

International Biotechnology Trust

Outperformance and income

Under the leadership of its manager, Carl Harald Janson, International Biotechnology Trust (IBT) is building a track record of outperformance of both its benchmark, the Nasdaq Biotechnology Index and the average of its peer group (see page 13 of this note for the figures).

The biotech sector, which IBT focuses on, benefits from long term structural growth drivers (listed on page 3) such as ageing populations in the developed world and an emerging middle class in developing markets. After a weak start in 2018, the Nasdaq Biotechnology Index has now recovered. The manager believes that the "American Patients First" document released by the US government on May 11 reduced investors' concerns over drug pricing.

IBT pays a regular dividend (4% of the NAV, payable in two instalments – see page 14 for more detail). This was introduced to widen IBT's appeal, beyond capital growth, to investors that may also have an income requirement.

Access to the fast-growing biotech sector

IBT is the longest-established of the London-listed funds specialising in the biotech/healthcare sector. It aims to achieve long-term capital growth by investing in biotechnology and other life sciences companies and offers investors the highest yield in the sector while keeping its day-to-day running costs low. The portfolio is invested primarily in quoted companies but IBT also has some exposure to unquoted companies.

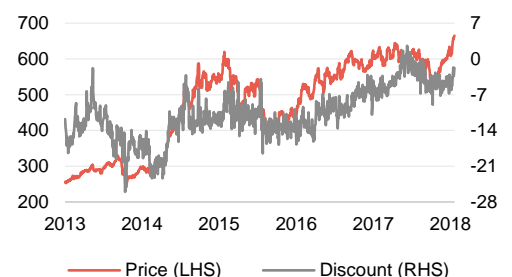
Year ended	Share price total return (%)	NAV total return (%)	NASDAQ Biotech Index TR (%)	MSCI UK total return (%)	MSCI World total return (%)
30/06/14	17.7	23.1	31.7	12.3	10.0
30/06/15	80.6	70.8	56.8	(0.2)	10.3
30/06/16	(15.3)	(13.4)	(17.7)	3.4	14.4
30/06/17	34.1	23.3	24.6	16.7	21.6
30/06/18	5.7	5.8	5.2	8.2	9.3

Source: Morningstar, Marten & Co

Sector	Sector specialist – biotechnology and healthcare
Ticker	IBT LN
Base currency	GBP
Price	665.0p
NAV	676.8p
Premium/(discount)	(1.7%)
Yield	3.8%

Share price and discount

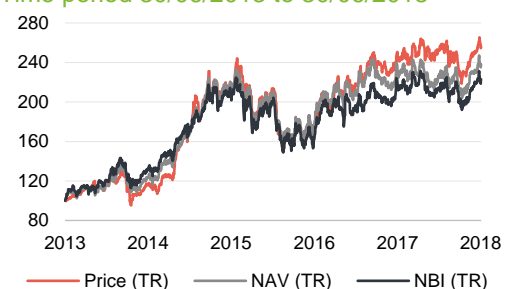
Time period 30/06/2013 to 16/07/2018



Source: Morningstar, Marten & Co

Performance over five years

Time period 30/06/2013 to 30/06/2018



Source: Morningstar, Marten & Co

Domicile	England & Wales
Inception date	31 March 1994
Manager	SV Health Managers LLP
Market cap (GBP)	249.7m
Shares outstanding	37.5m
Daily vol. (1-yr. avg.)	65.1k shares
Net gearing	Nil

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Innovation that rewards investors

Historically, the biotech sector was differentiated from the pharma sector by its focus on larger, more complex chemical compounds, which are harder to produce than traditional smaller, more simpler ones. However, as these two sectors have evolved, large cap pharma companies have tended to address their maturing product pipelines by purchasing smaller biotech companies, as a means to drive the next wave of growth, and this distinction no longer applies. Instead, 'biotech' has largely become a catch-all term used to describe those companies that are involved in the development or commercialisation of new pharmaceutical products. These companies tend to be smaller in size but have higher growth than mature pharmaceutical companies.

The biotech industry originated in and to date remains predominantly in the US, although there are many companies operating and listed across Europe and in Canada, Australia, Israel, China and some other markets as well. To give an indication of the industry's size, the aggregate market cap of the US biotech sector is \$993bn, which ranks it in 17th place in the 70 individual industry sectors within the S&P 500 Index of US companies, lying between metals & mining and beverages. Biotech contributes around one fifth of the overall value of the wider US healthcare grouping (\$5,170bn) and is the segment's second largest subsector after pharma (\$2,050bn) and roughly half its size.

Biotech has beaten pharma by a significant margin

On a 10-year view, US biotech has been one of the best performing industry sectors. It has strongly outperformed broader market indices, including the S&P 500 and the Dow Jones Industrial Average, and bettered even the internet software & services sector, albeit by a slim margin (+291% vs +288%). Over the same time frame, pharmaceuticals achieved a 98% return. Furthermore, over the last twenty years the biotechnology sector has outperformed the wider healthcare sector and the wide equity market by significant margins.

