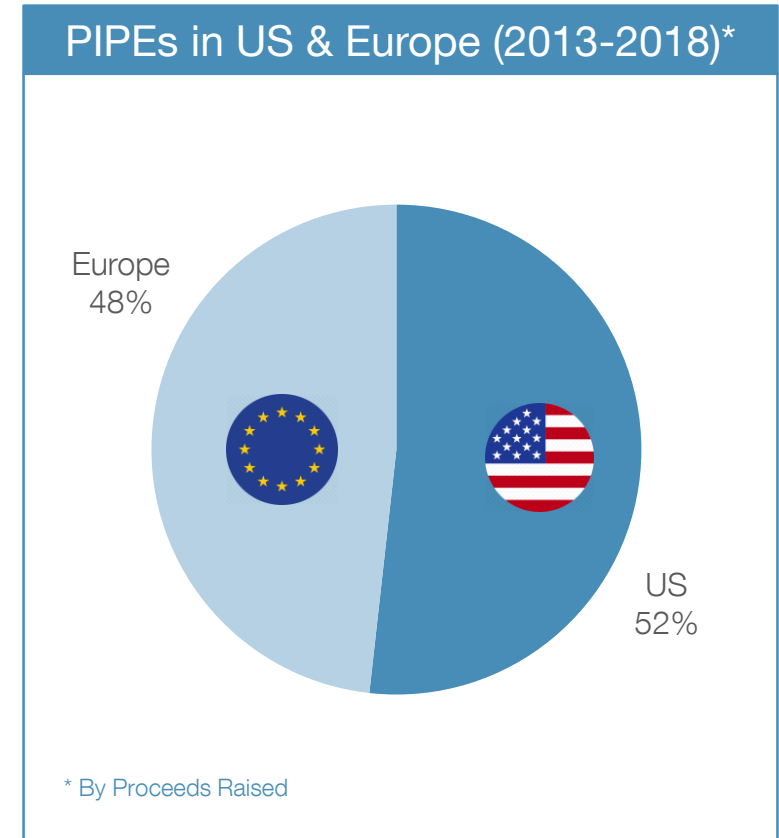
02 Performance

PIPEs Have Raised between \$2.6 B to \$6.1 B in the Last Six Years



Source: Global Data

Filters: Completed deals between \$10-600M raise in Europe, US and Canada

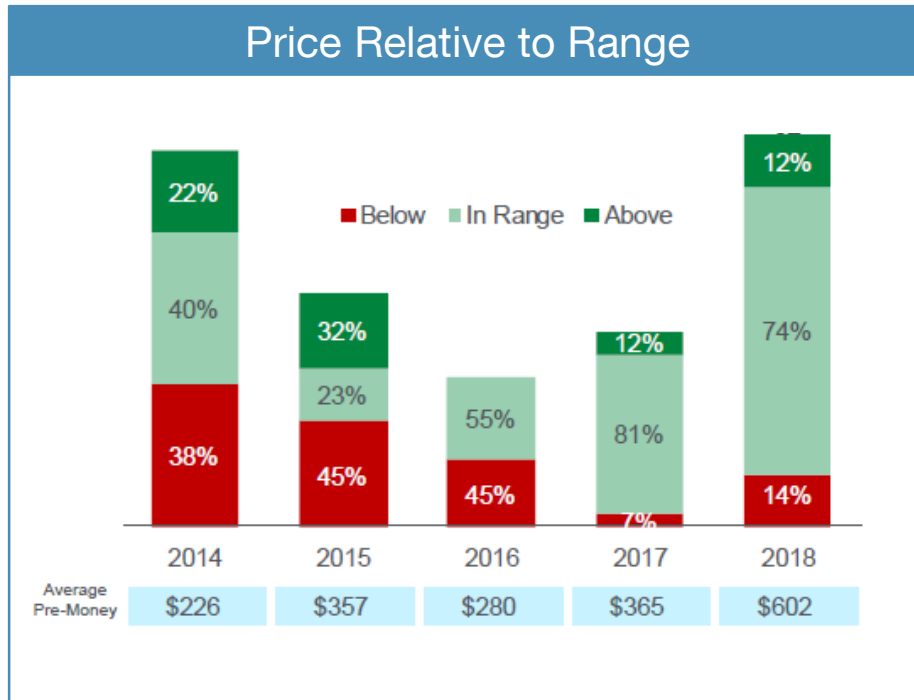


