



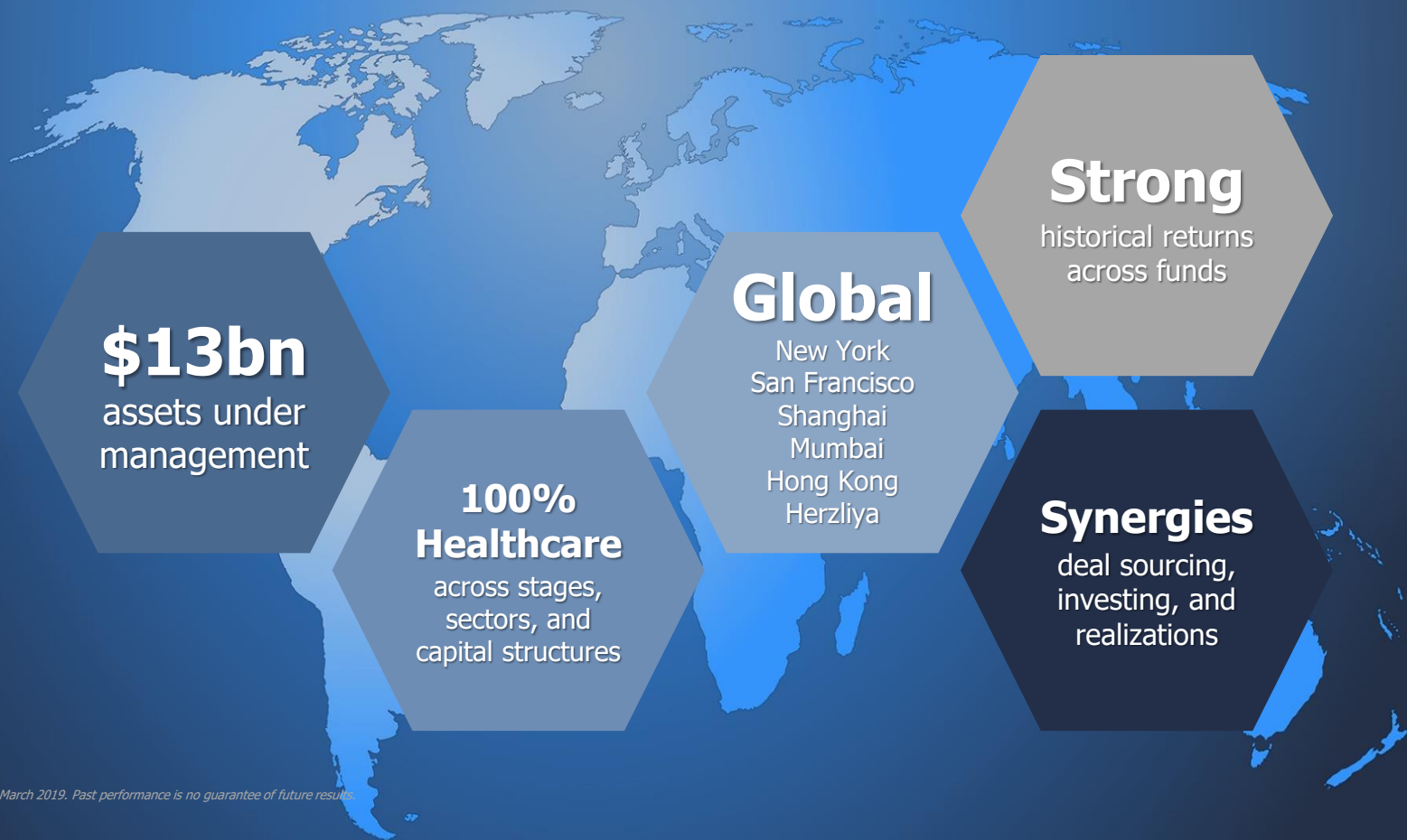
The Biotech Growth Trust

Annual General Meeting

11 July 2019

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OrbiMed – A Leading Healthcare-Dedicated Investment Firm



Note: As of 31 March 2019. Past performance is no guarantee of future results.

OrbiMed – BIOG Investment Team



Geoffrey Hsu, CFA
Portfolio Manager (since 2005)

A.B. Chemistry, Harvard University
M.D. Program, Harvard Medical School (2 years)
M.B.A.: Harvard University
Prior: Lehman Brothers



Richard Klemm, Ph.D., CFA
Portfolio Manager (since 2005)

B.A. Molecular and Cell Biology, UC Berkeley
Ph.D.: Molecular Biology, M.I.T.



Michael Metschl
Biotechnology

B.B.A.: Finance, University of Notre Dame
Prior: Citigroup



William Sawyer
Specialty Pharmaceuticals

B.S. Pharmacy, Rutgers University
M.B.A.: New York University
Prior: Leerink, Merrill Lynch, Lehman



Jeehyea Choi, Ph.D., CFA
Biotechnology

BSc: Biochemistry, King's College London
Ph.D.: Biochemistry, King's College London
Prior: Merrill Lynch



Alexandria Huynh, Ph.D.
Biotechnology

B.S. Biology, CSU Los Angeles
Ph.D.: Immunology, Harvard University
Prior: Cowen



Iris (Ting) Wang, CFA
Emerging Markets

B.S. Biological Science, Peking University
M.B.A.: Columbia University
Prior: Credit Suisse, McKinsey, A.T. Kearney



Raj Patel
Biotechnology

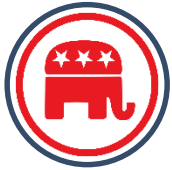
BSE: Chemical Engineering, University of Michigan
Prior: Leerink



Investment Themes

Fundamentals of Biotech Remain Strong

Despite political noise, industry fundamentals remain strong



Politics

Drug pricing rhetoric may continue, but manageable

- Trump pricing proposals so far largely benign for industry
- Split congress likely precludes any substantial change



FDA

Another record setting pace for new drug approvals

- Scott Gottlieb has transformed the FDA approval process
- 2018 was a record year for new drug approvals



Science

The "Golden Era" of innovation continues

- Gene therapy
- RNA interference
- Cellular Therapy
- Bispecific antibodies
- Precision Medicine
- Immunotherapy



M&A

Pace of biotech M&A may be picking up

U.S. Drug Pricing Proposals Manageable for Biotech Industry

Trump Proposals Thus Far: High on Rhetoric, Low on Expected Impact



Alex Azar
HHS Secretary

May 2018 → Trump announces official “blueprint” for lowering drug prices

- The plan emphasized increasing competition, lowering out-of-pocket costs for patients, shifting drugs from Medicare Part B to Part D to increase discounting, and increasing price transparency
- Plan largely viewed as benign to the biopharmaceutical industry

October 2018 → Introduces the “IPI” (International Pricing Index)

- Trump upset that drug prices are higher in the U.S. than in other countries
- Proposal uses foreign drug prices to set Medicare Part B drug prices for a subset of drugs
- Full implementation cannot be passed by executive action; will need support by Congress
- Pilot project would not take effect until 2020 (at earliest); Peak effect not until 2025 (at best)



Donald J. Trump
US President

Jan 2019 → HHS Proposal on Drug Rebates (most likely to gain traction)

- HHS has proposed lowering drug costs by targeting the drug rebate system (the current system creates perverse incentives for drug companies to raise their list prices)
- The “rebate” system would shift to a “discount” delivered to customers at the point of sale
- Encourages manufacturers to pass discounts directly on to patients, instead of providing them to pharmacy benefit managers (PBMs). PBMs would be paid a fixed fee in lieu of rebates
- List prices would come down, but net prices to drug manufacturers may not change that much

Split Congress likely precludes any significant change that would be negative for biotech

Political Rhetoric on Drug Pricing Likely into 2020 Election

But meaningful change and “Medicare for All” unlikely to come to fruition

Headline “noise” may persist in near-term but dramatic change unlikely

- Drug pricing rhetoric may persist as 2020 election approaches
- Multiple hearings on drug pricing have already occurred in the House and Senate
- Many progressive Democratic candidates have also proposed versions of “Medicare for All,” which in its most extreme form is a single-payor government-run healthcare system
- Recent underperformance in the healthcare sector broadly (including biotech) has been linked to fears of “Medicare for All” coming to fruition. We think this is highly unlikely for the following reasons:
 - Joe Biden, a centrist candidate, is currently the frontrunner for the Democratic nomination (not Bernie Sanders, the leading progressive candidate). As former Vice President in the Obama administration, Biden has said he favors incremental changes to Obamacare rather than an extreme “Medicare for All” proposal
 - Unseating an incumbent President like Trump is difficult; most Presidents win a 2nd term
 - It’s highly unlikely the Democrats would sweep the House, Senate, and Presidency in 2020
 - Passage of “Medicare for All” would require a large increase in taxes to pay for it, which presents another significant political barrier
 - Proposal faces significant opposition from hospitals, doctors, insurance companies, the drug industry, and even many centrist Democrats

Sector rebound likely as healthcare reform headlines abate

2020 Presidential Election

Election Day: Tuesday, November 3rd, 2020

2020 ELECTION

The list of Democratic candidates has risen to **24** as of June, 2019



Source: NYTimes.com



Donald J. Trump
President



Democrats likely maintain a majority of the House



Republicans likely maintain a majority of the Senate

Regardless of who wins the presidency, a split Congress will preclude any significant reform

