wellcome

Annual Report and Financial Statements 2018

Table of contents

Report from Chair

In March 2018, the Board of Governors and I decided to reappoint Jeremy Farrar as Director of Wellcome for a further five years. Under his leadership, Wellcome is ambitious, innovative and willing to take risks in pursuit of our mission of improving health by helping great ideas to thrive.

Wellcome's work is underpinned by the financial strength we derive from our £25.9 billion investment portfolio. Over the past decade, the annualised nominal return from our portfolio has been 11.7%. This is an excellent result given the turmoil in the global economy and has provided the ability for us to increase our charitable commitments throughout the ten year period. We are not complacent that the extraordinary returns of recent years can easily be replicated.

"As Wellcome evolves, so too does the world in which we operate"

Being able to spend substantially more money on our charitable activities has opened up opportunities to work in new ways. Wellcome has evolved, complementing and building on our core approach of funding research, innovation and public engagement with science. As a result, we now also have seven priority areas where we make concerted interventions to accelerate change in science, medicine or society so that more ideas can fulfil their potential to improve health.

In July 2018, we announced that we are developing an additional model for funding research. Taking inspiration from the technology and venture capital industries, the aim of Wellcome's £250 million Leap Fund will be to bring together scientists and innovators to pursue specific exceptional breakthroughs in science and health.

Another example of ambition and innovation is Syncona, which was set up in 2012 as an independent subsidiary of Wellcome. The investment achieved its charitable aim of financing a portfolio of new companies developing opportunities to address challenging health issues. In 2016, Syncona's business combined with that of BACIT, a leading investment company on the London Stock Exchange that was then renamed Syncona Ltd. It has made substantial commercial progress since, and Wellcome's investments team now oversees our role as a significant shareholder in Syncona.

During 2017/18, Wellcome generated net income before tax of £2.2 billion, in line with the previous year, driven by the performance of the investment portfolio, which returned 13.4%, or 10.7% after inflation. This year has seen a return of market volatility as the economic cycle has matured. Central Banks, led by the US Federal Reserve, have begun to raise interest rates and remove the prop to asset prices previously provided by quantitative easing. Uncertainties about Brexit have generated further market volatility, underlining the importance of our global investment perspective.

Against a more challenging market backdrop, the investments team has focused on maintaining liquidity and generating positive cash flow. Strong corporate earnings in public equities and a mature private equity portfolio have contributed significantly. In a more volatile environment, however, it has been even more important to concentrate on careful stewardship of the assets and partnerships in which we invest.

Global politics is going through a period of radical change, one effect of which has been to attract attention to the role of independent foundations like Wellcome. As our voice on the international stage grows, we recognise the responsibility to be clear and transparent about our work and the public benefit it brings.

Following an independent external review of the Board of Governors, I am overseeing changes to ensure that we have the best possible team of people to provide expert guidance and governance. This includes bringing in new members on the Investments Committee, and changing the Audit Committee to the Audit and Risk Committee so as better to reflect its purpose.

Professor Mike Ferguson became Deputy Chair of Wellcome in January 2018, having been on the Board of Governors since 2012. Also in January, Professor Fiona Powrie joined the Board, bringing valuable perspectives from her scientific and leadership roles as Director of the Kennedy Institute of Rheumatology at the University of Oxford. I would like to thank Sir Damon Buffini, who stepped down from the Board in September 2018 – his contributions over six years were substantial, challenging and ambitious for Wellcome.

Eliza Manningham-Buller
Chair, Wellcome Trust

Report from Director

I was delighted and honoured this year to be reappointed as Director of Wellcome. It is a privilege to work for an independent global foundation taking on incredibly important issues, supporting ambitious research, and improving health in the world.

As Eliza notes, the five years since I became Director have seen considerable changes and a significant increase in Wellcome's ambition for what we can achieve with our history, our independence and our increasing scale. Today, we undertake and support a range of activities broader than ever, bringing together science, innovation and society in many different ways to make the world a safer and healthier place.

"... it is the people who make Wellcome a very special place to work.

We will always be committed to funding excellent discovery science across biology, medicine, population health, the humanities and social science, as well as engaging people with research, encouraging medical innovation, and championing policies that promote better health. Over the next five years, we intend to maintain our spending of around £900 million a year, rising with inflation, on these activities.

Looking ahead, we are cautious about the investments environment and cannot expect outstanding returns to continue indefinitely. Subject to the performance of the investment portfolio each year, however, we will also balance our core activities with additional funding for large-scale initiatives like our priority areas.

Across these funding approaches, the amount we spend will vary year on year. Our charitable spend this year was £723 million, notably lower than £1,221 million last year, as we made no large funding commitments. The overall trend, however, is that our total spending is steadily increasing towards an average of over £1 billion a year.

Within Wellcome, we have become more comfortable with challenging ourselves, being challenged by others, and experimenting with bold new ideas, whether they come from us, the communities we work with, or wider society. That spirit of innovation is now a defining quality of everything we do.

In our new Mental Health priority area, we want to sweep away the barriers between disciplines so that psychiatrists, psychologists, neuroscientists and others can unite in a revitalised effort against debilitating conditions like depression.

During this year's Ebola outbreaks, our rapid release of funding showed that research can and must be an integral part of the emergency response to epidemics.

We are developing the Wellcome Leap Fund to invest in early, high-risk ideas, with the aim of achieving genuine breakthroughs in a much accelerated timeframe.

And while our funding schemes are always open to improvement, we can also help to shape the future research environment. This year, we introduced schemes to enable more collaboration between scientists in Africa and Asia, policies to deal with bullying and harassment, and enhancement awards for grantholders to support public engagement, open research and diversity and inclusion in their work.