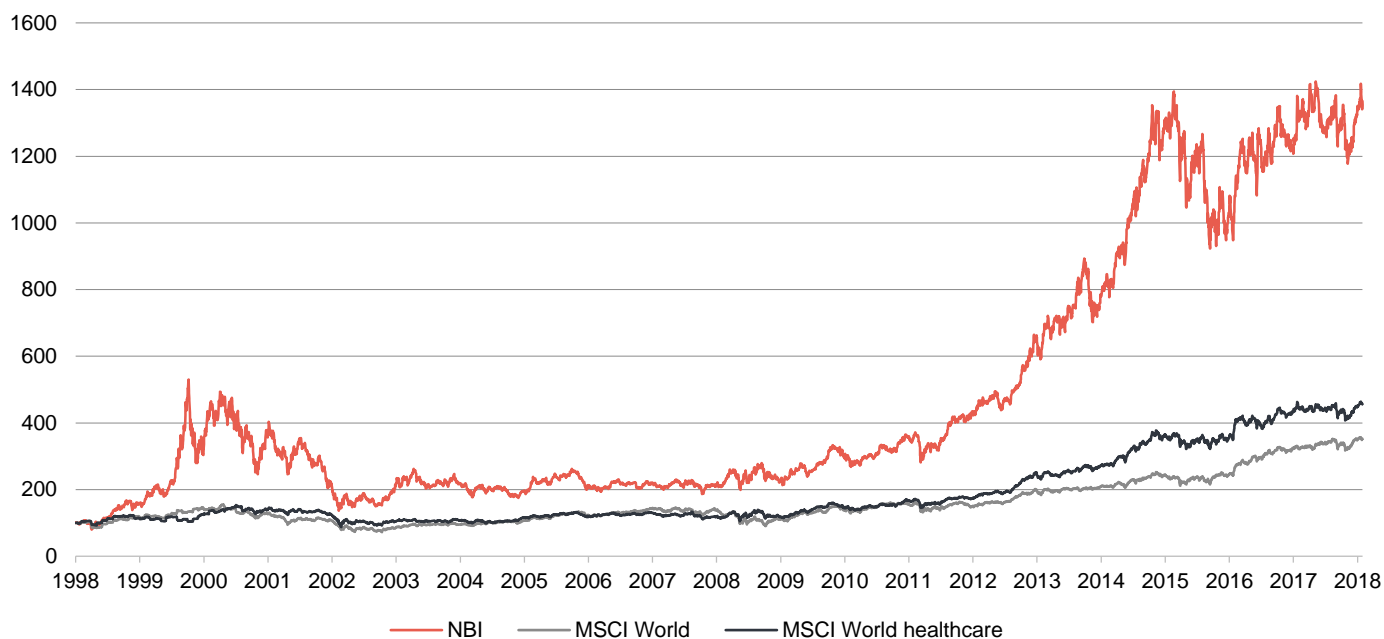
Fundamental economic drivers

Although biotech does tend to be volatile, the sector enjoys some qualities that can help protect it from the worst of market falls including relative insulation from economic cycles – and, in common with pharmaceuticals – it benefits from a number of fundamental economic drivers, including:

- demographic change (ageing populations in Western societies) and societal expectation for better health provision over time, fuelling demand;
- biotech-derived drugs (biologicals, such as antibodies) tend to have longer effective periods of commercial exclusivity than the simpler chemical compounds that comprise many older therapies, while the complex structures of new therapies make them harder to copy when the patent on them expires;
- the fast pace of scientific discovery, which is leading to a whole array of new types of drugs;
- recent changes to the US corporate tax code in relation to the repatriation of foreign income by US-domiciled companies, which may encourage the large pharma and biotech companies to bring their significant cash piles back onshore. This in turn is should boost merger and acquisition activity within the sector;
- and healthcare policy designed to reward innovation with high prices and longer periods of exclusivity, in areas of high unmet medical need, such as rare and orphan diseases.

These and other factors have tended to make biotech an attractive area for investment and have contributed to the sector's outperformance over time. US biotech stock indices have beaten those for US pharmaceutical and healthcare companies over periods of five, 10 and 20 years as is evident in Figure 1. In the 20 years to end June 2018, the Nasdaq Biotechnology Index (NBI) has delivered a 13.9% compound annual growth rate (CAGR), compared with 7.9% for the MSCI World healthcare index and 6.5% for MSCI World index.

Figure 1: NBI, MSCI World and MSCI World healthcare over 20 years ended 30 June 2018, rebased to 100



Source: Morningstar, Marten & Co

The principal source of innovation for R&D

Biotech companies have become the principal source of innovation for pharma company research and development (R&D) and the sector effectively exists to provide pharma companies with lower-risk products that are in the later stages of development or already being marketed to patients and healthcare professionals.

The pharma companies can obtain these through M&A or licensing arrangements. Biotech-originated products account for a significant proportion of candidates for approval in large pharma companies' R&D pipelines and biotech-originated drugs have represented a growing share of new drug approvals since the 2000s.

IBT provides diversification and specialist expertise

Investing in individual biotech stocks is, however, inherently risky, which means for most investors, gaining exposure through specialist-managed funds, such as IBT, is likely to be the best approach. Biotech stock prices are volatile for both macroeconomic and company-specific reasons.

Sector currently out of favour with generalist investors

The sector tends to swing in and out of favour with generalist investors, linked to actual or potential changes in US healthcare policy, excitement about new technologies and a multitude of other factors. These swings can lead to large changes in stock prices on the back of inflows/outflows of cash to/from the sector.

Drug prices are a small proportion of total healthcare costs

In the past 18 months, changes in sentiment have occurred with the passage of President Trump's reform of the US healthcare system and following his remarks about drug-pricing practices in the US. While the pharmaceutical companies often appear to be the target of government attempts to reduce healthcare costs, drugs represent a relatively small (~10%) proportion of total healthcare expenditure and thus such actions would be unlikely to generate material cost savings, if at all. Indeed, drugs can usually be shown to provide cost savings to healthcare systems in terms of the avoidance of hospitalisation or substitution of other care costs.

At the individual company level, the successful development of products often requires companies to overcome a multitude of scientific, technical, financial, intellectual property, regulatory and commercial hurdles. But in general, the rewards for commercialising new drugs do seem to be commensurate with these risks. Many US biotech companies have successfully developed and commercialised drugs and, in some cases, by retaining products and marketing them themselves, rather than selling their licenced product to a pharmaceutical company, have grown into large and growing self-funding businesses. The four largest US biotech companies have a combined market cap that exceeds US\$550bn.

Oncology, rare disease and gene therapies are the hottest areas for new investment

Currently, oncology (cancer) therapies harnessing the immune system to recognise and destroy tumour cells, as well as rare disease and gene therapies have become the most popular areas for new biotech investment. Conversely, large-cap biotechs have fallen out of favour with investors in the past two years, although largely for different stock-specific reasons with each of the leading companies.

Fund profile

You can access the fund's website at www.ibtplc.com

With a history going back to 1994, IBT is the longest-established of the London-listed funds investing in the biotech/healthcare sector. IBT aims to achieve long-term capital growth and, notably, also provides a dividend equivalent to 4% of NAV (see page 14 for more detail), making it the highest yielding fund in its peer group. This is despite it investing exclusively in a sector where companies do not usually provide income.

Strong track record of outperformance and the highest yielding fund in the peer group

IBT has been advised or managed by SV Health Managers LLP ("SV Health", "the manager" or "IBT's manager") and its predecessor company (SV Life Sciences LLP) since 2000 and the lead fund manager, Dr Carl Harald Janson, has been in place for almost five years. Since his appointment, IBT has established a strong track record of outperformance both against the fund's benchmark, the Nasdaq Biotechnology Index (NBI) as well as its peer group (see page 13).

US\$30m commitment to SV Fund VI to gain exposure to unquoted investments

IBT primarily invests in public biotech companies (c90% of NAV) but does have unquoted companies exposure (around 10% of its NAV). Originally, IBT made direct investments in unquoted companies but, since September 2016, a process has been underway to gradually switch this into SV Fund VI (which is managed within the wider SV group). IBT has a US\$30m commitment to SV Fund VI, although the managers say that, in this type of investment, funds are not usually drawn down in full.

The manager

IBT is managed by SV Health Managers LLP, which is part of the wider SV group, advising and managing six healthcare/life sciences venture capital funds with over \$2bn in capital under management. It is also the manager of the £250m [Dementia Discovery Fund](#) and has offices in Boston and London.