FDA Regulatory Climate Remains Favorable

Agency has been proactive about approving drugs

Trump: Using the FDA to Combat Drug Pricing by Increasing Competition



Former FDA commissioner Scott Gottlieb instituted many policies to expedite drug approvals

- Promote and reward innovative drug development
- Lower the time and cost to develop new drugs
- More frequent & earlier engagement with drug co.s to streamline development
- Modernize FDA's evaluation and analytical tools
- More lenient efficacy/safety standards for FDA approvals
- Increased use of biomarkers and surrogate endpoints
- Increased generic approvals



In March, Gottlieb announced his resignation, but new FDA commissioner Ned Sharpless (former director of the National Cancer Institute at NIH) has publicly stated he expects to continue Gottlieb's policies



A friendly FDA over recent years has reduced the time, cost, and approval risk for new drugs in development, which has benefited the biotech industry

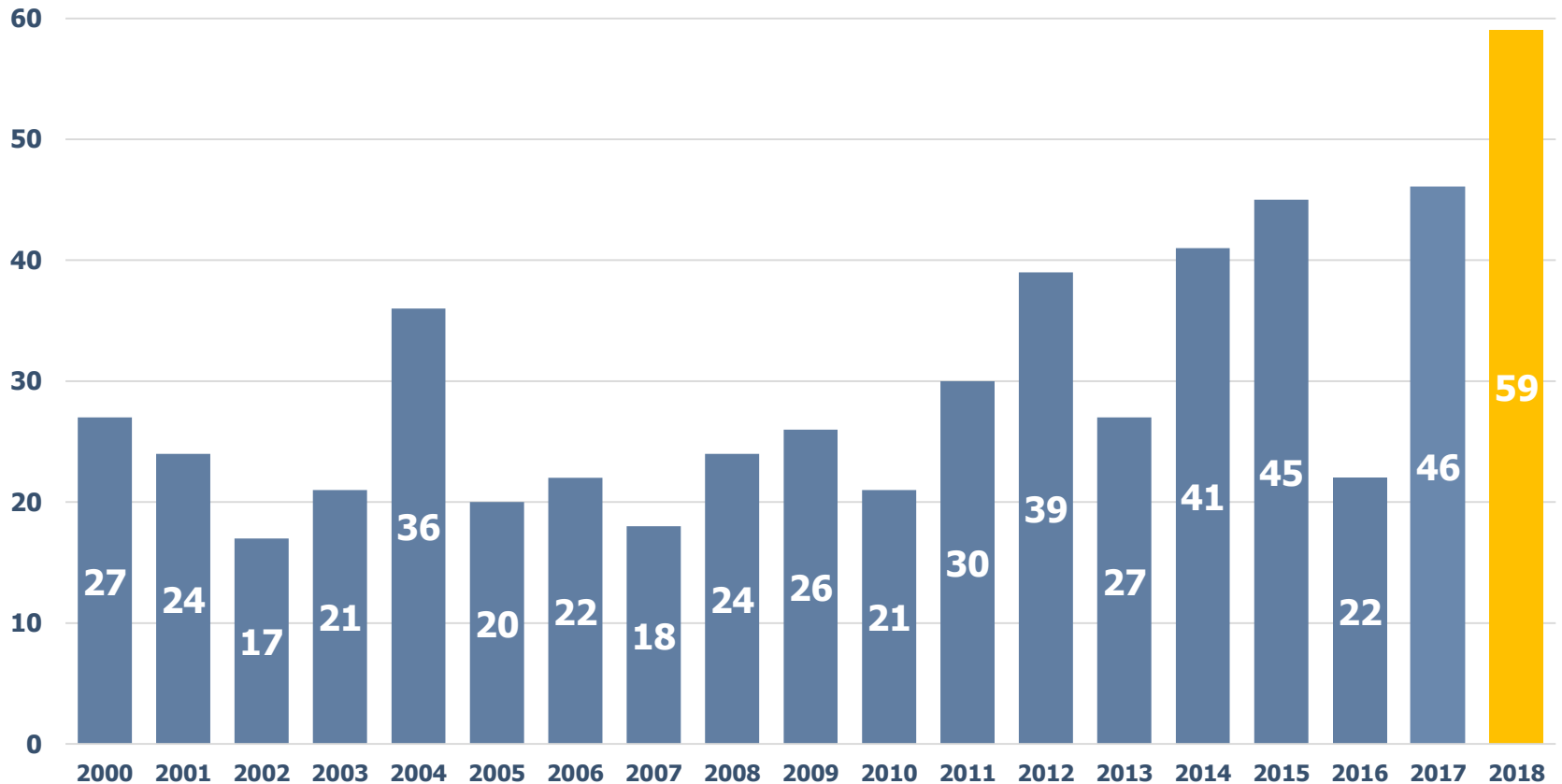
As more approved drugs increase competition, innovation becomes more important.

Source: Scott Gottlieb speeches, fda.gov

FDA Supporting the Innovation Engine

Scott Gottlieb's push for drug approvals led to a record year in 2018

FDA New Molecular Entity Approvals
(as of 31 December 2018)

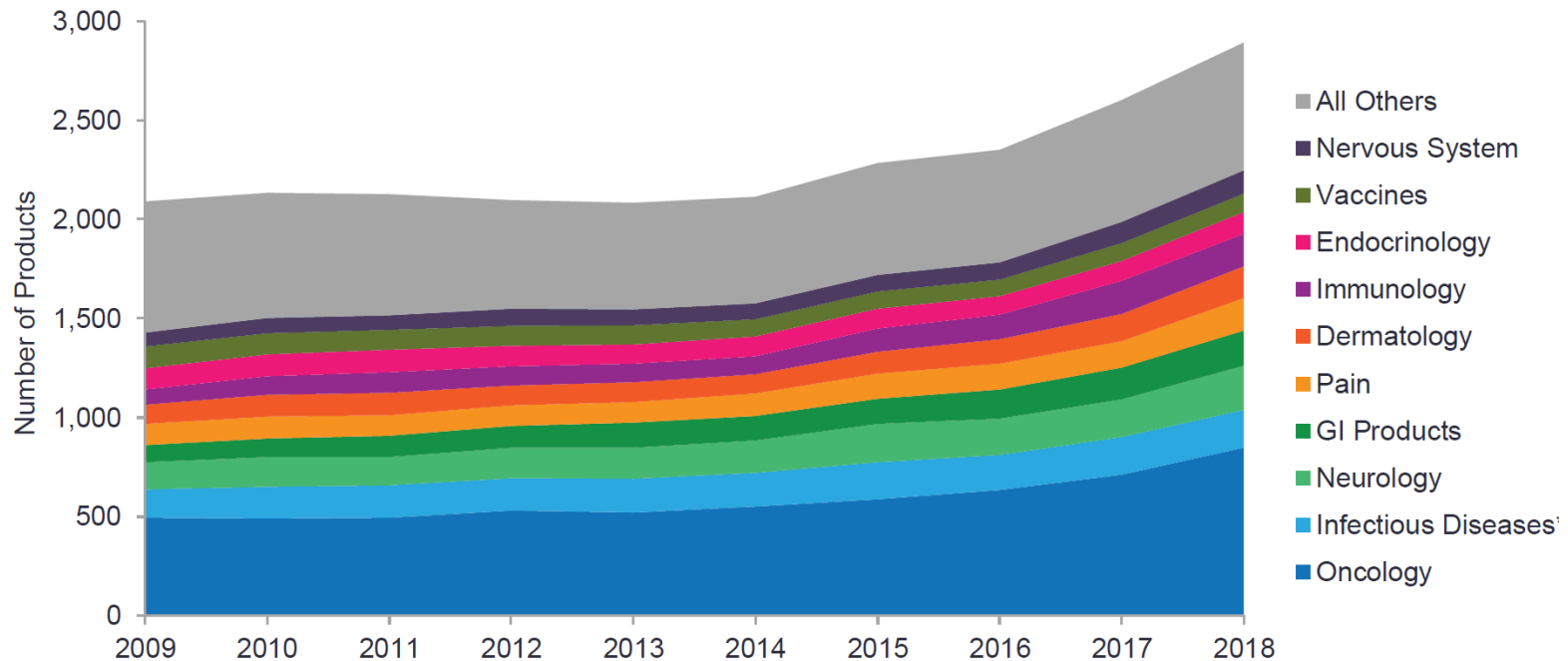


Source: FDA, Washington Analysis

Innovation – Pipeline as Full as it's Ever Been




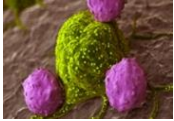


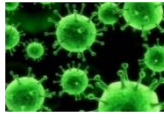





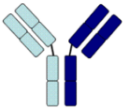


“Golden era” of innovation increasing number of drugs in development

Number of Late-Stage Pipeline Products by Therapeutic Drug Class (2009-2018)



Source: IQVIA Pipeline Intelligence, Dec 2018; IQVIA Institute, Mar 2019

Novel Technologies at Early Stages of Reaching the Market

Science	Clinical Practice	Company	Product
Protein Corrector 	<p>Vertex has reported Phase 3 data for triple combo regimens that will transform the treatment of cystic fibrosis and may enable 90% of patients to live near normal lives. Filing expected in 3Q19.</p>		
Cellular Therapy 	<p>Two CAR-T products from Novartis and Kite (acquired by Gilead) have been approved, a game-changing treatment for blood cancers. "Off-the-shelf" cellular therapies are also in development.</p>		
Gene Therapy 	<p>First gene therapy approved in the US in 2017 (Luxturna for a rare eye disease leading to blindness). Zolgensma for spinal muscular atrophy (SMA) just approved in US; Zynteglo for beta-thalassemia just approved in EU. Significant progress has also been made in hemophilia and muscular dystrophy.</p>		
RNA Therapies 	<p>Recently approved antisense drugs include Biogen's Spinraza for SMA and Ionis' Tegsedi for polyneuropathy caused by amyloidosis. Alnylam's Onpatro was the first RNAi drug to be approved, also for polyneuropathy caused by amyloidosis.</p>		
Bispecific Antibodies 	<p>Amgen and others are developing bispecific antibodies for cancer immunotherapy.</p>		

The Next Big Thing?