As a funder, Wellcome relies on the research community for coming up with great ideas, reviewing applications, sitting on our committees and giving us advice. I would like to thank everyone who has supported us this year.

Finally, Kathy Poole joined Wellcome's Executive Leadership Team as our new Director of People in August 2018. Whether bringing in talented individuals like Kathy or giving colleagues opportunities to develop in their careers, it is the people who make Wellcome a very special place to work.

Jeremy Farrar
Director, Wellcome Trust

Trustee's Report

Pupils in a physics class in Alexandra Park School North London.

What we do

We are an independent global charitable foundation dedicated to improving health.

Our vision and objects

The objects of the Wellcome Trust, as set out in our Constitution, are:

To protect, preserve and advance all or any aspects of the health and welfare of humankind and to advance and promote knowledge and education by engaging in, encouraging and supporting:

- research into any of the biosciences; and
- the discovery, invention, improvement, development and application of treatments, cures, diagnostics, and other medicinal agents, methods and processes that may in any way relieve illness, disease, disability or disorders of whatever nature in human beings or animal or plant life;

To advance and promote knowledge and education by engaging in, encouraging and supporting:

- research into the history of any of the biosciences; and
- the study and understanding of any of the biosciences or the history of any of the biosciences.

Our philosophy

Good health makes life better. We want to improve health for everyone by helping great ideas to thrive.

Science and research expand knowledge by testing and investigating ideas. New understanding can then be applied to health, and change medicine, behaviour and society. That is why we support thousands of curious, passionate people all over the world to explore great ideas, at every step of the way from discovery to impact.

Together, we can do more. We can drive reform to ensure that ideas can reach their full potential. And we can give focused, intensive support when we see real opportunities to transform lives. As an independent charitable foundation, we are willing to take risks. We combine the ability to act swiftly with long-term ambition.

Our strategic framework

Wellcome benefits people around the world by improving health through complementary approaches across science, research and engagement with society.

Advancing ideas
We support excellent research addressing fundamental health challenges of our time, across discovery science, medical innovation and the humanities and social sciences. Supporting ideas from people dedicated to discovery, creativity and innovation will always be at the heart of Wellcome's activities.

We are open to proposals and give grants through schemes run by our three funding divisions: Science, Innovations, and Culture and Society. We also initiate and maintain direct activities, such as Wellcome Collection.

Seizing opportunities, Driving reform
We establish priority areas when we see opportunities for concerted interventions to accelerate progress towards better health, or when we recognise the need to change practices so that ideas can reach their full potential. We lead by example, convene alliances, campaign for wider reform, and provide focused, intensive support to create a step change within five to ten years.

Current priority areas: Diversity and inclusion, Drug-resistant infections, Mental health, Research ecosystems in Africa and Asia, Science education, Vaccines, and Our Planet, Our Health.

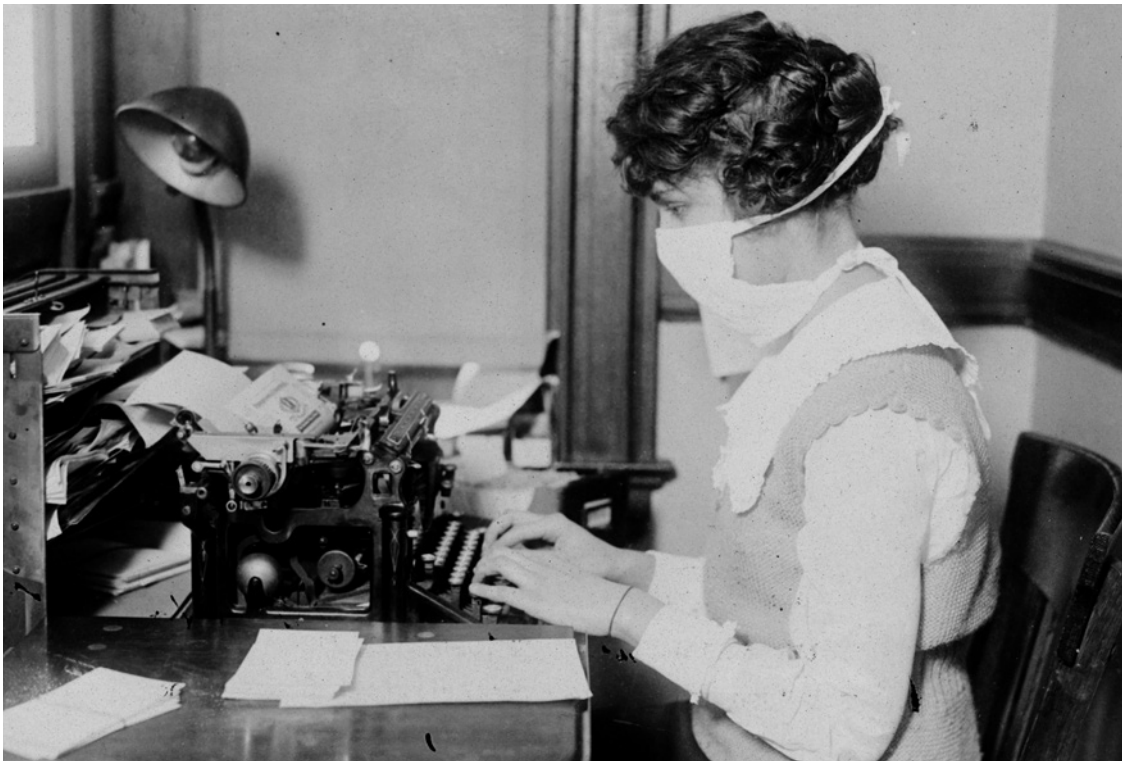
Our funding approach
For the next five years, we plan an average funding level of around £900 million a year for our core activities in Advancing Ideas. We intend to increase this amount with inflation to protect these activities and provide stability and predictability for our spending plans.