The lead manager for the quoted equities portfolio is Carl Harald Janson, who joined SV Health in September 2013. He is assisted by Ailsa Craig (investment manager) and Marek Poszepczynski (portfolio manager). Kate Bingham (one of SV Health's managing partners) manages the trust's unquoted portfolio.

Carl Harald Janson – the top performing biotech fund manager worldwide

Dr Janson qualified as a medical doctor in 1988, completed his PhD in immune oncology in 1990 at the Karolinska Institutet in Sweden, and qualified as Certified European Financial Analyst from the Stockholm School of Economics in 1999. During his more than six years as principal fund manager of Carnegie Biotechnology Fund, Dr Janson was the top performing biotech fund manager worldwide. During this time, the Carnegie Biotechnology Fund achieved a total return of 54% (US dollars) while the NBI returned minus 26% (US dollars), a relative outperformance of approximately 80% (US dollars).

Manager's view

Mid-caps favoured over large caps

Mid-caps favoured over large caps

IBT's managers are currently focused on identifying value opportunities among mid-caps. The team believes that these to offer a better risk/reward ratio than many of the larger caps, which it says are entering a period of slower growth as their key assets reach maturity. The mid-caps, on which IBT focuses, are often in the later stages of seeking approval for their product(s) or in the early stages of commercialising their first product(s), where after the first few quarters, it is possible to make a reasonable projection of eventual market uptake.

Focusing on exciting new growth areas

IBT's manager is particularly focused on oncology, rare diseases and diseases of the nervous system

The manager is particularly focused on investment opportunities in oncology, rare diseases and diseases of the nervous system, which it sees as exciting new areas with strong growth prospects. Recent scientific advancements have increased the understanding of the processes that cause these diseases, leading to a large number of products in development, and shifts in regulations and laws has led to these areas of healthcare being more shielded from competition and price pressure.

Caution required; don't believe the hype

Gene therapy and cell therapy are new therapeutic categories that have recently emerged. The manager's view is that these new drugs may have a great future but, at the moment, the benefits have been overhyped and valuations have got ahead of themselves.

Selective opportunities in med tech

IBT can also invest in medicinal technology. Not all devices will be successful but the manager sees significant investment opportunities in companies with mini-pumps that act like artificial hearts and in various types of surgery and implants.

Ongoing monitoring of M&A targets

IBT's managers pay particular attention to possible M&A targets in the sector. These may be companies whose valuations have retracted such as Shire prior to its bid from Takeda, or single asset companies with an attractive wholly owned drug, such as Avexis, the gene therapy company recently acquired by Novartis for \$8.7bn.

IBT's manager advises us that this approach has led to ten of the trust's portfolio companies being the subject of takeover bids since January 2017. The premia paid for these companies are significant (often 60-80% above the pre-announcement price), and so this has been an important source of outperformance for the trust.

Investment process

Selecting chiefly from the c200 companies in the NBI

The trust operates an active, 'risk-mitigated investment strategy' that is designed to identify potentially successful drugs, via attractively priced equities, while, if possible, avoiding exposure to binary events (with extreme positive or negative results for the company depending, for example, on the outcome of a drug trial). Although the trust has an investment universe of some 700 listed companies in the US and EU, in practice it invests mostly in the 200 or so constituents of the NBI, against which the management team's performance is benchmarked.

Actively monitor the news flow of about 250 companies

For IBT's quoted portfolio, the manager seeks to provide returns to shareholders that outperform the NBI. The NBI is a market-cap weighted index where the size of the four largest positions are capped at 8% of the index. IBT's quoted portfolio is managed using a fundamental [bottom-up](#) investment-selection approach. The managers actively monitor more than 250 public companies in terms of their news-flow, including the impact that anticipated news events may have on current and potential investee companies.

Like other biotech specialist investors, SV Health attends the healthcare investment banking conferences and meets potential investee companies' managements on a regular basis, not just when the companies are looking to raise money. The manager has access to research produced by brokers, data aggregators (Bloomberg etc) and can obtain expertise from key opinion leaders (doctors considered to have in-depth experience in specific fields). It can also draw upon its own in-house expertise. SV Health also organises a large number of face-to-face meetings with management teams via video conference calls.

These interactions allow the managers to examine the investment proposition and compare one company against others in the same space. SV Health's significant investment of time and effort in building and maintaining its database represents a significant competitive asset.

This process allows SV Health team to identify attractively valued companies that meet a series of quantitative criteria, including:

- addressing areas of unmet medical need;
- having strong intellectual property and/or commercial exclusivity;
- competitive advantage (with market pricing power); and
- adequate financing to deliver scientific and commercial goals.

Strong sell discipline based on valuation and deterioration of investment case

The team's investment process also includes a qualitative judgement based on the expertise of the managers, including assessing quality of management and the perceived views of the sell-side/buy-side (i.e. brokers' analysts and investors).

In the same way as identifying companies that are attractively priced, the team has to monitor stocks within the portfolio for situations where profits can or should be taken, or where, perhaps after a setback, the investment proposition has changed. IBT's managers say that investors in the sector have a habit of shifting from over-pessimism to over-optimism and when a stock hits the team's valuation targets it will be sold. This sell discipline is extremely important for maintaining outperformance.

IBT mostly buys stocks in the secondary market but also invests in IPOs. It does not, as a policy, make use of financial derivatives (such as options and futures) to hedge individual stock or currency risk, adjust exposures to match indices or otherwise seek to boost investment returns.

US dollar exposure is unhedged

Unhedged currency exposures

Given that some 85% of the fund's NAV is invested in US-dollar-denominated assets and this is not hedged, investors should be aware of the impact of currency movements (the sterling-denominated value of US dollar assets will increase if the pound weakens and vice versa). This benefitted IBT (and other UK trusts with significant overseas assets) as sterling weakened in the aftermath of 2016's EU referendum. However, it has acted as a headwind as sterling has strengthened against the dollar in recent months.

Tactical use of gearing

As discussed on page 17, IBT is permitted to borrow. However, rather than having a strategy of having a permanent level of borrowings (gearing), IBT's manager uses gearing tactically, when valuations fall and/or there is a spike in share price volatility, to take advantage of specific opportunities.

Managing binary events

As a deliberate risk-mitigation strategy, the managers try to minimise the trust's exposure to binary events, typically the results of clinical trials, which can trigger large positive or negative changes in the share price (rises of up to 100% or falls of 80% are not uncommon). This recognises the difficulty for even for the most experienced medics, scientists or investment managers to predict the outcome of these events.

IBT's manager say that the market is often optimistic in the run up to a significant clinical milestone. Its strategy allows IBT to benefit from the anticipatory price rise but, by selling ahead of the actual announcement, the managers say that:

- IBT can buy the asset back after a positive announcement (usually at a better risk-adjusted valuation and with less risk to share price prospects), or
- IBT avoids the sharp losses that tend to occur where an announcement is negative.