There are numerous new emerging platform technologies and therapeutic classes that could yield \$10 Billion+ annual revenue drugs in the years ahead

Cellular Therapy



RNA Modification



Cystic Fibrosis



Gene Therapy



Gene Editing



- - - Overall Market Potential - - -

\$8B+

\$10B+

\$10B+

\$10B+

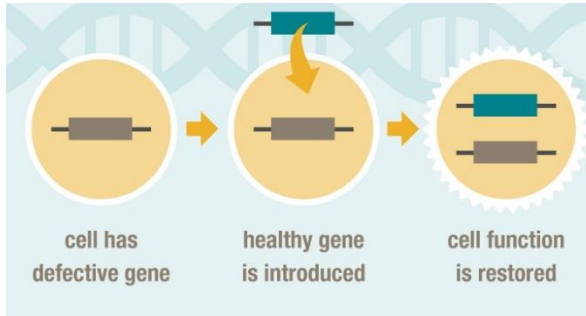
\$25B+

Source: Various broker research reports, company reports and analysis by OrbiMed. Overall Market Potentials are estimates of aggregate potential peak sales for all drugs launched or expected to be launched in the relevant category. Such estimates are based on various assumptions and are subject to the occurrence of future events.

Gene Therapy Achieving Breakthroughs

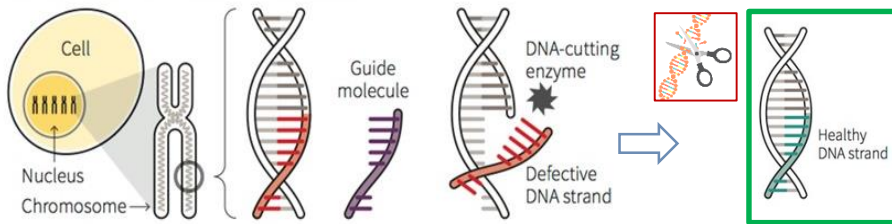
Platform technology could lead to “one-time” cures for patients

Gene Therapy



Acquired Companies

Gene Editing



First proof-of-concept trial for CRISPR-Cas9 gene editing (Vertex and CRISPR Therapeutics' CTX001 for beta thalassemia) expected 4Q19

Indications:

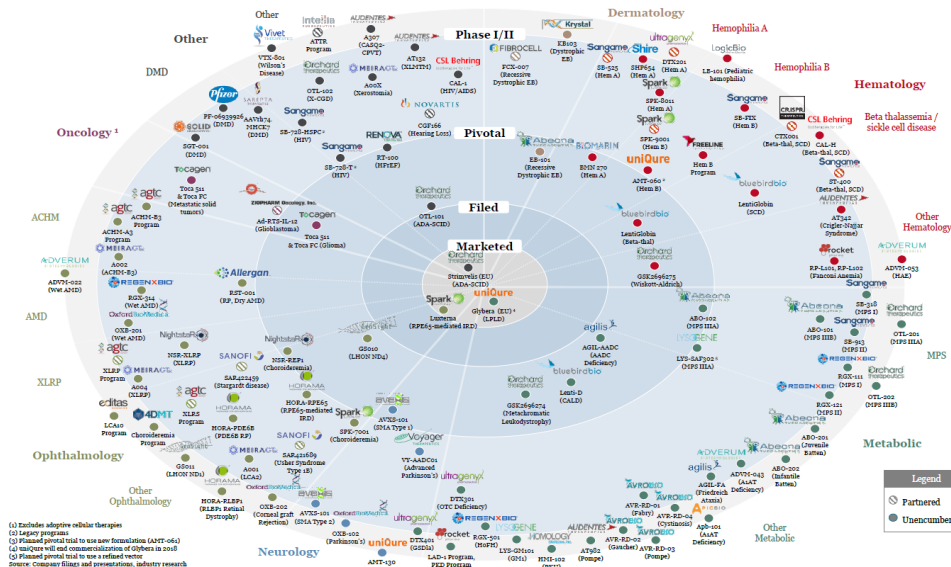
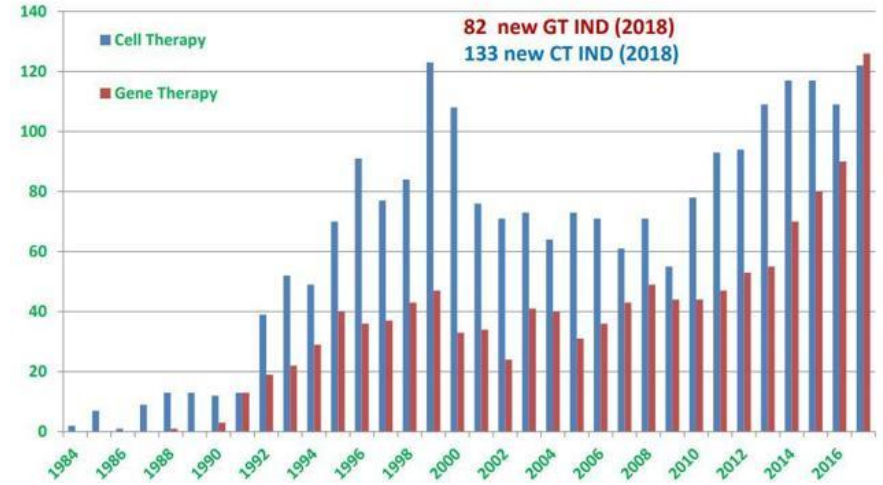
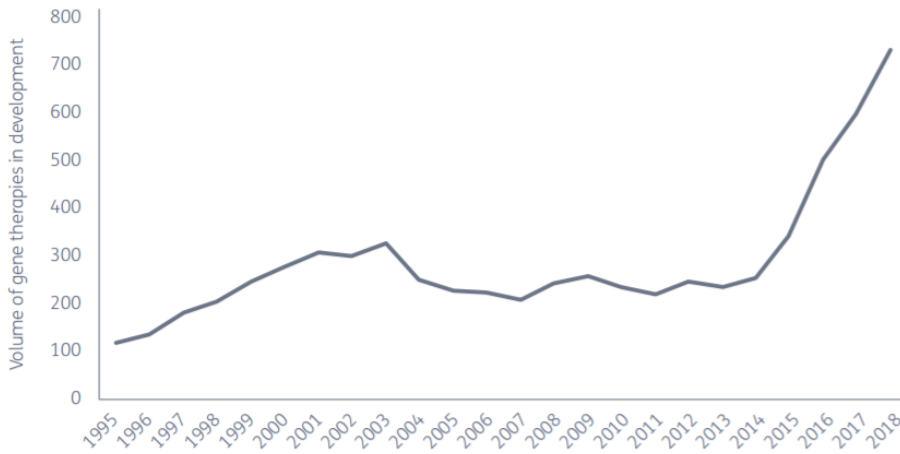
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| <ul style="list-style-type: none"> • spinal muscular atrophy • sickle cell disease • beta thalassemia • Duchenne muscular dystrophy • choroideremia • hemophilia | <ul style="list-style-type: none"> • Huntington's disease • ornithine transcarbamylase deficiency • epidermolysis bullosa • Fanconi anemia • Fabry disease • achromatopsia | <ul style="list-style-type: none"> • Parkinson's disease • alpha-1 antitrypsin deficiency • phenylketonuria • glioma • wet age-related macular degeneration |
|--|--|--|

Growing Pipeline of Gene Therapy Development Candidates

INDs/IDEs Received per Calendar Year in OTAT



Figure 1. Gene therapy pipeline volume, preclinical through pre-registration phase, 1995–2018



(1) Excludes adoptive cellular therapies
 (2) Legacy programs
 (3) Phase I pivotal trial to use gene transduction (AAT7-04)
 (4) Includes all wild-type combinations of others in 2018
 (5) Phase I pivotal trial to use a related vector
 Source: Company filings and presentations, industry research