When the investment portfolio performance is sufficiently strong, we may release additional discretionary funding to support new priority areas and other ambitious, large-scale and high-impact activities that aim to bring about significant change within a specific time period. These activities are reported to and monitored by the Executive Leadership Team and the Board of Governors, who will also assess the overall use of this discretionary funding in the years ahead.

Review of Charitable Activities

The case studies on pages 7 to 11 highlight some of the many achievements made by people we support through our three funding divisions – Science, Innovations, and Culture and Society – and by our work in Wellcome's priority areas and other direct activities. More examples can be found on wellcome.ac.uk.

The review of charitable activities continues on page 12 with a breakdown of charitable spending by area, followed by details of other activities and strategic progress made in 2017/18.



Typist wearing mask, New York City, October 1918. Courtesy of the US National Archives and Records Administration

SCIENCE

25 Genomes

In October 2018, the Wellcome Trust Sanger Institute celebrated 25 years of genomic research, from its foundation in 1993 as part of the Human Genome Project to the announcement this year that it will sequence 50,000 human genomes for UK Biobank. To commemorate the anniversary, the Sanger Institute is sequencing 25 new genomes of species in the UK, including five voted for by the public.

The Sanger Institute is part of the Wellcome Genome Campus, and they operate under the auspices of Genome Research Limited, a wholly owned subsidiary of the Wellcome Trust.

CULTURE & SOCIETY

Contagious Cities

To mark the centenary of the 1918 flu pandemic, which is thought to have infected a third of the world's population and killed at least 50 million people, Wellcome developed Contagious Cities, an international cultural project based in New York, Hong Kong and Geneva.

Germ City: Microbes and the Metropolis opened in New York in September 2018. Like the other Contagious Cities exhibitions, artist residencies, walking tours and public events in the three cities and beyond, it is designed to spark and support local conversations about the global challenges of epidemic preparedness.

SCIENCE

Understanding cell division

In January 2018, Wellcome-funded researchers at Edinburgh University revealed new insights into how cells organise their vast amounts of DNA when they replicate and divide. This is a fundamental process during human development and throughout our lives.

The team at Edinburgh's Cell Biology Centre, along with colleagues in the USA, showed that each cell's DNA gets organised around a helical axis forming a series of compact loops at a critical stage of cell division. This packs the genome into structures that can be accurately split. Understanding more about this process in healthy cells could help shed light on the developmental problems that occur when cells do not divide properly.

The research team discovered how cells pack their DNA into chromosomes during mitotic cell division. Credit: Odra Noel

SCIENCE

Probing the brain

A new device that can map the activity of complex neural networks controlling behaviour was described in November 2017. An international team of scientists, supported by Wellcome and other US and UK funders, has developed super-sensitive probes – each thinner than a human hair – that can record the activity of hundreds of individual nerve cells across the brain in real time.

At the International Brain Laboratory, which is funded by Wellcome and the Simons Foundation, researchers are already using these so-called Neuropixels probes to study different areas in the brain as a mouse forages for food. Longer-term experiments will enable scientists to study changes in the brain resulting from development, experience and ageing, as well as the effects of neurodegenerative diseases.

SCIENCE

Can mass media save lives?

Radio and television campaigns are often used to convey health information to the public but there is scant evidence that such campaigns change people's behaviours. Published in July 2018, results from a Wellcome-funded randomised trial in Burkina Faso showed that people living in areas where health messages about childhood pneumonia, malaria and diarrhoea had been broadcast on community radio stations were more likely to recognise symptoms in their children and take them to a health facility.

Mathematical modelling suggested that there were almost 10% fewer deaths among children under five as a result of the media campaign. Comic Relief is now funding Development Media International, who ran the campaign, to increase its scale and save an estimated 3,000 children's lives a year.

INNOVATIONS

Image-guided cancer treatment

Prostate cancer affects more than 1 million men around the world every year. SmartTarget, designed and developed by urologists and biomedical engineers, is a new device that allows simple, accurate image-guided diagnosis and treatment of prostate cancer. Wellcome funding – as part of the Health Innovation Challenge Fund, a partnership with the UK Department of Health – supported its development, including meeting the standards for CE marking.

SmartTarget is now in 10 hospitals in the UK and the US, and has already been used more than 600 times for needle biopsy and treatment of prostate cancer patients.

INNOVATIONS

Preventing maternal deaths

In last year's Annual Report, we described the WOMAN trial, coordinated by the London School of Hygiene and Tropical Medicine and funded by Wellcome among others. It had showed that a cheap drug called tranexamic acid was an effective treatment for women experiencing severe bleeding after childbirth, the biggest cause of maternal deaths in the world. Using the drug prevented almost a third of deaths due to bleeding, and the WHO began recommending it as a treatment in November 2017.

Following on from that success, Wellcome this year agreed to fund another trial to test whether tranexamic acid could be even more effective as a preventative treatment.

Over 200 million women become pregnant each year and death during childbirth remains a serious preventable risk in many low- and middle-income countries. Credit: London School of Hygiene & Tropical Medicine

Heart n Soul provide opportunities for people to discover, develop and share the talent and power of people with learning disabilities. Credit: Heart n Soul

CULTURE & SOCIETY

Interdisciplinary insights

The Hub is a space within Wellcome Collection that hosts and supports two-year residencies of interdisciplinary groups to explore aspects of medicine, health and wellbeing. In October 2018, it became home to Heart n Soul, an arts charity and company who will bring together artists, writers, researchers, designers and clinicians to uncover new insights into the lives of people with autism and learning disabilities.