IBT's manager say that this is an attractive and surprisingly low risk strategy. They find that share price momentum often can continue for several weeks following the initial surge on a positive announcement and say that this can sometimes exceed 100%, over the longer term, aided by index tracking and other effects. This is in contrast to the permanent loss of capital that typically accompanies the catastrophic falls that occur on day one of a negative announcement.

It should be noted however that, in practice, binary events are difficult to eliminate entirely. The timing of announcements cannot always be accurately predicted, especially in the case of an unsuccessful trial being halted early for example, and sharp moves can also occur from other situations such as results from competitor trials. Furthermore, in the case of a significant event affecting a very large index constituent, the trust may opt to hold that stock even when a trial outcome is expected.

This active management of binary risk situations contributes to IBT’s relatively high turnover (199% for the year ended 31 August 2017).

Asset allocation

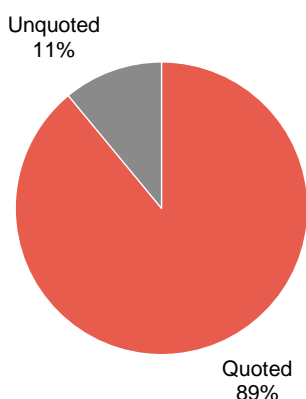
Diverse portfolio with 75 positions

IBT currently has 75 portfolio companies, with the top 10 accounting for approximately 40% of its NAV. The concentration of the top 10 has declined in the past year, from around 50%, and is now lower than most of the peer-group trusts, where the top 10 may account for 60-70% of NAV.

The fund’s largest investment is typically under 8% of NAV and it has (at least) nine holdings that are in the 3-4% of NAV range. IBT tends to hold around half of the top 10 NBI components, although these are mostly underweight, and have at least four high-conviction heavily overweight holdings from the mid-cap range. These holdings may represent approximately 3.5% of NAV, compared to an index weighting of approximately 0.2-1.0%.

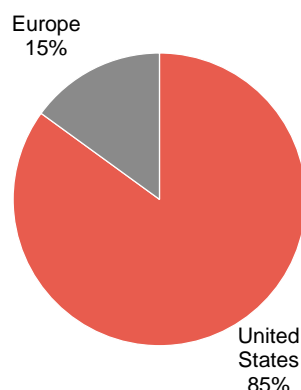
The unquoted portfolio, although relatively small in the context of NAV (see Figure 2), provides an element of diversification, risk mitigation and tends to smooth the return profile. For example, in the six months to 28 February 2018, the quoted portfolio showed an 8.6% decline, while the unquoted portfolio saw a positive return of 6.2%. The unquoted portfolio has historically generated average returns of 1.9x cash invested.

Figure 2: IBT portfolio unquoted/quoted split at 30 June 2018



Source: International Biotechnology Trust, Marten & Co

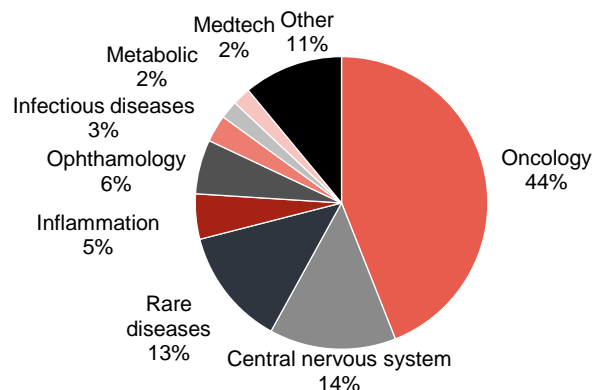
Figure 3: IBT portfolio split by geography at 30 June 2018



Source: International Biotechnology Trust, Marten & Co

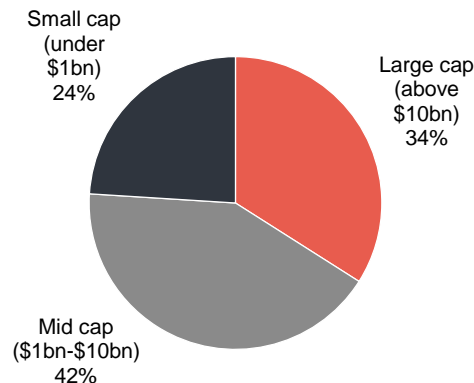
In terms of therapeutic area, the three largest are oncology (cancer), central nervous system and rare disease, which probably broadly reflects the distribution within the industry. Rare disease is an umbrella term for conditions that typically affect fewer than 200,000 patients in the US and EU, and as a result, qualify for certain regulatory incentives under orphan drug legislation. These tend to make this area particularly attractive for drug development.

Figure 4: IBT portfolio split by therapeutic area at 30 June 2018



Source: International Biotechnology Trust, Marten & Co

Figure 5: IBT portfolio split by market cap at 30 June 2018



Source: International Biotechnology Trust, Marten & Co

The team has reduced the trust's exposure to large-cap stocks (market cap >\$10bn) over the past year from over 50% to 34%, with a consequent increase in mid-cap exposure (\$1-10bn). This switch, in part, anticipated a decline in value for the large-cap biotech stocks that occurred in late 2017 and early 2018. IBT's manager says that the large caps suffered as their growth slowed. It attributes this to a combination of key assets reaching maturity and a lack of exciting new drugs in the development pipeline to replace them.

Such changes in market sentiment can, however, present investment opportunities and one such occurred earlier this year when the team identified Shire Pharmaceuticals as being deeply undervalued relative to its potential takeover valuation. As a result, the managers took a large (top 10) position in February and within a few weeks the company had become subject to a takeover approach from Takeda, which on confirmation led to about a 40% rise in its share price. The stake has since been reduced.

10 largest quoted holdings

IBT holds three of the four of the leading NBI constituents (Celgene, Biogen, Gilead and Amgen, which are capped in the index at 8%). Among the NBI's largest components, IBT is underweight on Biogen, Celgene and Gilead and has no investment in Amgen (7.6% of the NBI). It has just acquired a near index weighting in Illumina (4.7%).

Neurocrine and Array Biopharma are heavily overweight exposures and thus could be considered the manager's high-conviction ideas. Neurocrine, currently IBT's largest holding, is in commercialising Ingrezza for [tardive dyskinesia](#), a side-effect of long term antipsychotic use that is characterized by uncontrollable, abnormal and repetitive movements of the trunk, extremities and/or face. The drug is also in development for a second indication of Tourette syndrome. Array has just obtained US approval for its combination of two cancer drugs, Braftovi and Mektovi for a type of [melanoma](#).

Of the top 10 quoted holdings, two are not included in the NBI: Genmab (quoted in Denmark) and Morphosys (quoted in Germany). The index currently has some 198 companies, of which 10 are EU-based companies whose shares can be dealt on a US exchange.