Source: Global Data

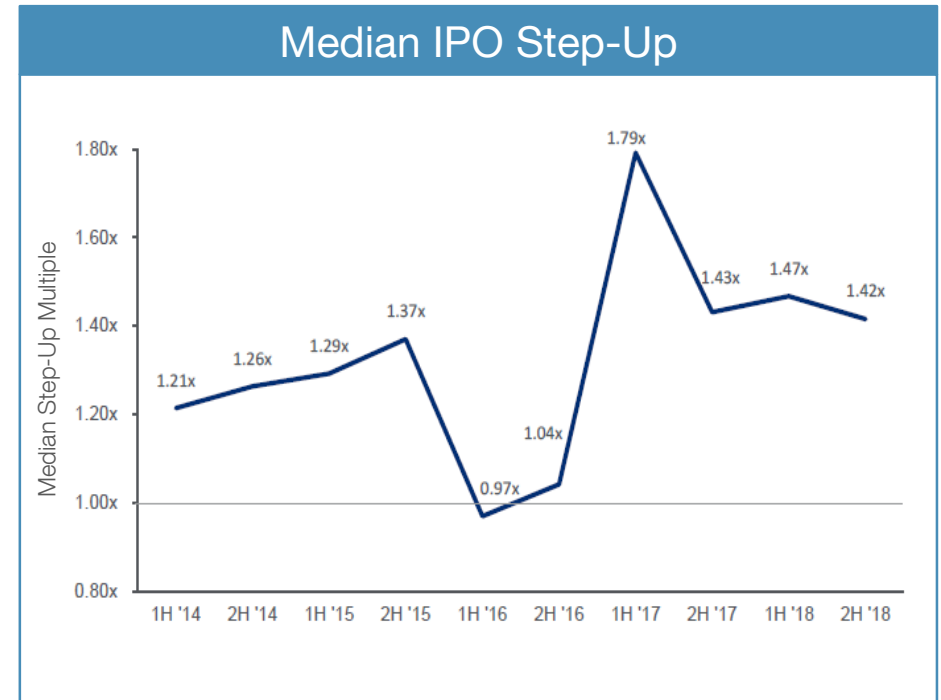
Filters: Completed deals between \$10-600M raise in Europe, US and Canada

02 Performance

IPOs Typically Involve a 1.3x Step-Up and Initial Pricing Does Not Always Fall within Range