Fund's Gene Therapy Holdings Span Variety of Disease Areas

Trust has meaningful exposure to this transformative technology

Eye



- RPE65 Deficiency
- X-linked Retinitis Pigmentosa
- Achromatopsia

Liver



- Hemophilia A
- Hemophilia B
- Glycogen Storage Disease Type 1A

Muscle



- Duchenne Muscular Dystrophy
- Limb-Girdle Muscular Dystrophy

Brain



- Huntington's Disease
- Parkinson's Disease
- AADC Deficiency
- Batten Disease

Skin

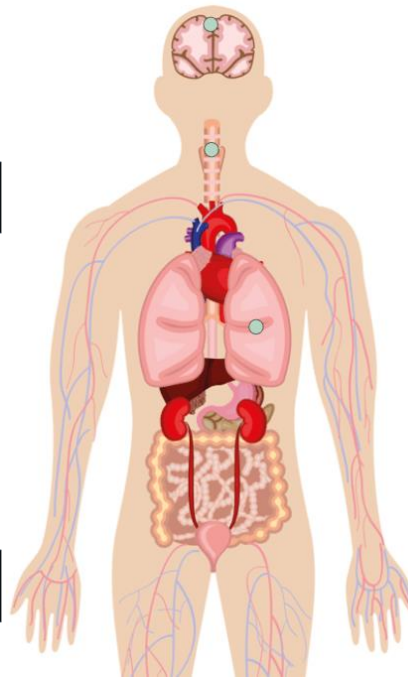


- Epidermolysis Bullosa
- Ichthyosis

Ex vivo



- Fabry Disease
- Gaucher Disease



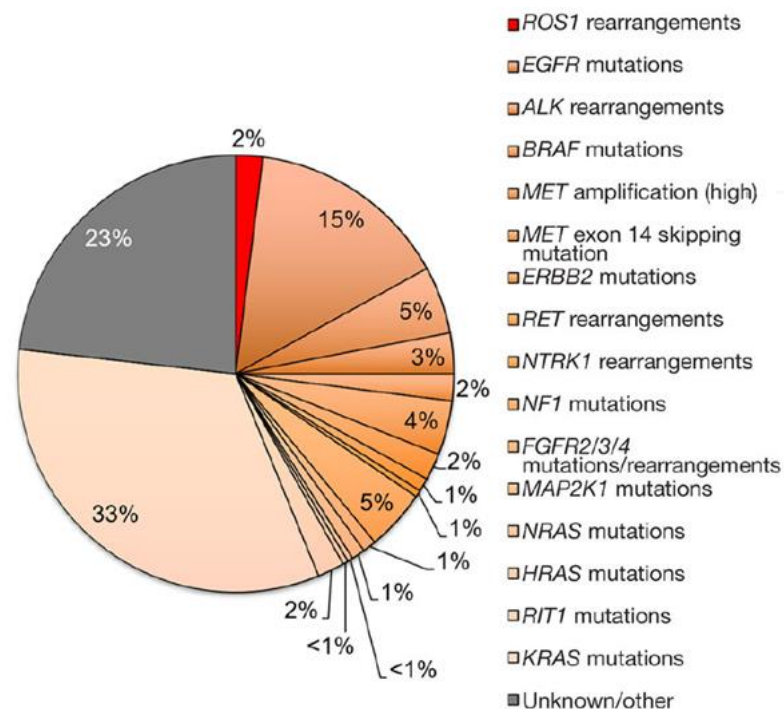
Companies with gene therapy programs represent ~25% of portfolio as of June 30

Using Genome Sequencing to Expand "Targeted Therapies"

Genome sequencing of tumors has identified "driver mutations" responsible for promoting cancer growth

- Cancer is uncontrolled cell growth caused by genetic mutations.
- The declining cost of gene sequencing has allowed for better characterization of the specific gene mutations contributing to tumor growth.
- For example, common driver mutations have been identified within about 75% of non-small cell lung cancers
- Many of these mutations can be targeted by drugs
- Rather than treat a patient with a non-specific chemotherapeutic, a patient can receive "targeted therapies" specifically tailored to the genetic mutations causing that patient's individual cancer.

Prevalence of lung cancer mutations



Source: Cancer Therapy Advisor

Precision Medicine for Cancer: Current Status

- Targeted therapies are now approved for over a dozen driver mutations. Yet a number of known mutations are not yet addressed, providing fertile ground for drug development.
- Traditionally, the FDA has approved cancer drugs based on the organ in which the tumor is found (e.g. drug X approved for lung cancer, drug Y approved for breast cancer). But some mutations are found across tumor types. The FDA has now begun approving mutation-specific drugs with tissue-agnostic indications (e.g. Vitrakvi approved for all tumors with NTRK mutation).
- Patients responding to targeted therapies eventually relapse, often acquiring additional mutations which cause resistance to the drug. Therefore, there are opportunities for next generation inhibitors targeting resistant populations.

Targeted therapy companies in the portfolio:



deciphera™
C-KIT inhibitor for GI stromal tumors

Turning Point Therapeutics
ROS1, NTRK, RET, and MET inhibitors for various cancers

AMGEN
KRAS inhibitor for various cancers

Sequencing company in the portfolio:

illumina®
Leader in gene sequencing equipment

M&A Appetite Still Strong, Pace May Be Picking Up

There is still a significant appetite for management teams to do deals...

"We continue to focus on how can we find opportunities to augment our pipeline and our portfolio by looking to external innovation and finding the best science wherever we can find it to bring it in-house to augment the strong organic pipeline we're developing. And our preference is to continue to do that primarily through bolt-on acquisitions as well as strategic collaborations."

- Robert M. Davis, CFO
Merck (6/20/19)

"I would repeat what Albert has already said about the reorientation of our focus of opportunities to really strengthening our pipeline with clinical stage assets. I think, if you were to look into the future, I think you'll see us continue to be very active in business development, but I think with our focus generally on earlier to mid stage opportunities where clinical risk may be higher as data is less mature, but we believe that the opportunity for value creation is greater."

- John Young, CBO
Pfizer (4/30/19)

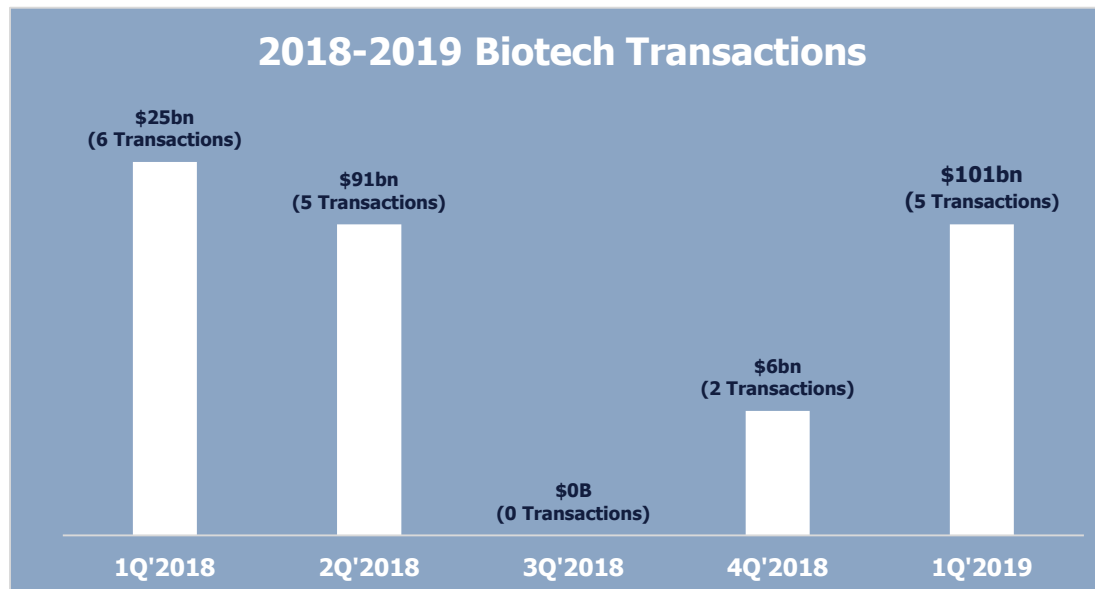
"We recently announced the acquisition of Xiidra, which continues our focus on bolt-on acquisitions... We're going to have to stay on top of the latest cutting edge science that emerges in this industry. We cannot miss one of the big breakthroughs."

- Vasant Narasimhan, CEO
Novartis (5/23/19)

After a lull in M&A activity in 2H18, there are signs that M&A activity is picking up

- Competitive threats have increased to legacy products at Big Pharma and Big Biotech, so there is a greater urgency to acquire next-generation products and technologies (e.g. gene therapy)
- P/E multiples for large cap biotech are at historic lows
 - Celgene takeout shows that large-cap biotech companies are vulnerable as targets
 - Large cap company share prices can benefit whether they acquire growth assets (via earnings and P/E multiple expansion) or are themselves acquired

Recent Biotech M&A Activity



Selected biotech acquisitions (announced in 2019)

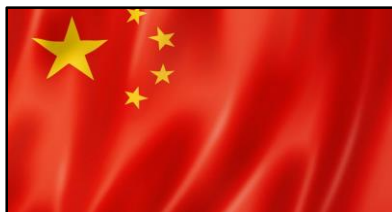
- Bristol-Myers Squibb's \$74 billion acquisition of Celgene (54% premium)
- Eli Lilly's \$8 bn acquisition of Loxo Oncology (68% premium)
- Roche's \$4.8 bn acquisition of Spark Therapeutics (122% premium)
- Biogen's \$800 mm acquisition of Nightstar Therapeutics (68% premium)
- Pfizer's \$10.6 bn acquisition of Array Biopharma (62% premium)



Biotech Opportunities Emerging in China

Innovation emerging in second largest pharmaceutical market in the world

While most of the biotech innovation historically has occurred in the US and Europe, we are seeing a trend towards increased innovation in China.