Figure 6: 10 largest quoted holdings at 30 June 2018

Heading	Therapeutic areas	Country	Lead product (2017 sales)	Investment rationale	At 30 June 2018 (% of NAV)
Neurocrine	CNS	US*	Ingrezza (\$117m)	Revenue growth/M&A	5.0
Celgene	Oncology, CNS	US	Revlimid (\$8,107m)	Earnings growth, recovery	4.7
Vertex	Rare disease	US	Orkambi (\$1,321m)	Earnings growth	4.4
Morphosys (ADR)	Oncology	Germany	N/A	Development stage	4.3
Illumina	Sequencing tools	US	N/A	Revenue growth	3.9
Array Biopharma	Oncology	US	N/A	Development stage/M&A	3.6
Genmab	Oncology	US	Darzalex (lic. to J&J)	Revenue growth	3.6
Regeneron Pharmaceuticals	Ophthalmology	US	Eylea (sold by Bayer ex US)	Revenue growth	3.4
Biogen	CNS	US	Tecfidera (\$4214m)	Defensive growth	3.3
Alexion Pharmaceuticals	Rare disease	US	Soliris	Revenue growth	3.2

Source: International Biotechnology Trust, Marten & Co.

IBT publishes its top 10 investments on a monthly basis and hence it is possible to see the larger changes in the portfolio over time. Note this is expressed as a percentage of NAV and thus changes in share price may also move companies in and out of the list, without any changes in the shareholding. Recent entries into the top 10 investments, for example, include Morphosys, Illumina and Alexion.

Figure 7: IBT top 10 quoted investments, evolution over time (% of NAV)

Company	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18
Neurocrine					4.2	4.2	4.2	5.5	5.0
Celgene	5.9	6.3	6.3	4.6	4.2	6.0	6.0	4.8	4.7
Vertex	3.6	3.6	3.6	3.6	3.6	3.6	3.5	4.1	4.4
Morphosys							3.7	3.7	4.3
Illumina								3.9	3.9
Array Biopharma					4.7	4.5	3.9	4.0	3.6
Genmab		3.0	3.0	3.1	3.7	3.9	3.8	3.6	3.6
Regeneron	5.4	4.8	4.8	4.0	3.7	4.0	3.7		3.4
Biogen	7.3	6.5	6.5	6.2	4.2	4.1	4.2	4.3	3.3
Alexion	3.0								3.2
Sage					3.6	3.7	3.8	3.9	
Adamas	3.5	3.4	3.4	3.6			3.7	3.4	
Shire						4.8			
Gilead	3.0	2.8	2.8	3.1	3.3	3.2			
Exelixis	3.6	3.9	3.9	3.8	3.2				
Acadia	2.7	4.0	3.2	3.7					
Nektar			4.0	4.4					
Incyte	3.3								
Top 10	41.3	38.3	41.5	40.1	38.4	42.0	40.5	41.2	39.4

Source: IBT factsheets, Marten & Co. Note: absence of data does not mean IBT had no investment in the stock, only that it did not feature in the top 10 positions.

Figure 8: Profile of top quoted 10 holdings at 30 June 2018

Company	Ticker	Cap (\$m)	NAV (%)	NBI wt (%)	Rev (\$m)	Key business focus
Neurocrine	NBIX	9,241	5.0	1.06	162	Launch of Ingrezza for tardive dyskinesia .
Celgene	CELG	62,045	4.7	8.35	13,003	Industry leader in multiple myeloma , CAR-T cell therapy.
Vertex	VRTX	45,429	4.4	5.33	2,174	Industry leader in cystic fibrosis.
Morphosys (ADR)	MOR	4,109	4.3	N/A	78	Development of multiple antibody products.
Illumina	ILMN	44,789	3.9	4.41	2,752	Sequencing/array tools for research.
Array Biopharma	ARRY	3,606	3.6	0.40	151	Just obtained US approval for its combination of Braftovi and Mektovi for BRAF-mutant melanoma .
Genmab	GEN.C O	8,214	3.6	N/A	374	Royalties on Darzalex. Development of new indications for Darzalex
Regeneron Pharmaceuticals	REGN	39,524	3.4	3.89	5,872	Commercialisation of Eylea for wet AMD .
Biogen	BIIB	73,359	3.3	7.86	12,274	Industry leader in MS, neurology (SMA). Binary event in Alzheimer's disease.
Alexion Pharmaceuticals	ALXN	2,880	3.7	3.69	3,030	Ultra-orphan drug development. Commercialisation of Soliris for PNH , aHUS and MG .

Source: IBT factsheets, Marten & Co. Data correct as of 12 July.

IBT's other holdings can be monitored on a quarterly basis from a review of disclosures that the manager makes to the US Securities and Exchange Commission. Using these an estimate of the positions immediately outside the top 10 is shown in Figure 9 below.

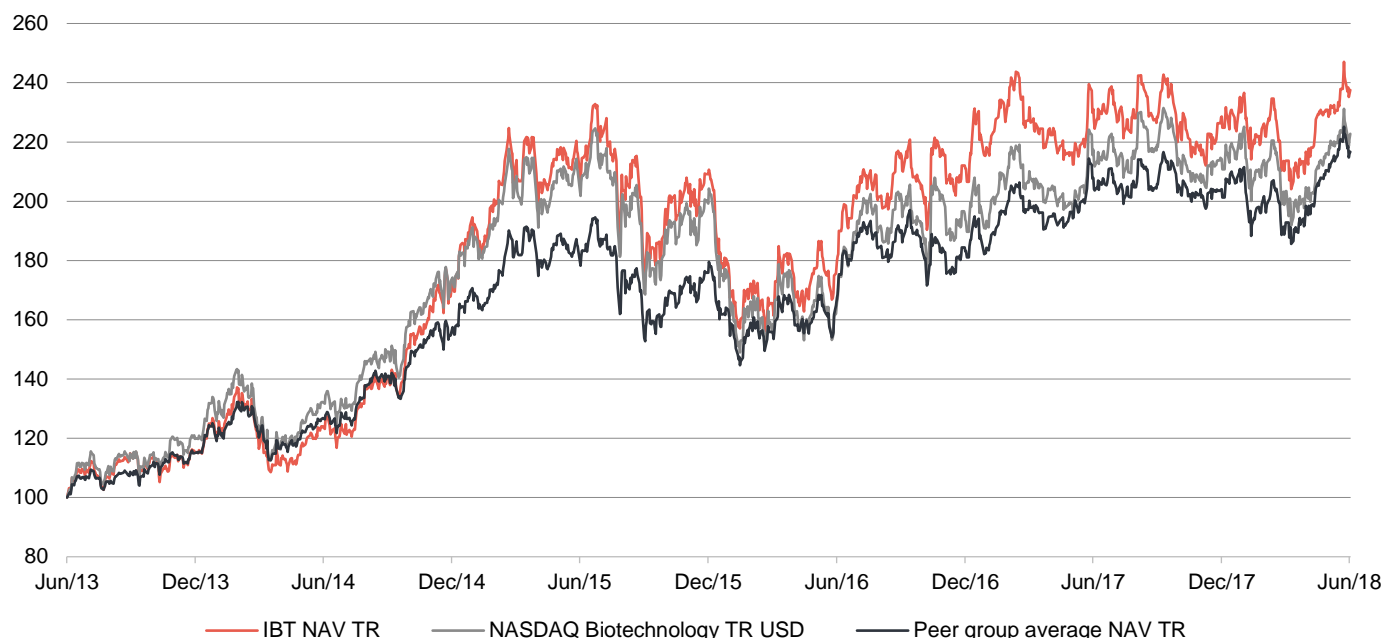
Figure 9: Selected holdings in 10-20 position