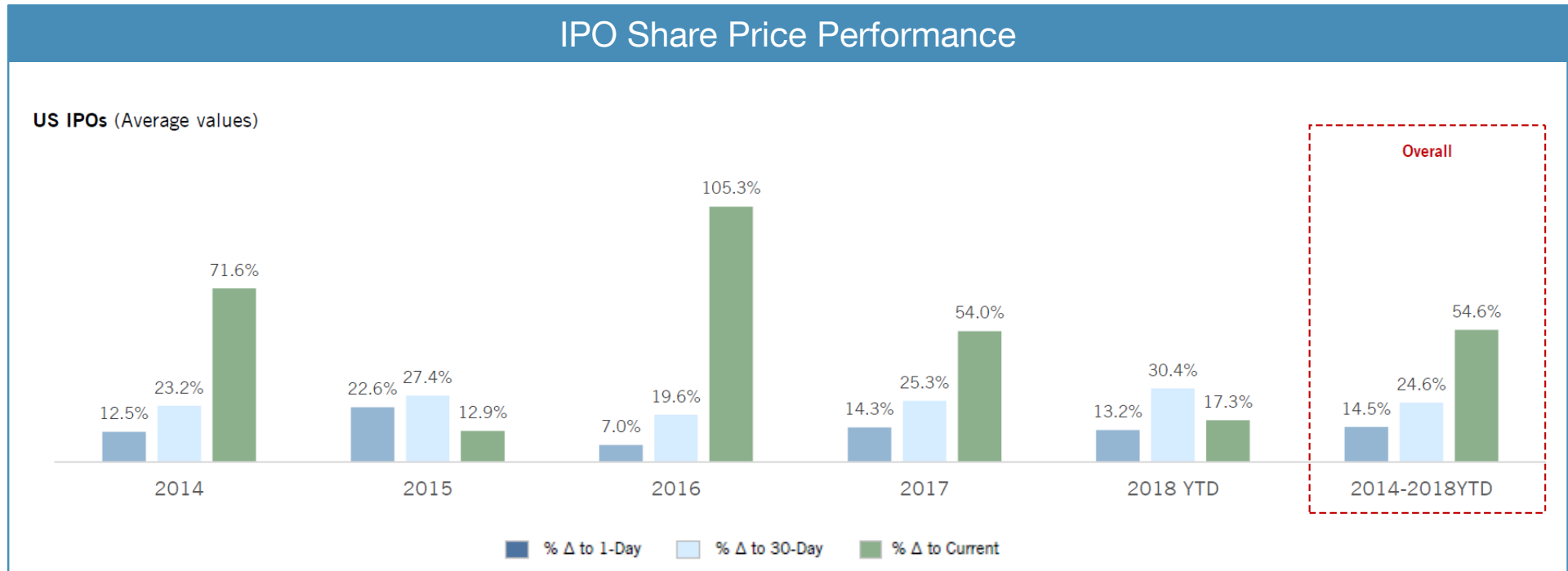
Source: Citi: 2019 Life Sciences Market Update