The previous residents of the Hub were Created Out of Mind. Over their two years, this group collaborated with people living with dementia to show how science and the arts can be used to challenge and shape perceptions of dementias.

CULTURE & SOCIETY

Applying social science

People can have very different experiences of health, disease and wellbeing in different cultures and settings. Wellcome funds research in sociology to understand such experiences at a social level, which can help to improve the delivery of healthcare.

In February 2018, for example, social scientists at Cambridge and Leicester Universities published a study – funded by Wellcome and the Health Foundation – looking at how risk control approaches used in industries like aviation and nuclear energy are being applied to help avoid adverse events in healthcare. Their conclusion was that such approaches do not translate easily to complex clinical settings and are more likely to improve safety when combined with deep insights into the healthcare context.

PRIORITY AREAS

The Brilliant Club

As part of our Diversity and Inclusion activities, we have partnered with other organisations to spark young people's curiosity in science and inspire more of them to see themselves as future scientists. Recognising that children in the UK from lower socio-economic backgrounds are far less likely to go to university, the Brilliant Club trains PhD researchers to teach courses based on their own research to pupils in state schools. Children who participate in these programmes are then more likely to attend highly selective universities, which often lead to better career outcomes but tend to have less diverse cohorts of students.

Through our partnership with the Brilliant Club, 50 Wellcome-funded researchers have now participated in the project. Four researchers designed a course called 'Disease detectives' that explored how to reduce the spread of infectious diseases like malaria, and was rolled out to about 500 pupils in summer 2018.

CROSS-WELLCOME

Ebola emergencies

The importance of developing vaccines for emerging diseases came to the fore in summer 2018 with two successive outbreaks of Ebola virus in the Democratic Republic of the Congo (DRC). A vaccine developed with Wellcome support, and tested in Guinea during the large 2013-16 Ebola epidemic in West Africa, was available but as it was not yet licensed, could only be used in a research context.

Within hours of the first outbreak being confirmed, Wellcome released up to £2 million to fund a range of epidemiological, anthropological and operational research in support of the emergency response, including a ring vaccination programme led by the DRC government and the World Health Organization. A further £1 million was given by the UK Department for International Development through a partnership we have called the Joint Initiative on Epidemic Preparedness.

A nurse prepares to administer Ebola vaccine in Mbandaka, DRC. Credit: Junior D Kannah/AFP/Getty Images

Charitable spending by area

Science

£545m

Our aim is to catalyse excellent science and maximise its health impacts. A major part of our work is engaging with the research community, many of whom will apply to and be supported by our funding schemes.

Culture and Society

£96m

We maximise Wellcome's impact on human health by understanding the social and cultural contexts of science and health. This includes supporting research in the humanities and social sciences, and public engagement with science.

Innovations

£35m

We work with people and organisations across the world to transform great ideas, discoveries and inventions into treatments and products.

Priority areas

£47m

Wellcome chooses priority areas where we want to see significant change. We lead and are accountable for these activities, working with partners to achieve ambitious goals.

Annual Charitable Expenditure is analysed in the Financial Review on page 29.

Scientific research is inherently cumulative and progressive, opening up new knowledge, understanding and applications. The majority of our funding supports hypothesis-based investigation; by definition, the outcome of such activity cannot be predicted with certainty, but we are confident that the people, teams and places we support will produce valuable information and insight in support of our overall mission to improve health. The funding of translation activity is structured through milestones, ensuring only successful activity is fully supported. We have committed to maintaining or increasing our existing levels of support for great ideas in research, innovation and public engagement.

We also look for opportunities to transform specific areas we have prioritised. And we use the expertise we support and the influence we have in the world to bring people together, promoting policies and actions to improve the research environment and help more ideas with potential to improve our health.

In July 2018 we announced that we would be developing a new model for funding ambitious ideas

In July 2018, we announced that we would be developing a new model for funding ambitious ideas. Taking inspiration from the technology and venture capital industries, the aim of the £250 million Leap Fund will be to take on challenges that would be too early, too risky or too unconventional for existing funding streams, but with the potential to benefit health significantly, open up new fields of research or change practices in science or medicine. Strong leadership will be essential to its success and we will be recruiting for a chief executive of the Leap Fund in 2018/19, with the intention of establishing its first research programmes in 2020/21.

In February 2018, Wellcome was admitted as a non-state actor in official relations with the World Health Organization (WHO). We have already worked closely with the WHO on issues including epidemic preparedness, funding Ebola vaccine trials in Guinea in 2015. Being able to engage with the WHO more directly means we can do more together to achieve common goals in areas such as drug-resistant infections and climate change.

Wellcome is based in London but has partnerships with countries and organisations all over the world, including several in Europe. To help build on these networks with academic institutions, industry, governments, NGOs and other foundations, we are opening a small office in Berlin – our partnerships with Germany already include the International Advisory Board for Global Health, the Coalition for Epidemic Preparedness Innovations, and Together Science Can, a global campaign to promote and protect international scientific collaboration.

With the UK due to leave the EU in 2019, we have continued to engage with both the UK government and EU negotiators in discussions about the future of research post-Brexit. Wellcome is calling for a settlement that helps people from the EU feel welcome to live and work in the UK; that has a simple UK immigration system for researchers, technicians and innovators; that gives the UK access to EU research funding or alternative schemes; and that fosters cooperation on life sciences regulation. In February, we published 'Brexit and Beyond', following a consultation by Wellcome and the Royal Society that sought views from across Europe on how the UK and EU could continue to work together for research and innovation. The UK government adopted our recommendations, signalling their intention to seek a deep UK-EU research partnership through a science and innovation pact.