Company	Ticker	Cap (\$m)	NBI wt (%)	Rev 2017 (\$m)	Key business focus
Sage Therapeutics	SAGE	0	3.77	-	Brexanolone for postpartum depression filed with FDA .
Adamas	ADMS	711	0.11	1	Gocovri for Parkinson's disease dyskinesia
Gilead	GILD	100,900	7.62	26,107	Drugs for HIV, HCV and cancer.
Exelixis	EXEL	6,507	0.87	453	Cabometyx for RCC .
Acadia	ACAD	2,217	0.29	125	Nuplazid for Parkinson's disease psychosis
Stemline Therapeutics	STML	503	N/A	1	Oncology drug development. Elzonris for blastic plasmacytoid dendritic cell neoplasm .
Halozyne	HALO	2,528	0.39	12,274	Royalties on Enhance technology. PEG-PH20 in Phase III studies for pancreatic cancer.
Ligand	LGND	4,702	0.46	141	Royalty interests on multiple marketed and developmental products.
Incyte	INCY	15,079	1.81	1,134	Commercialisation of Jakafi.
Ionis	IONS	5,722	0.75	508	Spinraza royalties.
BioMarin	BMRN	18,256	2.13	1,314	Ultra-orphan drug development/commercialisation
Alnylam	ALNY	10,861	1.29	90	Orphan drug development.
Clovis	CLVS	2,512	0.32	56	Rubraca for ovarian cancer.
G1 Therapeutics	GTHX	1,485	0.18	-	trilaciclib for first-line small cell lung cancer.

Source: Companies identified by Marten & Co based on IBT's SEC 13F filings. Financial data correct as at 12 July.

Performance

Figure 10: IBT versus the NBI and a peer group of listed biotech and healthcare trusts over five years to 30 June 2018



Source: Morningstar, Marten & Co

Up-to-date information on IBT and its peer group is available on the QuotedData website

In addition to comparing IBT to the NBI, Figures 10, 11 and 12 also make a comparison with a peer group of London-listed biotechnology and healthcare investment companies which comprises: The Biotech Growth Trust, BB Healthcare, Polar Capital Global Healthcare and Worldwide Healthcare. Of these, the closest comparator is perhaps The Biotech Growth Trust. That fund's NAV total return performance has lagged both IBT's and the peer-group average's over three months, six months, one year, three years and five years ended 30 June 2018. Syncona has been excluded from the peer group average (in Figures 10 and 11) as it is still in the process of transforming its portfolio from that of a Flexible Investment fund to an investor in early-stage biotech companies. As at 31 May 2018, Syncona's portfolio comprised 49% life sciences, 9% cash and 42% funds (its legacy portfolio). As it continues to run down its funds portfolio, it should become an increasingly relevant comparator (hence its inclusion in Figure 12 below). We think that this is noteworthy because, like IBT, it offers some exposure to unquoted companies. It is therefore interesting that Syncona's one-year NAV and share-price performance is well ahead of the peer group, driven by uplifts in the value of its biotech portfolio.

Figure 11: IBT performance over periods ending 30 June 2018

Heading	3 months	6 months	1 year	3 years	5 years
IBT NAV	11.2	5.7	5.8	13.0	137.6
Nasdaq Biotechnology Index	9.5	5.7	5.2	7.9	122.7
MSCI UK	9.4	1.4	8.2	30.5	46.2
Peer group NAV average	12.4	7.7	6.4	19.6	116.7
IBT Price	11.3	(0.3)	5.7	20.1	155.4

Source: Morningstar, Marten & Co

Figure 10 evidences IBT's outperformance of both the NBI and our peer group over five years. Figure 11 shows how the trust has performed over various time periods. The

quarter to the end of June 2018 proved more challenging for IBT and this has dragged down its six-month and one-year figures.

Peer group

Figure 12: Listed biotech and healthcare trust data as at 16 July 2018

Heading	Market cap (£m)	Discount (%)	Yield (%)	Ongoing charge (%)	Gearing (%)
IBT	250	(1.7)	3.8	0.91	0
The Biotech Growth Trust	458	(7.1)	0.0	1.09	8
BB Healthcare	365	(0.1)	2.7	1.38	3
Polar Capital Global Healthcare	255	(7.0)	0.5	1.37	0
Syncona	1,758	62.7	0.9	2.44	0
Worldwide Healthcare	1,372	(0.3)	0.6	0.91	10

Source: Morningstar, Marten & Co

Only IBT and Syncona have meaningful exposure to unquoted investments

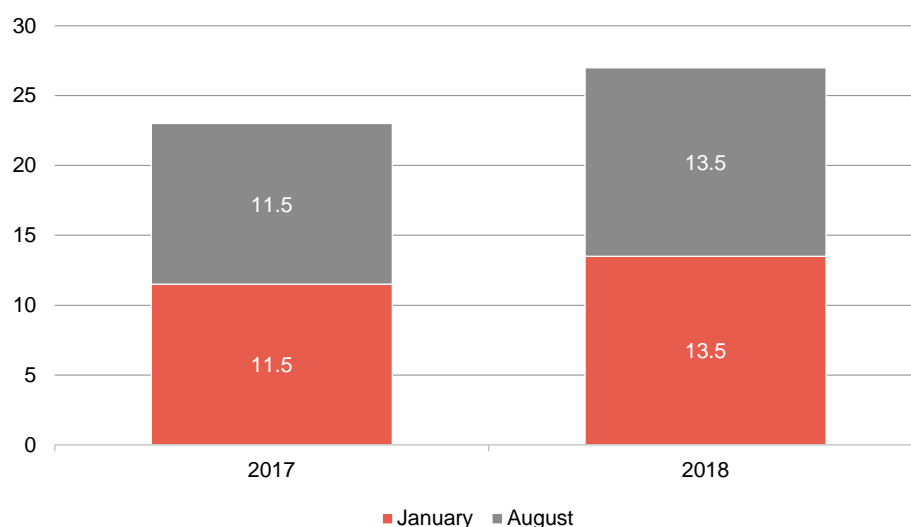
While a reasonable size, IBT is the smallest listed trust operating in the biotechnology and healthcare sector. Its ongoing charges ratio is about average for the sector. IBT's dividend policy means that it offers the highest yield. Discounts across the sector are fairly tight, perhaps reflecting the sector's strong long-term performance. Syncona's premium is high and may represent investors' hopes for further successes within its portfolio of unquoted investments. IBT is the only other fund in this group that has meaningful exposure to unquoted investments.