Source: Citi: 2019 Life Sciences Market Update

02 Performance

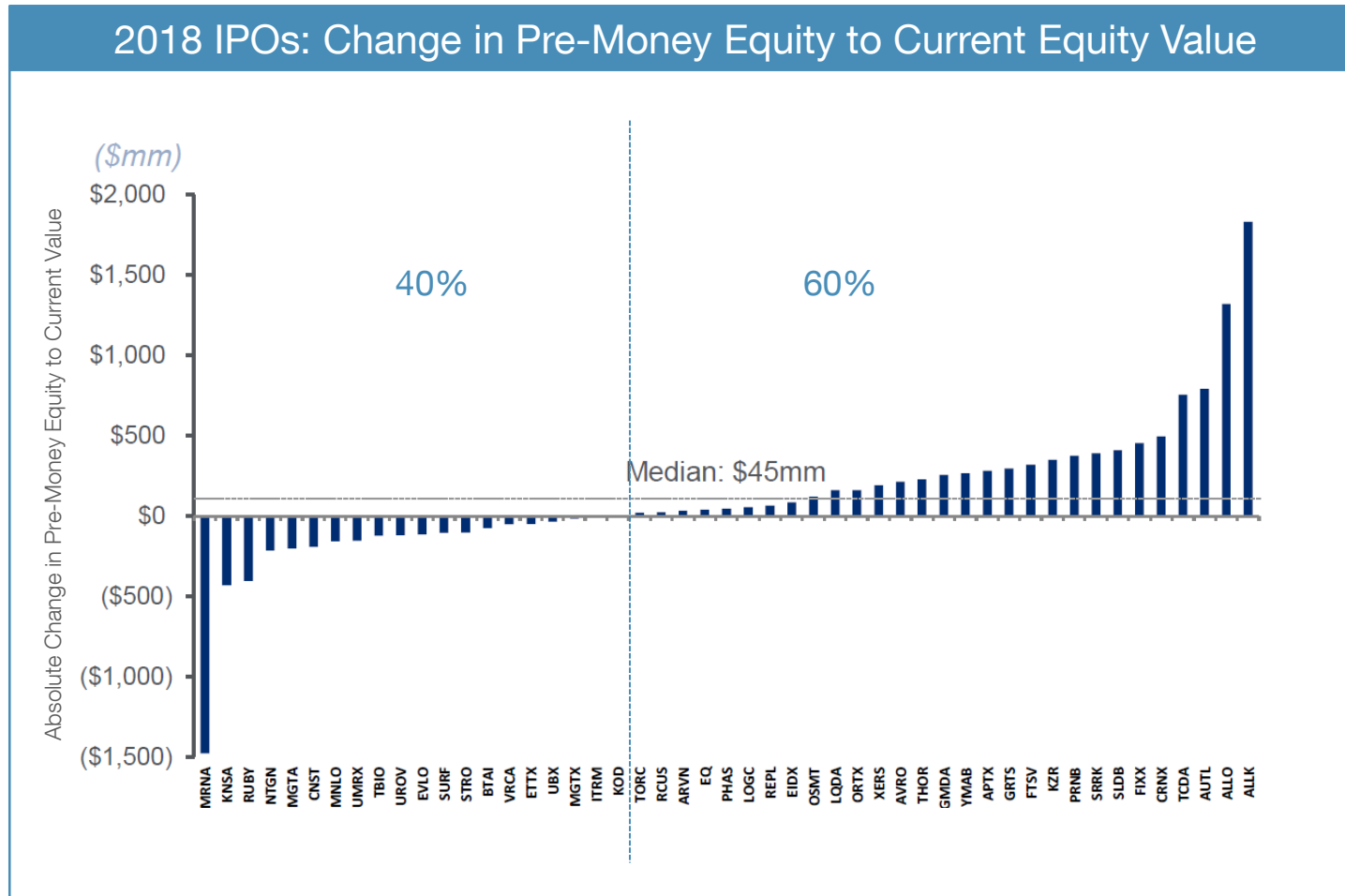
On Average, Companies That Go Public Tend to Perform Well in the Long Run



Source: Dealogic, compiled and presented by Jefferies / YTD: June 11, 2018

02 Performance

But There Are Always Winners and Losers



Source: Citi: 2019 Life Sciences Market Update / Current Equity Value as of Jan 4, 2019