The 2018 Gallup World Poll has included a 30-question survey for Wellcome Global Monitor, which we have designed to understand how people think and feel about science and particular health challenges. People from 140 countries are taking part, and we will publish our findings next year.

Science

Work in the Science division is guided by our strategy, introduced in October 2017, which has four broad aims over the next five years:

- creating knowledge
- strengthening research capability
- using knowledge effectively
- promoting an environment in which research can flourish

The strategy does mean making changes, and we strive to minimise the impact on our research communities while improving the way we work.

Central to the Science strategy is strengthening relationships between the research community and Wellcome.

In June 2018, we announced changes to our support for science PhDs in the UK and Ireland. Since 1994, rather than fund individual PhD studentships, we have invested in PhD programmes that provide excellent training and development opportunities for students. Following a review in 2017, we increased flexibility so that universities hosting Wellcome-funded PhD programmes could structure them to suit the needs of their research and students better. We want institutions to publish information such as completion rates and career destinations so that students can choose the best lab for their PhD, and we have introduced a fund to support students in career transitions after their PhD. These changes will help to promote more positive research cultures for PhD training.

Central to the Science strategy is strengthening relationships between the research community and Wellcome. We now have an external science strategy advisory group to help our decision-making, and we also talk to a broad range of researchers at meetings and during visits to universities, centres and institutes. The Science team works closely with teams across Wellcome to engage ever more voices in this dialogue. For example, in December 2017, the Science and Culture and Society divisions organised a meeting with the Anne McLaren Memorial Fund, bringing together scientists, clinicians, sociologists and ethicists to widen our understanding of translational science in the context of reproductive health technologies.

We know that researchers are deeply interested in how their funding applications are assessed. It is more than a decade since Wellcome's open access policy first clarified that our decisions are based on the merit of researchers' work, not the journal in which it is published, and we were one of the first funders to sign the San Francisco Declaration on Research Assessment. Among the actions we have taken since, we have modified our application forms so that researchers can submit many more types of outputs than just published papers. Although it takes time to change working cultures, we know there is more we can do to improve research assessment practices. As our own approach evolves to take account of a broader range of skills, qualities and attitudes, we will continue to be transparent about how we assess research applications. Further details of the spend in the year are provided in the Financial Review on page 31.

Innovations

Our Innovation for Impact strategy was launched in February 2017 and set out how we would achieve meaningful impact on human health by supporting a portfolio of translational projects.

- Building better links between science, technology and innovation
- Creating a global community dedicated to innovation for impact
- Supporting the next generation of innovation leaders.

Alongside proactively developing partnerships that fit our objectives, the Innovator Awards scheme is open to anyone in any country at any time.

Currently, the Innovations funding portfolio has more than 50 clinical and field studies, involving more than 1.8 million people. The portfolio has been built up over several years based on £600 million of cumulative funding from Wellcome and a further £400 million coming from partners and other funders.

In the past two years, two commercial products have launched and four interventions have been adopted into care pathways (three based on genomic sequencing; the other a new fetal surgery for spina bifida), improving health for hundreds of thousands of people.

In autumn 2018, we announced a £20 million funding call for projects in digital technology and artificial intelligence for global health. This is a fast-moving area that we have been keen to develop within our portfolio – it has taken slightly longer than expected because it falls outside our traditional areas of expertise. The projects we are now able to support through this call will harness new technologies to improve the health of people living in low- and middle-income countries.

Culture and Society

A new public engagement strategy was launched in January 2018, focusing on what we want to achieve by engaging the public with science and research, and how that supports Wellcome's overall mission of improving health. There are now three broad categories of outcome that we will aim for when we fund people working in this area:

- More people can access, use, respond to and create health research and innovation
- More health research is people-centred, understanding and drawing on people's experience
- More people value and think critically about science, health research and innovation.

We will enter in to new partnerships to extend our reach so that we are able to respond to great ideas from diverse sources

We will still use grants to fund a range of work in public engagement, including engagement led by researchers. Being more focused on outcomes means we can gather and use better evidence about which approaches best achieve these aims. And we will enter new partnerships to extend our reach so that we are able to respond to great ideas from diverse sources. This new approach to public engagement is in line with ensuring that the work of our Culture and Society division helps Wellcome achieve its broader objectives.

As well as engaging people with science and research, participating in the arts can have a direct effect on the health of communities and individuals. Such projects, which Wellcome has funded in the past, have tended to be small and difficult to scale up. In 2017, we funded a Humanities and Social Science Research Fellowship at University College London to explore the impact of arts and cultural engagement on health and wellbeing at a population level in the UK, and we are beginning to consider whether Wellcome could play more of a role to promote innovation in larger scale arts-for-health initiatives.

Priority Areas

Wellcome currently has seven priority areas. Each is an area of research, health or policy where we want to drive significant change in a specific time period in order to help us achieve our mission of improving health. New priority areas can be proposed at any time – an idea may then be given resources for a development phase, after which we make a decision whether or not to make it a priority area.

Mental health became a priority area in July 2018, with the aim of transforming research and treatments, particularly psychological treatments for anxiety and depression in young people.

Two areas are currently in development phase: improving the treatment of venomous snake bites, and data for science and health. Decisions on whether they become priority areas are expected in 2019.