Dividend

Two equal distributions each year totalling 4% of NAV

Beginning the year ended 31 August 2017, IBT put in place a new dividend policy whereby it pays two equal distributions, in January and August, which total 4% of the NAV at the end of the previous financial year. The dividend is largely paid from capital reserves. For the 2017 year, IBT paid a total dividend of 23p per share and, for the current financial year, IBT has paid its first at a rate of 13.5p per share. This implies a total dividend for the year of 27p (an increase of 17.4%).

Figure 13: Dividends declared since change of policy



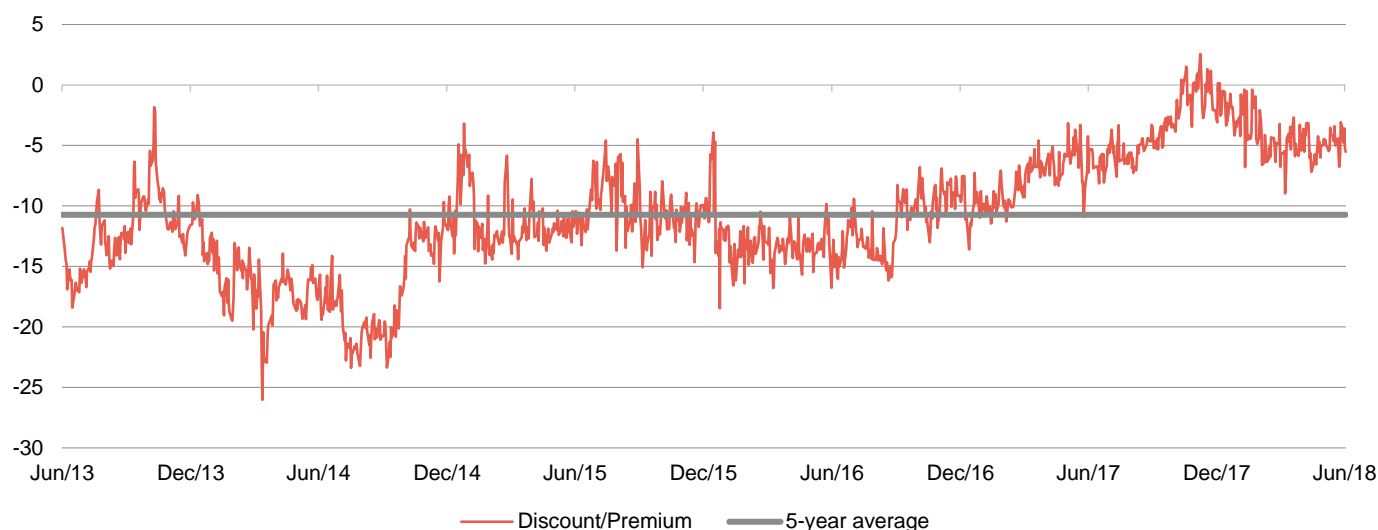
Source: Morningstar, Marten & Co

Returns from the biotech sector are skewed towards capital growth and only two companies in the biotech sector pay a dividend (Gilead and Amgen). This is because, by the very nature of their activities, the overwhelming majority of biotech companies are at a growth stage in their development. Biotech companies therefore tend to retain a high proportion, if not all, of the earnings for reinvestment and returns, where a company is successful, tend to come in the form of significant capital growth. It is therefore not surprising that, IBT, like its peers, has dividend income that tends to be comparatively small in relation to movements in the capital reserve and this has frequently been more than offset by expenses that are charged against it.

As noted on page 14, the introduction of the dividend puts IBT on the highest yield of any London-listed fund specialising in biotech and healthcare and this helps differentiate it from its peers.

Discount

Figure 14: IBT discount/premium over five years to end June 2018



Source: Morningstar, Marten & Co

The board monitors IBT's discount/premium and is prepared to use both share buybacks and issuance to moderate discount/premium volatility and reduce the absolute level of any discount if it feels this is warranted. As Figure 14 shows, IBT's discount has been on a narrowing trend in recent years and over the 12 months to the end of June 2018, IBT's shares moved within a range of a 9.0% discount to a 2.6% premium. This may be due in part to the introduction of the dividend policy discussed on page 14 and to IBT's record of outperformance.

Fees and costs

The manager is entitled to a management fee payable monthly at the rate of 0.9% per annum of the NAV. In addition, the manager is entitled to an annual performance fee.

The portfolio consists of two pools of assets: the quoted company pool and the unquoted company pool. The fee on the quoted pool is 10% of relative outperformance above the sterling-adjusted NBI plus a 0.5% hurdle.

The fee on the unquoted pool is 20% of net realised gains, taking into account any unrealised losses but not unrealised gains. There is no double charging of investment management fees in relation to IBT's commitment to SV Fund VI (see page 5). The performance fee is calculated as 20% of realised gains once all committed capital has been repaid.

The payment of the performance fee is subject to the following limits:

- the maximum performance fee in any one year is 2% of average net assets;
- any underperformance of the quoted portfolio against the benchmark is carried forward for the current financial period plus two succeeding periods; and
- performance fees in excess of the performance fee cap are carried forward for the current financial period plus two succeeding periods and are offset against any subsequent underperformance before being paid out.

Under normal circumstances, IBT's contract with the manager is terminable by either side on 12 months' written notice.

Fund accounting administration, depositary and custody services are provided by HSBC Bank Plc. Company secretarial services are provided by BNP Paribas Securities Services S.C.A. who delegate this activity to their wholly owned subsidiary, BNP Paribas Secretarial Services Limited. The auditor is PricewaterhouseCoopers LLC (PWC), which has been in place since 2007. A substantial minority of shareholders voted against PWC's reappointment at IBT's last AGM, presumably on the grounds that the auditors had been in place for 10 years but the board considers that the auditors remain independent.