Historically, the Chinese domestic drug market has been focused on specialty generics and traditional Chinese medicines, but a number of recent developments are encouraging innovation:

1. The Chinese FDA has tightened its approval standards to eliminate substandard products and also introduced initiatives to expedite approval of innovative drugs
2. The Hong Kong stock exchange recently relaxed its listing requirements so that biotech companies without revenue can go public, increasing the financing options for Chinese biotech
3. The multinational drug industry has increasingly focused on China as a promising growth market, so they are bringing expertise to the country and investing in drug development infrastructure
4. Innovative drugs are able to secure preferential pricing in the Chinese market

The Biotech Growth Trust has participated in three recent IPOs that have performed well (as of 30 June 2019):

- Shanghai Junshi Biosciences - an oncology company with the first domestic PD-1 drug approved in China
- CanSino Biologics - vaccine manufacturer serving the private-pay market
- Hansoh Pharmaceuticals - leading biopharma company selling drugs in CNS, oncology and anti-infectives

We have two public equity research analysts who work out of our Hong Kong and Shanghai offices

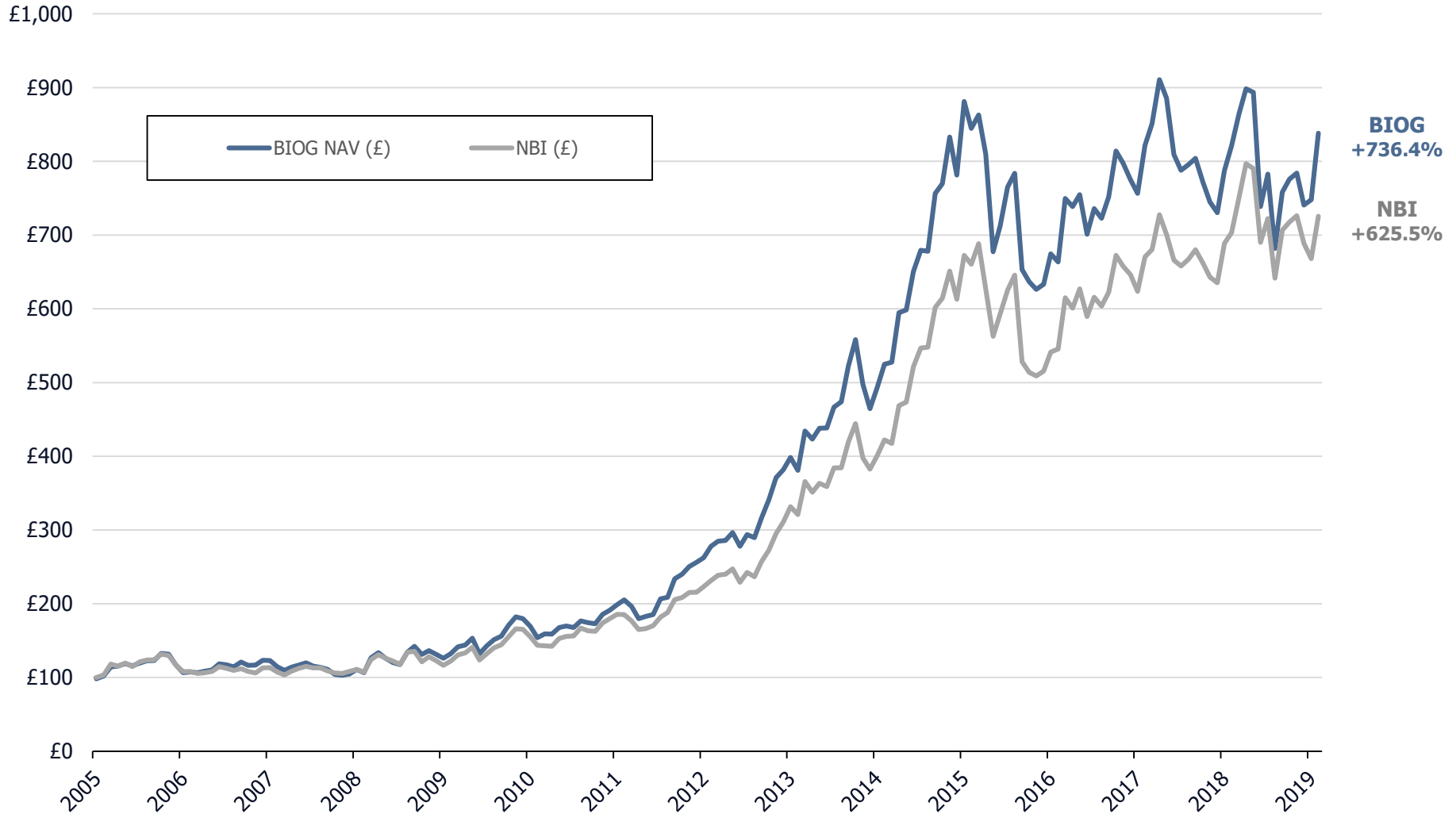
With a local research team in China, OrbiMed is well-positioned to capitalize on innovation in China



The Biotech Growth Trust

BIOG Inception Performance

18 May 2005 through 30 June 2019



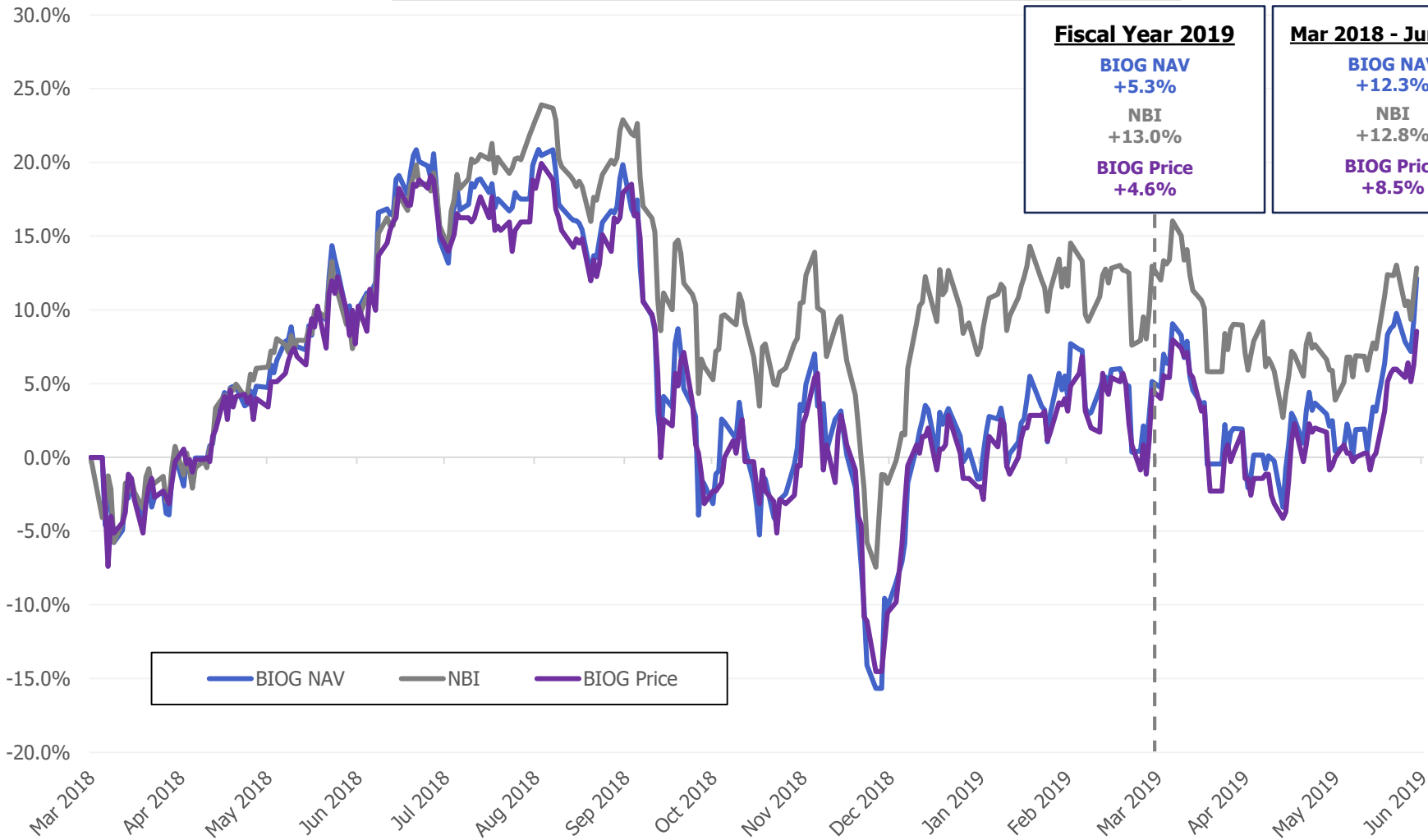
Note: See Endnotes for additional information, including with regard to the calculation of these results and the index shown above.