Mental Health

Wellcome has long supported research into mental health and will continue to fund scientists working across all relevant research fields, including psychiatry, psychology, neuroscience and more. But these many different fields mean that mental health research is fragmented, with problems defined and measured in different ways according to each particular scientific perspective.

We made Mental Health a priority area this year; when implementation begins it will bring researchers and clinicians together under a new super-discipline of "mental health science" with common goals, definitions, measures and approaches. If successful, our radical intervention into how mental health research is done will drive the science forward and reinvigorate the development of new and existing treatments.

Initially, we expect the priority area to focus on depression and anxiety, which affect over 615 million people worldwide; on psychological treatments, where there is an opportunity to innovate and increase our understanding of how they work; and on early life, because most common mental health conditions start between the ages of 15 and 24 and the longer someone lives with a condition, the harder it becomes to treat.

Diversity and Inclusion
Wellcome made Diversity and Inclusion a priority area in 2016 in order to open up science and health research to anyone who wants to participate and contribute. We know Wellcome is not as inclusive as we could be, and you can read about our work to embed diversity and inclusion in our working culture on page 38.

In November 2017, Wellcome launched a new Research Enrichment scheme, which allows our grantholders to apply for extra funding to try innovative approaches to creating a more diverse and inclusive workforce. On our website this year, our Grants division clarified the support we can offer to applicants who are disabled or have chronic health conditions – this includes providing accessible version of forms, paying for support workers to help applicants complete the forms, and funding sign language interpreters at interviews.

We are co-founders of a network with the Francis Crick Institute and GlaxoSmithKline called EDIS: Equality, Diversity and Inclusion in Science and Health Research. In September 2018, EDIS began to expand its membership, with eight more organisations committing to increasing diversity and inclusion in UK science.

Science Education
Science Education has been in implementation as a priority area since April 2016. Last year, we launched Explorify, a free resource for primary school teachers to build confidence, do more science in the classroom and access continuing professional development (CPD).

In February 2018, we published a review of evidence about the extent, nature and impact of subject-specific CPD in the UK. Also this year, the Department for Education agreed to continue matched funding with Wellcome for Project ENTHUSE, which we launched ten years ago to support teachers' participation in CPD. This followed a joint review of the project, including research commissioned by Wellcome that showed a dramatic link between CPD and better retention of secondary science teachers.

Our work is based on evidence and, equally, we would like to see teachers using evidence about how to teach science in their classrooms. Between January and June 2018, a special Science of Learning zone ran on the Wellcome-funded I'm a Scientist Get Me Out of Here website, allowing teachers to ask questions of researchers specialising in various aspects of teaching and learning. It was one of several projects promoting the science of learning to teachers this year.

Research Ecosystems in Africa and Asia
Having supported research in Africa and Asia for several years through major programmes and other initiatives, Wellcome began implementation of a priority area in June 2016 to augment our existing programmes and strengthen the research ecosystems in these regions. Alongside other global funders, we have established the Coalition for African Research and Innovation, which will encourage African nations to set their own research agendas and increase investment in science and innovation.

We are investing in research leaders by supporting new schemes like the Africa-India Mobility Fund and the Science and Language Mobility Scheme Africa, which will help increase collaboration between scientists in these regions. And having reviewed the current state of research management in Africa and India, we are working with the Alliance for Accelerating Excellence in Science in Africa (AESA) and the Wellcome Trust / DBT India Alliance to develop more coordinated ways of supporting research managers and research systems at academic institutions.

Our Planet, Our Health
Changes in earth systems, from climate to land use to water cycles, have far-reaching impacts on human health and wellbeing. Understanding these changes requires innovative, interdisciplinary research; the resulting insights can guide decisions about energy, urbanisation, agriculture and other activities, helping to promote both human health and environmental sustainability. Our Planet, Our Health is the Wellcome priority area that supports this research and its translation to policy.

We fund six major partnerships that are investigating the complexities of urban infrastructure across the world, implications for health, and which urban policies best protect health; the health benefits of ecologically-based water infrastructure in informal urban settlements; sustainable and healthy food systems; and the future of animal-sourced food. We also support the Lancet Countdown, which tracks progress on the health impacts of climate change, and EAT, a science-based global platform for transforming food systems.

Howard Frumkin, a senior environmental health physician-scientist, joined Wellcome in May 2018 as head of Our Planet, Our Health. He will lead efforts to expand this priority area's strategy and global impact.

Vaccines

Vaccines prevent disease, saving lives, time and money. But infections like malaria and typhoid still harm and kill millions of people each year, and emerging diseases can cause deadly epidemics. In January 2017, Wellcome began implementing a priority area to transform how vaccines are made and used to combat infectious diseases.

Prominent outbreaks of Ebola, Lassa fever and Nipah virus in 2018 underpin the need to integrate research in the response to epidemics (see also page 11) and to develop new vaccines. Nipah and Lassa – along with Mers-CoV – were prioritised in the first call for proposals issued by the Coalition for Epidemic Preparedness Innovation (CEPI), which was co-founded by Wellcome to finance and coordinate the progress of new vaccines. In April this year, CEPI announced its first two partnership agreements to develop vaccine candidates for Lassa and Mers.

To guide research during epidemics, Wellcome has worked in partnership with the World Health Organization to develop R&D roadmaps for Nipah, Lassa and Ebola. These roadmaps represent a global strategy and preparedness plan that will enable rapid activation of research activities during epidemics. Equally important is that research continues between outbreaks, and that this research is done in collaboration with the communities most at risk.