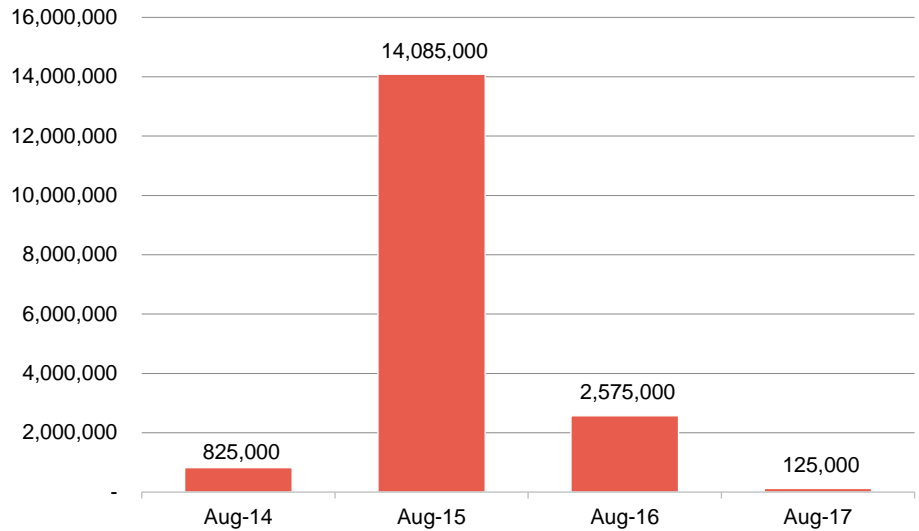
Fees for administrative expenses (including directors' fees, company secretarial and administration fees, the auditor's remuneration and general expenses) totalled £1.03m for the year ended 31 August 2017, down from £1.05m for the prior year.

IBT's ongoing charges ratio for the year ended 31 August 2017 was 1.3% (excluding performance fees) and 1.9% including performance fees.

Capital structure and life

IBT had 37,547,663 ordinary shares in issue at the date of the publication of this report and 3,795,000 ordinary shares were being held in treasury. There are no other classes of share capital. The board has powers to allot up to 10% of IBT's issued share capital (at a price not less than the last published NAV) which expire at the next AGM and the board can disapply pre-emption rights on such issuance. The board also has power to buy back up to 14.99% of IBT's issued share capital which, once again, expires at the next AGM. Shares bought back can be held in treasury. The board has said that no treasury shares will be reissued at a discount wider than the discount prevailing at the time of acquisition. IBT's financial year end is 31 August and its AGMs are usually held in December.

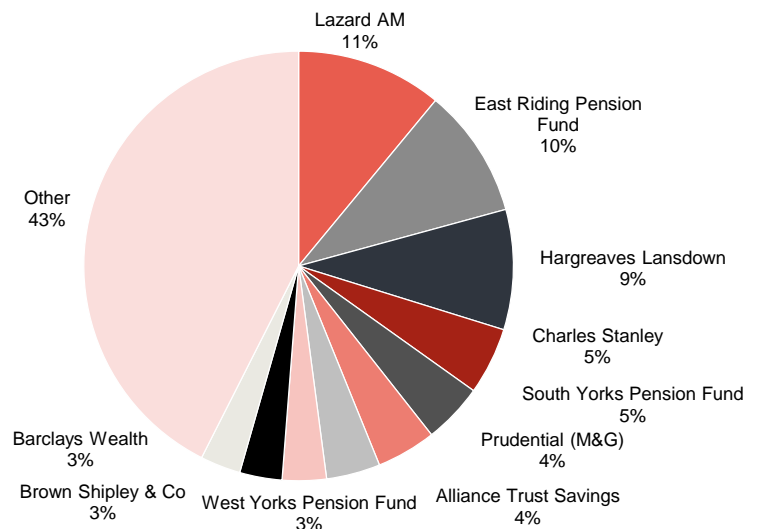
Figure 15: Share buybacks



Source: International Biotechnology Trust, Marten & Co

Major shareholders

Figure 16: Largest disclosed shareholders



Source: Bloomberg, Marten & Co

Gearing (borrowing)

There is a £35m overdraft facility in place with HSBC Bank Plc with a cost of borrowing set at the Bank of England base rate +1.5%. As discussed on page 8, the manager uses gearing tactically, to take advantage of specific opportunities, rather than applying gearing across the whole portfolio. Gearing is limited to 30% of NAV but, in practice, IBT operates with much lower gearing levels than this (typically between +10% to -10%). At the end of June 2018, net gearing was 1.2%.

Life

Shareholders are asked to vote on the continuation of the company at two-yearly intervals. The last such vote was held at the AGM in December 2017 and continuation was approved by 99.99% of shareholders voting.

Board

IBT has four directors all of whom are independent of the manager and who do not sit together on other boards. They stand for re-election every three years. IBT's articles of association limit the aggregate fees payable to directors to £250,000 per annum. The fees for the current year should be well within this limit as is clear from Figure 17.

Figure 17: The board

Director	Position	Appointed	Length of service (years)	Annual fee (GBP)	Shareholding
John Aston	Chairman	23/02/11	7	42,500	10,000
Dr Véronique Bouchet	Senior independent director	01/09/09	8	30,000	7,500
Caroline Gulliver	Chair of the audit committee	01/04/15	3	32,500	5,000
Jim Horsburgh	Director	01/02/13	5	28,000	15,000

Source: International Biotechnology Trust, Marten & Co

John Aston OBE was chief financial officer of Astex Therapeutics Ltd between January 2007 and May 2010 and CFO of Cambridge Antibody Technology for 10 years to 2006. Prior to this he was a director in investment banking with Schrodgers in London and previously worked for British Technology Group and Price Waterhouse. He is a chartered accountant and has a degree in Mathematics from Cambridge University. He is also a director of Polar Capital Global Healthcare Trust.

Dr Véronique Bouchet is the chief medical officer of RowAnalytics Ltd, a healthcare data analytics and artificial intelligence business. She has previously held a variety of senior international roles in the healthcare industry across several therapeutic areas and functions. She is a non-executive director of Stevenage Bioscience Catalyst, a member of the Council and Finance and Investment Committee of Queen Mary, University of London and a member of the scientific committee of Breast Cancer Now. She has an MB BS from St Bartholomew's Hospital Medical School and holds a BSc in Psychology from University College London. She has an MBA from INSEAD and has been awarded the Institute of Directors' Diploma in Company Direction (Distinction).

Caroline Gulliver spent a 25-year career with Ernst & Young LLP, from where she retired in 2012 to pursue other interests including non-executive directorship positions. She is a chartered accountant with a background in the provision of audit and advisory services to the asset management industry, with a particular focus on investment trusts. She is also a non-executive director of JPMorgan Global Emerging Markets Income Trust Plc and Civitas Social Housing PLC.

Jim Horsburgh commenced his career in 1977, joining Hill Samuel Investment Management as a graduate trainee. He moved to the ICI Pension Fund in 1979 and Abbey Life Assurance Company in 1982, where he managed the company's flagship life and pension equity funds. In 1984 he joined Schroder Investment Management as a UK pension fund manager becoming an account director, a director and in 1998 UK managing director. He left Schrodgers in 2001 and, following a career break, was chief executive of Witan Investment Trust Plc from February 2004 to October 2008.

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