Source: Frostrow, Bloomberg.

BIOG vs NBI – Fiscal Year 2019 (GBP)

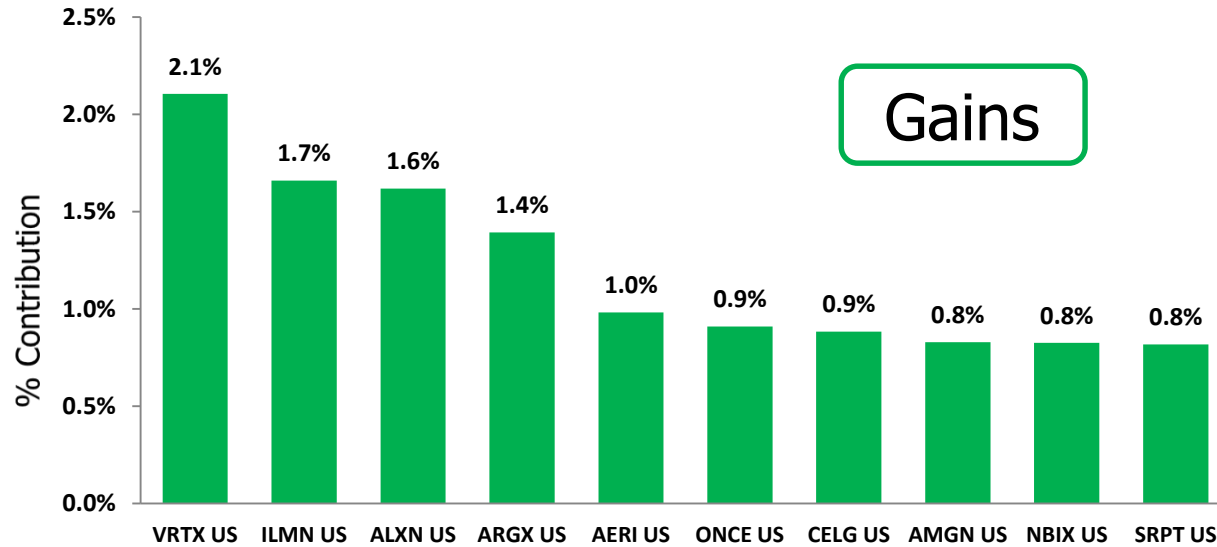
BIOG vs Nasdaq Biotechnology Index

Fiscal Year 2019 (GBP)

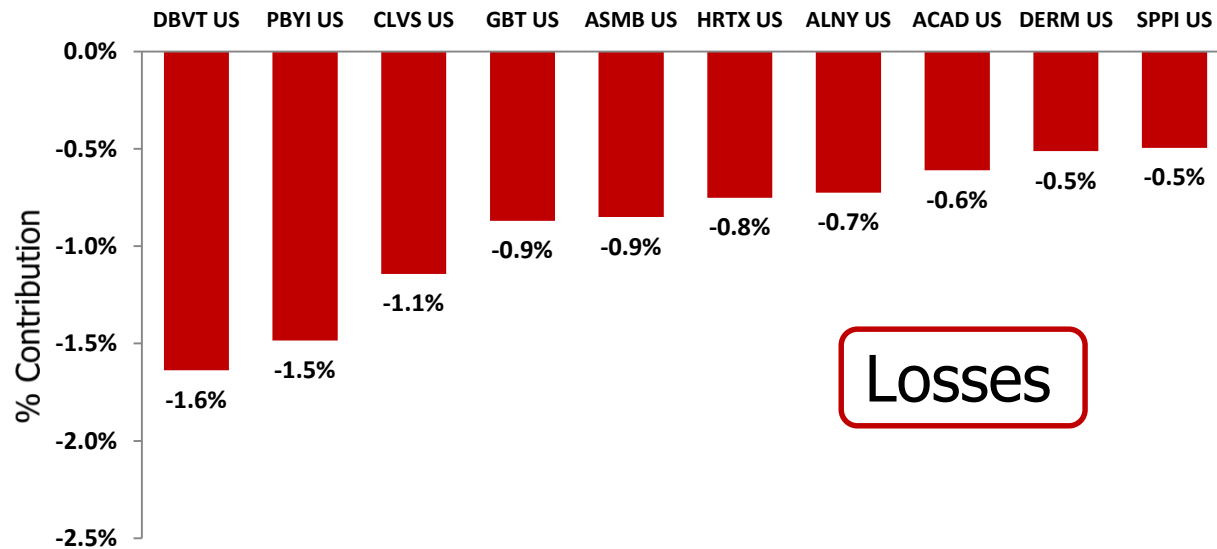


Major Movers in Fiscal Year 2019 (Portfolio Contribution%)

31 March 2018 through 31 March 2019



Ticker	Name
VRTX US	Vertex Pharmaceuticals Inc
ILMN US	Illumina Inc
ALXN US	Alexion Pharmaceuticals Inc
ARGX US	Argenx SE
AERI US	Aerie Pharmaceuticals Inc
ONCE US	Spark Therapeutics Inc
CELG US	Celgene Corp
AMGN US	Amgen Inc
NBIX US	Neurocrine Biosciences Inc
SRPT US	Sarepta Therapeutics Inc



Ticker	Name
DBVT US	DBV Technologies SA
PBYI US	Puma Biotechnology Inc
CLVS US	Clovis Oncology Inc
GBT US	Global Blood Therapeutics Inc
ASMB US	Assembly Biosciences Inc
HRTX US	Heron Therapeutics Inc
ALNY US	Alnylam Pharmaceuticals Inc
ACAD US	ACADIA Pharmaceuticals Inc
DERM US	Dermira Inc
SPPI US	Spectrum Pharmaceuticals Inc

Past Performance is not indicative of future results. Please see Endnotes for additional information. Contribution is measured in GBP

Source: Bloomberg PORT

Explanation of Recent Performance vs. Benchmark

Fiscal 2019 results were disappointing relative to our benchmark index.

Major factors explaining performance include:

Stock prices of many commercial emerging biotech companies have underperformed dramatically

- Newly commercial biotech companies have historically been likely acquisition targets, but fears over competition, concerns about peak sales potential, and lack of M&A have hampered performance of many of these names
- Names like Puma Biotech and Clovis Oncology (both potential M&A targets) have especially hurt the portfolio
- We have become more careful about investing in “launch stories,” recognizing that certain assets will not be able to achieve their theoretical sales potential unless they are marketed by larger companies
- Sentiment could improve for the commercial emerging biotech companies if some M&A does occur

Underweighting of non-therapeutics companies relative to the index

- Though we had a significant position in gene sequencing leader Illumina, we did not hold many of the non-therapeutics companies in the index.
- Life science tools companies and contract research organizations (CROs) (service companies that help biopharma companies conduct clinical trials) in the index performed especially well during the fiscal year. We believe this is in part due to their lack of exposure to drug pricing concerns.
- We are maintaining our emphasis on therapeutics companies and believe that over the long run, they should outperform.

+6.8% fund outperformance versus the benchmark since March 31, 2019 reflects early stages of returning to historical outperformance