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03 Case Study: Axonics Modulation

Overactive Bladder Affects 87 Million People. Neurostimulation Is an Effective Therapy

Overactive Bladder (OAB)

Frequent feeling of needing to urinate to a degree that it negatively affects a person's life

Prevalence

87 M in US and Europe Combined

35 M (40%) managed by a doctor

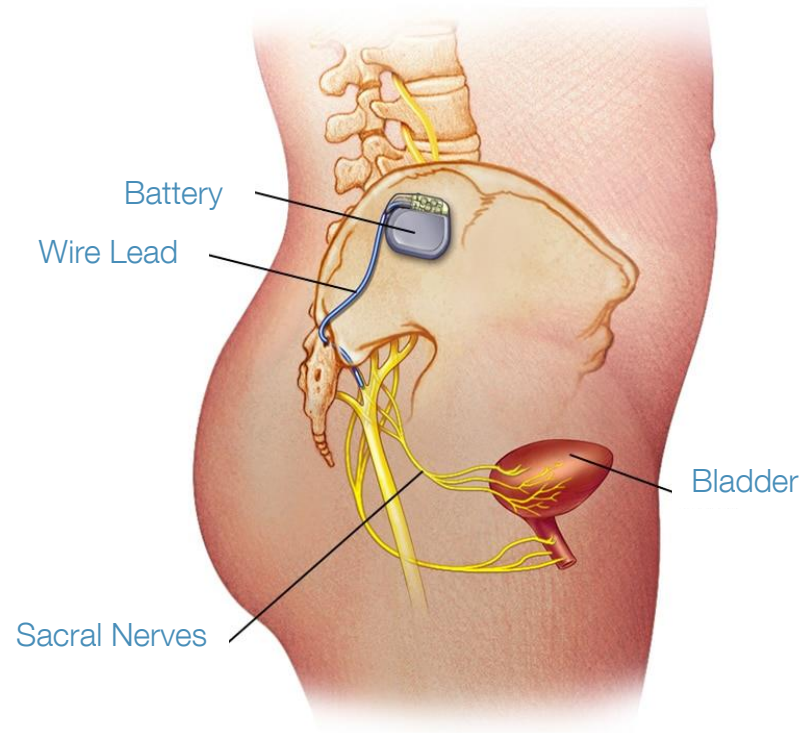
3 M (8%) are refractory and Eligible for SNS