In recent years, Wellcome has funded several human infection studies, which involve participants being infected with a pathogen under highly controlled conditions. This is an innovative approach we would like to see expanded to target populations most at risk from infectious diseases. This year, we funded new projects in low- and middle-income countries to develop these models to assess vaccines for infectious diseases of local interest, and we have worked with other funders to define and agree principles for funding such studies.

Working with our colleagues in the Drug-Resistant Infections priority area, we published two reports in September 2018 investigating the roles for vaccines in addressing the challenges of a growing number of infectious diseases that are developing resistance to drug treatments.

Drug-Resistant Infections

Modern medicine relies on being able to treat infectious diseases with antimicrobial drugs, but infections develop resistance to the drugs we have and there aren't enough new drugs in the pipeline to overcome this increase in resistance. Drug-Resistant Infections was made a priority area in November 2016 – one of our first actions was to invest in CARB-X, a biopharmaceutical accelerator. We were delighted that among a growing portfolio of over 40 projects, including therapeutics, diagnostics and vaccines, four new antibiotic candidates funded by CARB-X entered clinical studies this year.

In January 2018, we launched a new international expert group to improve understanding of the emergence and spread of drug-resistant infections and help reduce the global impact of antimicrobial resistance. The Surveillance and Epidemiology of Drug-Resistant Infections Consortium (SEDRIC) brings together expertise in infectious diseases across human and animal health and the environment, transforming the way countries are able to track, share and analyse information about the rise and spread of infections that can no longer be effectively treated by existing drugs.

It is essential that the world works together in tackling drug-resistant infections, which means we need strong global governance. Wellcome is supporting the UN's interagency coordination group on antimicrobial resistance, which will provide practical guidance and coordination across nations. And following the success of a conference in Berlin in October 2017, organised by Wellcome working with the UN Foundation, the World Bank and the Ghanaian, UK and Thai governments, we held a second event in Ghana in November 2018. These meetings are opportunities for national governments and global institutions to come together with the private, philanthropic and civil society sectors and commit to actions that will help to address the rise and spread of drug-resistant infections.

Review of Investment Activities

Figure 1
Total portfolio net returns (blended £/US$) Period to 30 September 2018

	Annualised return in £ (%)		
	Nominal	UK CPI	Real
Trailing one year	13.4	2.7	10.7
Trailing three years	16.3	1.8	14.5
Trailing five years	14.0	1.5	12.5
Trailing ten years	11.7	2.3	9.4
Trailing twenty years	9.1	2.0	7.1
Since Oct 1985	13.9	2.8	11.1

	Cumulative return in £ (%)		
	Nominal	UK CPI	Real
Trailing three years	57	5	52
Trailing five years	93	7	86
Trailing ten years	203	26	177
Trailing twenty years	469	49	420
Since Oct 1985	7,280	145	7,135

	Annualised return in US$ (%)		
	Nominal	US CPI	Real
Trailing one year	10.2	2.4	7.8
Trailing three years	10.7	1.8	8.9
Trailing five years	9.2	1.5	7.7
Since Oct 2009	10.0	1.7	8.3

	Annualised return in blended currency (%)		
	Nominal	UK/US CPI	Real
Trailing one year	11.9	2.5	9.4
Trailing three years	13.6	1.8	11.8
Trailing five years	11.7	1.5	10.2
Since Oct 2009	11.4	2.0	9.4

The value of the endowment of £25.9 billion at 30 September 2018 is measured at fair value, as per note 15(g) and net returns presented are consistent with this valuation. Net returns include impact of all external management fees/expenses. Performance fees are included for hedge funds, private equity and property but for public equity they are only included in FY 2018. This also applies to Figures 2, 3 & 7.

£ used to 30 September 2009. Blended £/US$ used from 1 October 2009. This recognises the global nature of our portfolio (see Figures 12 & 13) and the need to maintain global purchasing power. However, Wellcome's functional currency remains Sterling.

Summary

2017/18 was a volatile year in politics, economics and markets, but ultimately Wellcome's portfolio did well. It has been easy to find reasons to be negative since the Global Financial Crisis (GFC) a decade ago, but the global economy has continued to recover. Over the last year we also saw exceptionally strong corporate earnings growth, especially in the US.

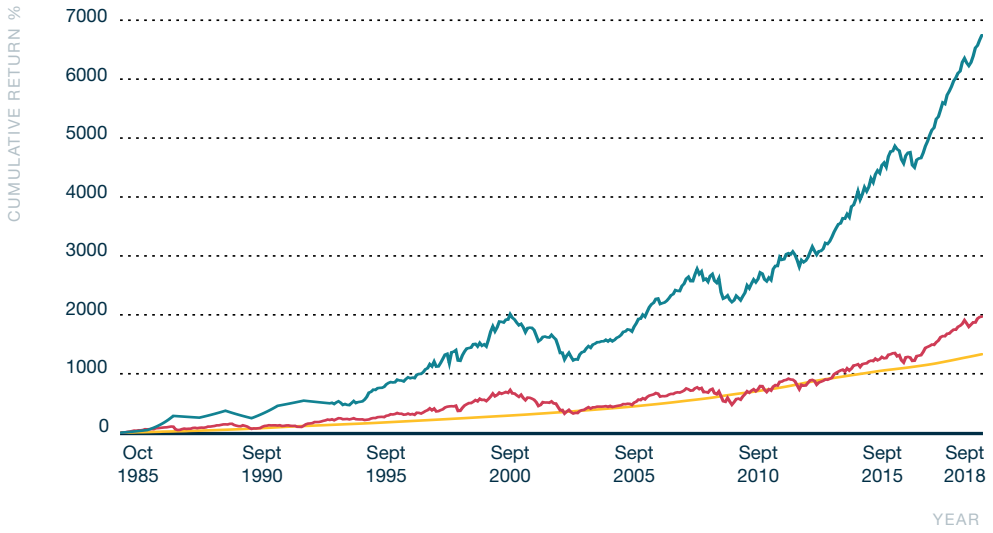
The US economy has continued to forge ahead, and the path to normalisation of monetary policy by the Fed is pushing up US interest rates along the yield curve. This is a significant headwind for Emerging Markets, which has been exacerbated by the threat of a global trade war.