BIOG Performance vs. Benchmark

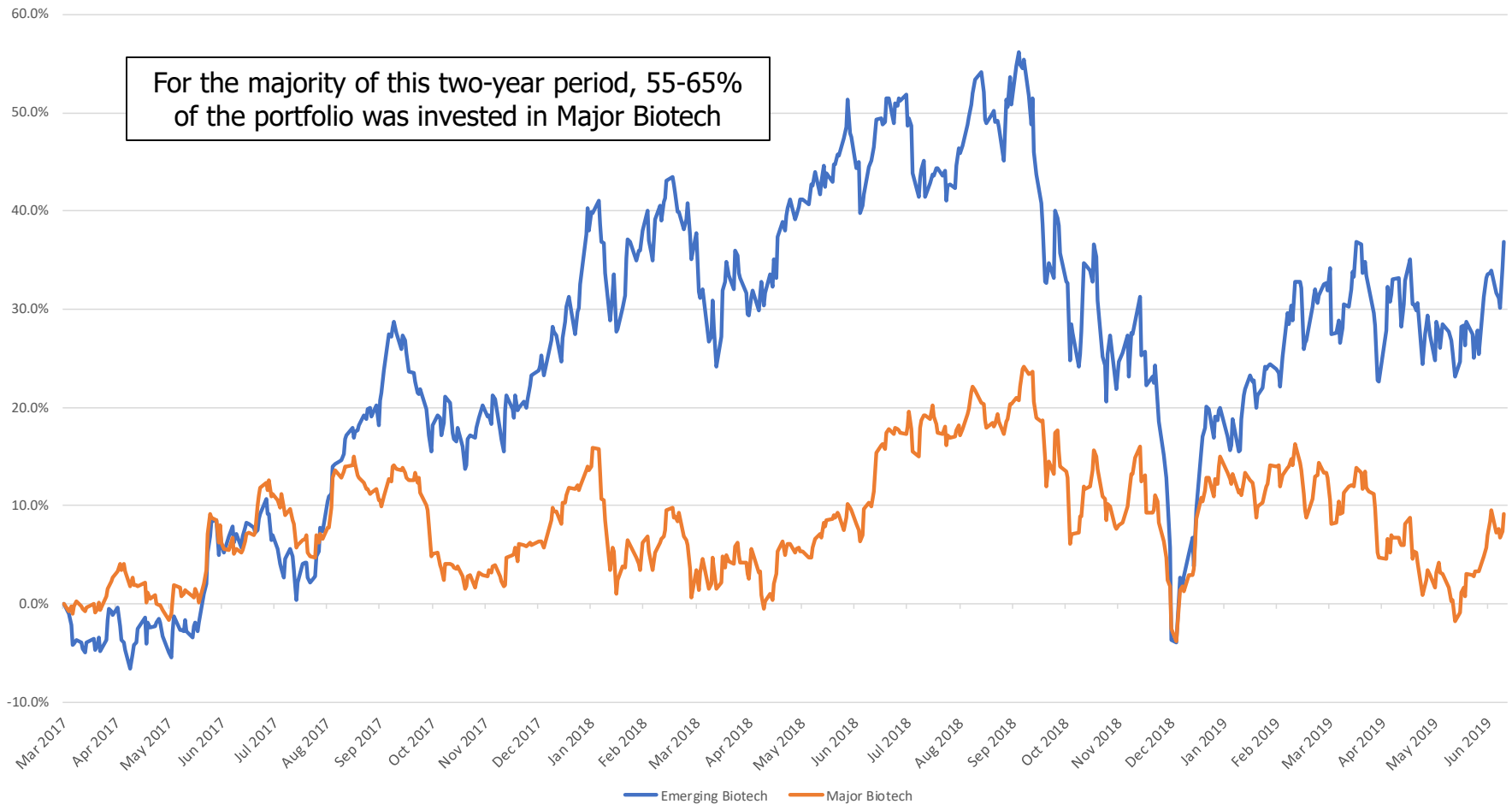
Periods Ending 30 June 2019	Calendar YTD	5 Year Annualized Return	10 Year Annualized Return	OrbiMed Inception Annualized Return	BIOG OrbiMed Inception (18 May 2005)
BIOG NAV (£)	22.7%	9.8%	20.3%	16.4%	736.4%
NASDAQ Biotech Index (£)	13.1%	11.4%	19.5%	15.2%	625.5%
Excess Returns vs NBI (£)	9.6%	-1.6%	0.8%	1.2%	110.9%
FTSE All-Share Index TR (£)	13.0%	6.3%	10.3%	7.4%	172.8%
Excess Returns vs FTSE TR (£)	9.8%	3.5%	10.0%	9.0%	563.6%

* OrbiMed commenced investment management of BIOG on 18 May 2005. Numbers are estimated, provided by Frostrow.
 Note: See Endnotes for additional information, including with regard to the calculation of these results and the indices shown above.

Source: Frostrow, Bloomberg

Nasdaq Biotech Index – Emerging vs Large Cap Performance

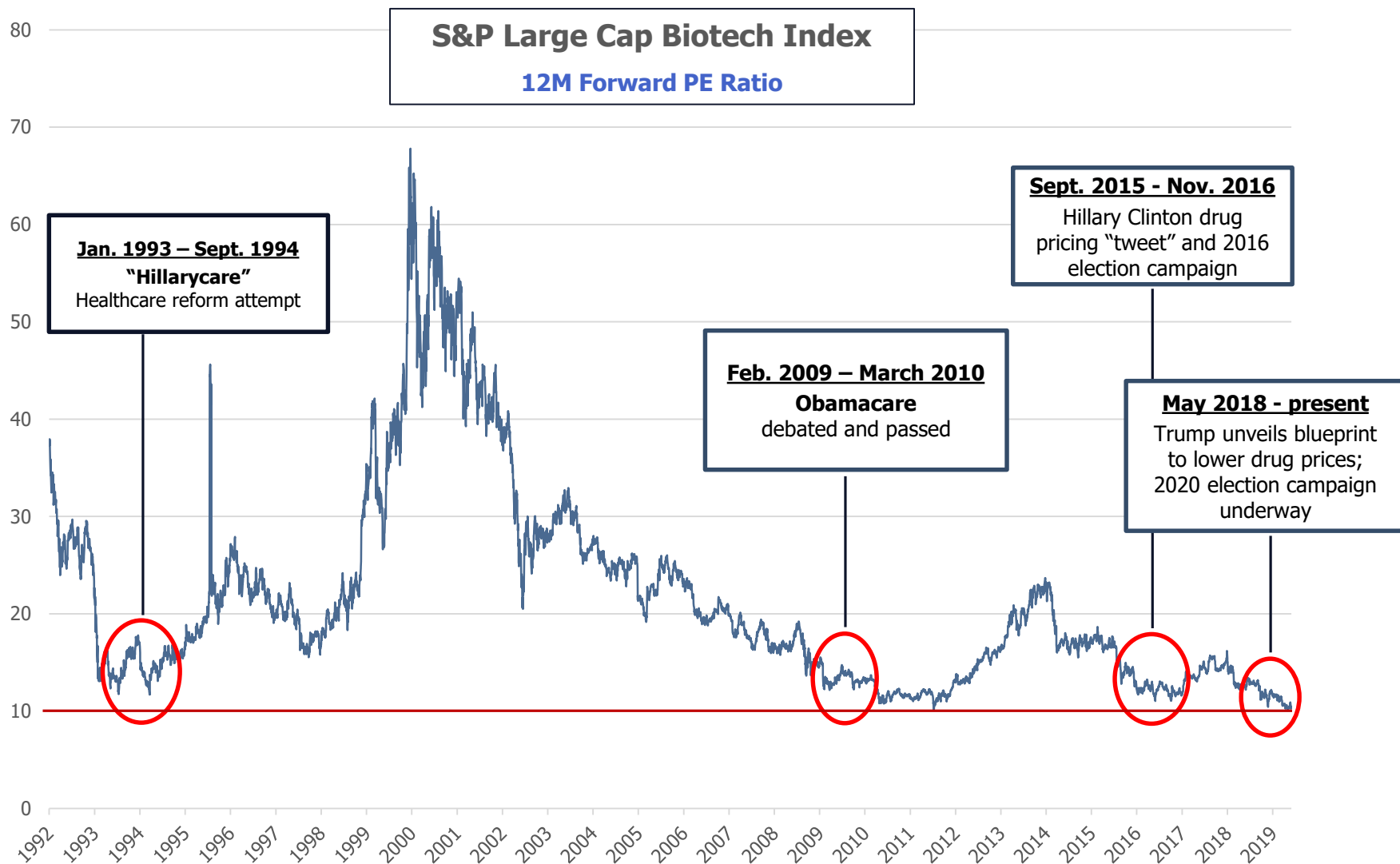
Emerging vs Large Cap Biotech Performance
(3/31/17 - 6/30/19)



Note: Performance is calculated by taking the equal-weighted performance of all NBI members in FY 2018.

Source: Bloomberg

Large Cap Biotech Trading at Record Low PEs



Note: 12M Forward PE Ratios since inception of S5BIOT Index as of 6.28.19

Large Cap Biotech Valuations at Attractive Historic Lows

Biotechnology's P/E: Attractive on a Relative and Historical Basis

	Biotech	S&P 500	Healthcare	Utilities	Cons Stapl	Cons Disc	Telecom	Tech	Industrials	Financials	Energy	Materials
1993	17.2	14.7	14.0	13.3	14.2	16.7	20.3	16.0	15.2	9.8	16.5	19.3
1994	16.2	12.3	14.4	10.7	13.7	12.1	16.3	13.5	12.5	8.2	15.6	12.1
1995	25.7	13.9	19.1	12.9	11.8	14.8	17.4	12.7	14.7	10.6	16.2	10.7
1996	20.4	16.2	20.3	12.5	13.6	16.4	16.7	19.1	17.2	12.6	17.4	15.9
1997	17.9	17.8	24.4	14.3	14.5	18.8	20.0	18.6	17.7	15.4	17.8	16.1
1998	30.0	22.5	32.3	16.0	15.1	25.5	29.5	25.5	19.9	15.8	24.2	19.9
1999	55.1	24.3	25.6	12.8	17.9	26.7	33.2	44.3	22.6	14.3	22.5	16.9
2000	49.0	21.0	30.8	17.6	19.1	19.9	25.2	18.4	20.6	15.8	17.4	13.9
2001	41.7	19.9	24.9	11.1	16.9	26.4	21.1	22.5	14.4	14.1	18.9	21.9
2002	27.3	14.7	18.0	10.1	14.2	16.4	15.6	15.3	11.1	11.3	15.9	18.0
2003	26.2	16.8	18.3	13.6	16.7	19.3	16.5	13.4	19.4	12.5	17.1	20.9
2004	25.4	15.4	17.0	14.7	16.7	18.4	17.9	15.0	19.0	12.0	13.1	15.2
2005	23.7	14.5	17.2	14.3	16.8	16.4	14.3	18.2	15.9	12.1	9.9	14.3
2006	20.1	14.9	16.5	15.3	17.3	18.3	15.5	18.4	15.5	12.7	10.8	13.6
2007	16.3	14.4	15.1	16.7	17.5	14.6	14.2	18.1	15.2	11.0	12.3	15.0
2008	15.2	11.3	10.6	10.9	12.7	17.6	10.8	11.3	10.7	10.3	10.0	12.8
2009	12.9	14.1	11.7	12.3	13.8	15.6	14.1	15.6	15.8	14.3	12.9	16.9
2010	11.5	13.0	10.9	12.5	13.9	14.4	15.2	12.8	14.6	12.0	12.7	14.3
2011	12.2	11.6	11.3	14.6	14.4	13.3	16.7	11.0	12.1	9.8	10.1	11.3
2012	15.5	12.3	12.5	14.1	14.5	14.2	16.9	10.9	12.7	11.2	10.9	12.7
2013	22.6	15.1	16.6	15.0	16.9	17.7	14.4	14.3	16.6	13.4	13.1	16.2
2014	16.8	16.4	17.2	18.0	19.1	17.7	13.7	15.5	16.4	14.5	17.7	16.2
2015	14.4	16.0	15.9	15.4	19.6	17.5	12.3	15.3	15.4	13.4	28.3	15.2
2016	11.7	16.8	14.3	17.1	19.0	17.5	14.1	15.7	17.6	14.0	31.9	16.8
2017	14.4	18.0	16.5	17.5	19.6	20.2	13.0	17.5	19.2	14.7	25.0	18.2
2018	11.2	14.3	14.8	16.3	16.6	17.4	14.7	14.4	13.4	10.4	13.4	13.6
2019	10.1	16.0	14.7	18.2	18.7	19.3	15.8	18.7	15.1	11.4	13.9	15.9
Average	21.9	15.9	17.7	14.2	16.0	17.8	17.3	17.0	16.0	12.5	16.6	15.7