Market size is c.a. \$600M

Sacral Nerve Stimulation (SNS)

Delivery of electrical signals from a battery via a lead

Sacral Nerve Stimulation



Source: Mayo Foundation for Medical Education and Research. All rights reserved

03 Case Study: Axonics Modulation

Axonics' SNS System Is Rechargeable, Smaller and Lasts Longer Than Competition

Neurostimulator

15+ years lifetime to avoid replacements
Miniaturized size to reduce patient discomfort

Tined-lead

Designed to prevent migration
Stimulation adjusts for scar tissue formation

Charging System

Transcutaneous & wireless, allowing mobility
Charging takes 1 hours every 2 weeks
Designed to prevent heating

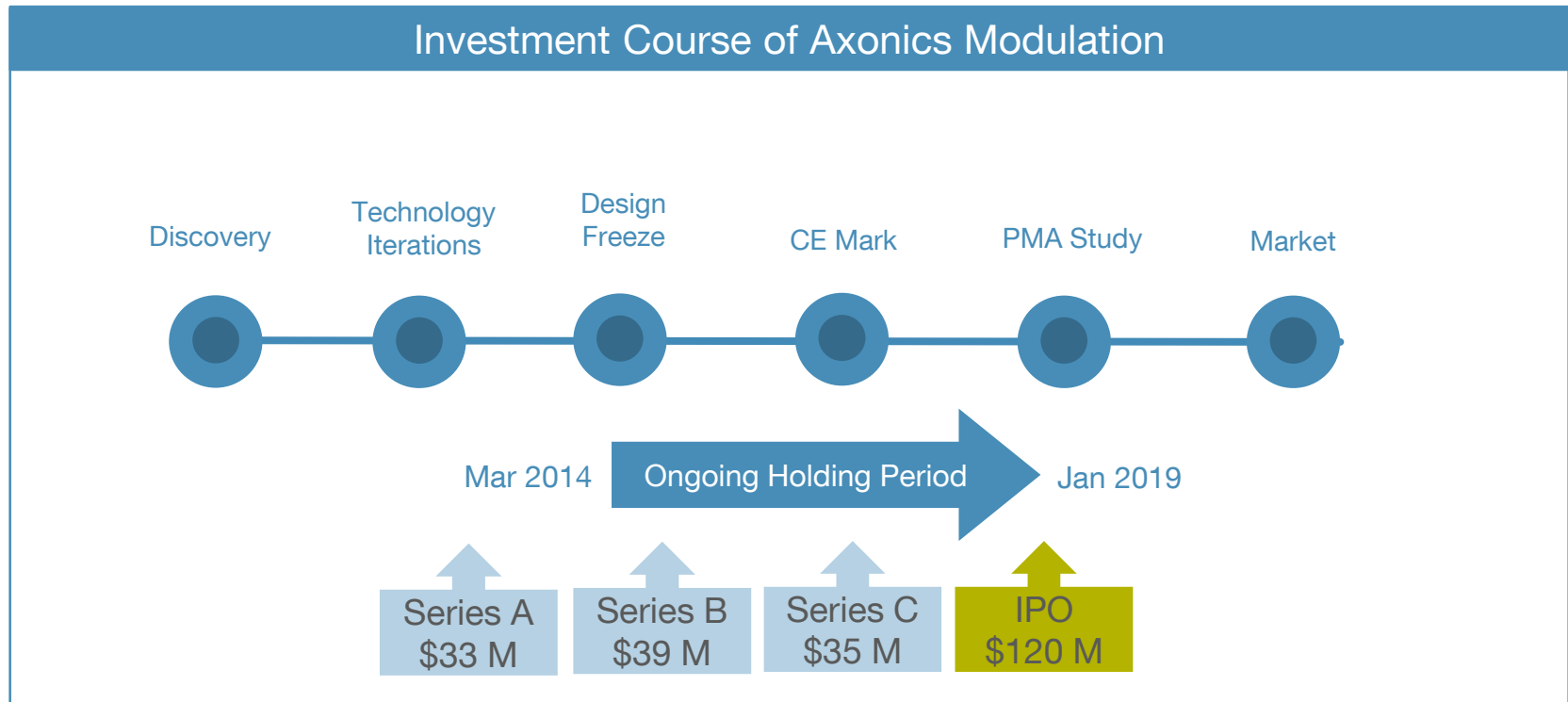
Axonics' Solution



Source: Axonics Modulation

03 Case Study: Axonics Modulation

Axonics Raised the First Financing Round in 2014 and Went Public on NASDAQ in 2018



Source: Own analysis

03 Case Study: Axonics Modulation

IPO Overview

Market Cap at Offering

Shares Outstanding x Price

26.7M shares x \$15/share = \$400 M

Value Added for Investors

Market Cap - Money Invested

\$400 M – (\$120M+\$35M+\$39M+\$33M) = \$227M

Lock Up Period

Amount of time following an IPO where large shareholders are restricted from selling their shares

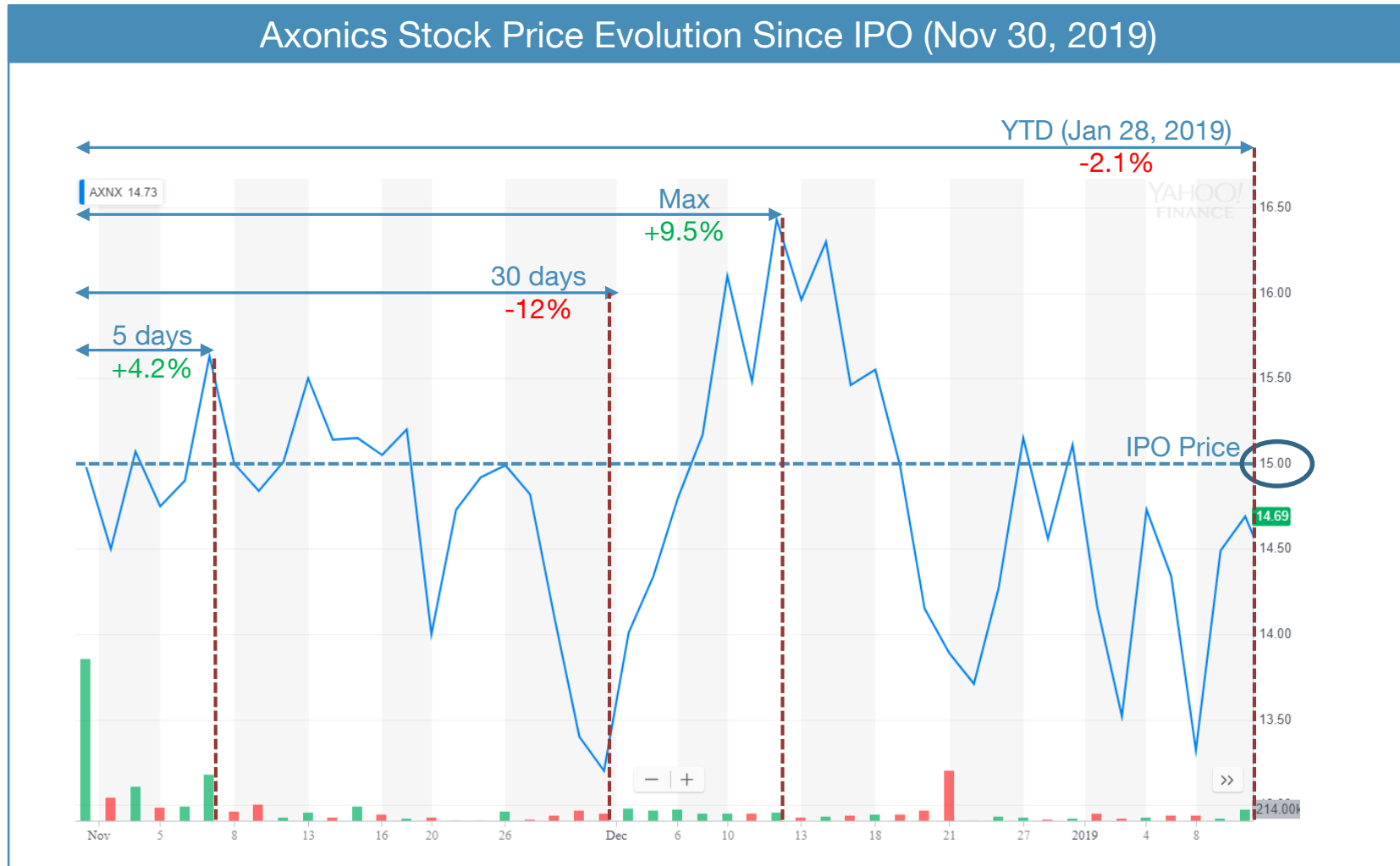
Axonics IPO Overview

Company Name	AXONICS MODULATION TECHNOLOGIES, INC
Company Address	26 TECHNOLOGY DRIVE IRVINE, CA 92618
Company Phone	949-396-6322
Company Website	www.axonicsmodulation.com
CEO	Raymond W. Cohen
Employees	72
State of Inc	<u>DE</u>
Fiscal Year End	12/31
Status	Priced (10/31/2018)
Proposed Symbol	<u>AXNX</u>
Exchange	NASDAQ Global Select
Share Price	\$15.00
Shares Offered	8,000,000
Offer Amount	\$120,000,000.00
Total Expenses	\$2,338,769.00
Shares Over Alloted	0
Shareholder Shares Offered	--
Shares Outstanding	26,638,600
Lockup Period (days)	180
Lockup Expiration	4/29/2019
Quiet Period Expiration	12/10/2018
CIK	0001603756

Source: NASDAQ

03 Case Study: Axonics Modulation

Axonics Raised the First Financing Round in 2014 and Went Public on NASDAQ in 2018



Source: Yahoo Finance

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1. Healthcare is the third largest sector in S&P 500
2. It is a defensive sector that performs well in later stages of the business cycle
3. The pharmaceutical industry has underperformed the market in the last 10 years
4. This may be due to exhaustion of its traditional business model
5. Biotech start-ups can revert this trend
6. Public markets allow biotech companies to fund development needs and investors gain in liquidity and can catalyze value
7. Single digit billions are raised every year in biotech IPOs, US is the main market
8. There was a boom in pharma/biotech public markets in 2014-2015 followed by a bust, now we are recovering
9. On average, companies increase in value post IPO, but almost half don't
10. Lock up periods help stabilize price post IPO