Source: Bloomberg, all sectors represented by S&P subsector definitions, updated through 30 June 2019

Cheap  Expensive

Large Cap Exposure Has Held Back Performance

- Over the past 2 years, the fund's significant weighting in large cap biotech has held back performance
- Large cap biotech sentiment continues to be poor over concerns about sustainability of growth and competitive threats to key products; valuations remain depressed as investors take a "glass half-empty" view towards these companies' future prospects
- Involvement of generalist investors is required for this segment of the biotech industry to perform, but they have generally stayed away due to fears about slowing growth and uncertainty about government changes to drug pricing
- Value can be unlocked through pipeline developments, M&A, and new product launches
 - Biogen's Phase 3 Alzheimer's drug could have re-catalyzed interest in large cap biotech, but unfortunately the pivotal trial failed in March 2019
 - Takeda/Shire (+60% premium), Bristol-Myers/Celgene (+53% premium), and Abbvie/Allergan (+45% premium) indicate large scale M&A can occur
- We think there is very little downside to large cap stocks at current levels, but election-related drug pricing rhetoric may delay a re-rating and M&A is difficult to predict
- The fund's large cap exposure has been reduced over the past year in favor of emerging biotechs (including elimination of the Celgene position)

BIOG Holdings

As of 30 June 2019

	Market Price \$ Millions	Pct. Value		Market Price \$ Millions	Pct. Value
UNITED STATES			INTERNATIONAL		
Emerging Biotechnology			Europe		
ACADIA Pharmaceuticals Inc	2.7	0.5	Emerging Biotechnology		
Adaptive Biotechnologies Corp	0.7	0.1	Amarin Corp PLC	9.1	1.8
Alector Inc	1.7	0.3	Argenx SE	12.1	2.3
Amicus Therapeutics Inc	6.5	1.3	Foamix Pharmaceuticals Ltd	3.2	0.6
Apellis Pharmaceuticals Inc	20.8	4.0	Genfit	6.5	1.3
Arena Pharmaceuticals Inc	6.4	1.2	Prothena Corp PLC	0.6	0.1
ArQule Inc	3.3	0.6	uniQure NV	<u>7.0</u>	<u>1.4</u>
Assembly Biosciences Inc	1.9	0.4		38.4	7.4
Athenex Inc	26.3	5.1	Europe Subtotal		
Aurinia Pharmaceuticals Inc	10.9	2.1		38.4	7.4
AvroBio Inc	1.7	0.3	Far East		
Clovis Oncology Inc	2.9	0.6	Emerging Biotechnology		
Deciphera Pharmaceuticals Inc	21.0	4.1	CanSino Biologics Inc	8.5	1.7
Dynavax Technologies Corp	2.3	0.5	OrbiMed Asia Partners	<u>4.0</u>	<u>0.8</u>
Exelixis Inc	21.0	4.1		12.5	2.4
Flexion Therapeutics Inc	1.1	0.2	Major Biotechnology		
Immunomedics Inc	1.7	0.3	Hansoh Pharmaceutical Group Co	<u>14.1</u>	<u>2.7</u>
Karyopharm Therapeutics Inc	6.5	1.3		14.1	2.7
Krystal Biotech Inc	9.7	1.9	Far East Subtotal		
Medicines Co/The	5.5	1.1		26.6	5.2
MeiraGTx Holdings plc	23.2	4.5	International Total		
Menlo Therapeutics Inc	4.0	0.8		65.0	12.6
MyoKardia Inc	11.4	2.2	Cash		
Neurocrine Biosciences Inc	34.4	6.7		-31.1	-6.0
PTC Therapeutics Inc	9.9	1.9	Total Portfolio		
Puma Biotechnology Inc	0.5	0.1		516.4	100.0
Sarepta Therapeutics Inc	36.3	7.0			
Spero Therapeutics Inc	5.8	1.1			
Stoke Therapeutics Inc	3.8	0.7			
Turning Point Therapeutics Inc	4.8	0.9			
Ultragenyx Pharmaceutical Inc	<u>2.7</u>	<u>0.5</u>			
	291.7	56.5			
Major Biotechnology					
Alexion Pharmaceuticals Inc	28.7	5.6			
Amgen Inc	22.5	4.4			
Biogen Inc	20.5	4.0			
Gilead Sciences Inc	27.1	5.3			
Illumina Inc	22.7	4.4			
Regeneron Pharmaceuticals Inc	15.3	3.0			
Vertex Pharmaceuticals Inc	<u>54.0</u>	<u>10.5</u>			
	190.7	36.9			
United States Total					
	482.5	93.4			

2019 Strategy and Outlook

- **We regard the past 2 years of performance as a temporary setback and are confident we can restore outperformance**
 - Name count and gearing levels (5-10%) will remain roughly the same
 - Large cap exposure has been reduced in favor of small/midcap names
 - +9.6% outperformance versus the benchmark YTD
- **Large cap biotech continues to trade at a valuation discount**
 - Eventual rerating expected from M&A, pipeline developments, new product launches
 - But election-related drug pricing rhetoric could keep generalist sentiment on the group dampened in the near-term
- **Innovation remains strong in the sector, including transformative technologies like gene therapy**
- **Regulatory environment remains supportive of new drug approvals**
 - Clinical trial requirements have been reduced (less cost and time) and there is a higher probability of approval
- **M&A could pick up after a strong start to the year**
 - Targets could include Big Biotech as well as emerging companies
- **Political rhetoric on drug pricing may persist into 2020 elections, but ultimate impact on biotech likely not substantial**
 - Split Congress makes passage of transformative legislation unlikely
- **Opportunities outside of the US, like China, are becoming more interesting**



Endnotes

Endnotes

General Notes

1. The information presented herein relates to The Biotech Growth Trust PLC (the "Fund"). OrbiMed Capital LLC ("OrbiMed") is an investment adviser registered with the U.S. Securities and Exchange Commission (the "SEC") that specializes in the investment of clients' assets, including the Fund's assets, in healthcare and life sciences companies, including the biotechnology and pharmaceutical sectors, across a number of products and strategies. This presentation includes information specifically relating to the Fund, and potential OrbiMed clients or fund investors should be aware that such information may not be applicable to other OrbiMed funds, products or strategies. The information contained in this presentation is not intended to supplement or replace the disclosures made in Part 2 of OrbiMed's Form ADV filed with the SEC or in the prospectus or other offering document for any investment fund sponsored and/or managed by OrbiMed or its affiliates. SEC Registration does not imply a certain level of skill or training.
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Endnotes (continued)

Indices

Information about indices is provided to allow for comparison of the performance of the Shares to the Fund's benchmark and certain other recognized indices. Investors cannot invest directly in an index, which also does not take into account trading commissions and costs. The indices shown are unmanaged, do not charge fees or expenses and do not employ special techniques such as leveraging or short selling. The volatility of indices may be materially different from the performance of the Fund. In addition, the Fund's portfolio holdings may differ significantly from the securities that comprise such indices.

The MSCI World Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed markets. The NASDAQ Biotechnology Index includes securities of NASDAQ-listed companies classified according to the Industry Classification Benchmark as either Biotechnology or Pharmaceuticals which also meet other eligibility criteria, and is calculated under a modified capitalization-weighted methodology. The SPDR S&P Biotech ETF seeks to provide investment results that, before fees and expenses, correspond generally to the total return performance of the S&P Biotechnology Select Industry. The FTSE All-Share Index is a market-capitalization weighted index representing the performance of all eligible companies listed on the London Stock Exchange's main market, which pass screening for size and liquidity. The Russell 2000 Index measures the performance of the small-cap segment of the U.S. equity universe. It includes approximately 2000 of the smallest securities based on a combination of their market cap and current index membership.