This has been an environment when investors' nerves have been severely frayed at times, but the right thing to do has (so far) been to stay invested in risk assets.

Our overall portfolio returned 13.4% in Sterling, taking the value of the endowment to £25.9 billion. Wellcome's stake in Syncona was added to the investment portfolio in May. After taking account of this one-off £483 million impact, the gain in the portfolio was equivalent to £3.6 billion, including charitable spending.

Over the past ten years, the portfolio has delivered a real return after inflation of 177% in Sterling (11.7% a year in nominal terms). This exceptional ten-year period represents a recovery from some of the darkest days of the financial crisis. We cannot expect double digit returns to continue indefinitely, and markets have already become choppier since the end of September. However, cash flows generated by the portfolio, which ultimately support our mission, remain strong.

Figure 2
Total portfolio cumulative net returns since 1 October 1985 (%)



£ used to 30 September 2009.

Blended £/US$ used from 1 October 2009.

*Note that the target return was UK/US CPI + 6% until 30 September 2012. It was reduced to UK/US CPI + 4.5% between 1 October 2012 until 31 December 2017, and then changed to UK/US CPI + 4% from 1 January 2018.

Overview

The past 12 months have seen a China-US trade war, Brexit negotiations, renewed political problems in the Eurozone, and various crises in Emerging Markets such as Argentina and Turkey. This has been an environment where it has been easy to find reasons to worry. However, while political headlines may influence asset prices in the short-term, over longer periods of time underlying economic trends are what really matter.

In this regard, 2018 has seen a marked change in the prevailing economic environment. Central Banks have stepped back from asset purchases, and interest rates in the US, UK and other countries have started to rise. The global economic cycle is very mature, although fiscal stimulus in the US in the form of tax cuts at the end of 2017 gave it an extra sugar rush. These factors have recently combined to produce higher market volatility across many asset classes.

We, along with many others, had expected interest rates to begin to rise as the era of QE came to an end. This was one reason why we issued a 100-year £750 million bond in February. The 2.517% coupon was the lowest interest rate ever achieved by any corporate issuer in the Sterling market, for a bond with a tenor longer than 50 years.

US corporate earnings growth has been strong, and these cash flows have been channelled into higher dividends and share repurchases. However, in Europe, sluggish economic growth continues to present challenges.

Dollar strength has put pressure on Emerging Market currencies and assets, exacerbated by the trade tensions between the US and China. Over the long-term, we remain comfortable with the demographic and growth outlook in these economies, but in the near-term they will continue to be affected negatively by the macro environment.

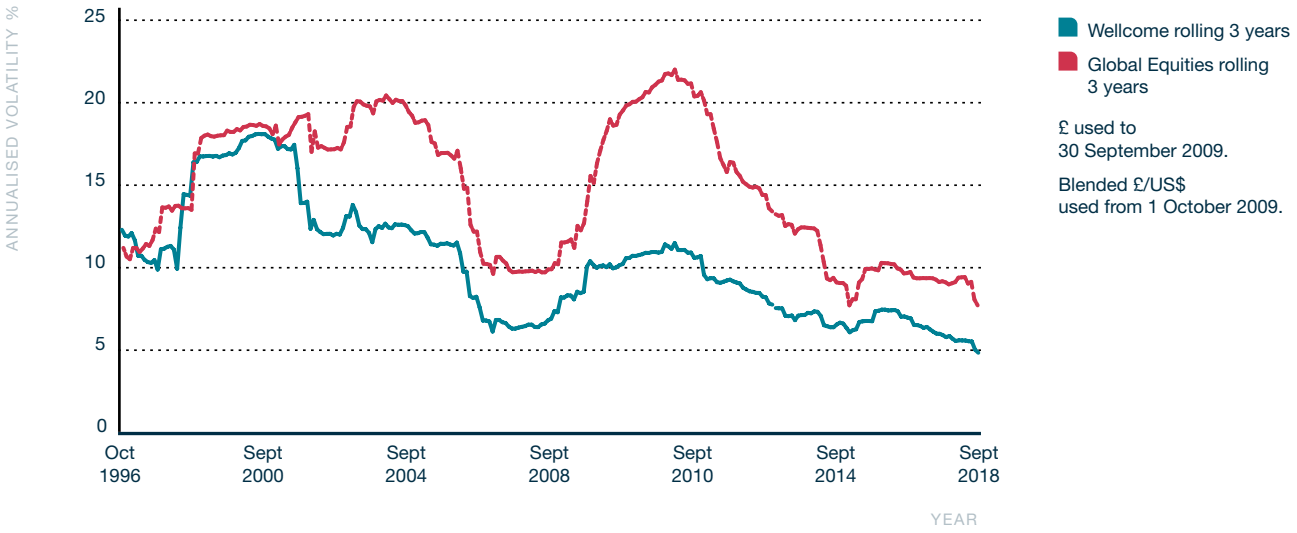
The 13.4% gain in the portfolio was supported by positive contributions from all asset classes. Our £14.9 billion public equity portfolio rose by 9.9%, trailing the 13.5% Sterling return from Global Equities (MSCI AC World). There was a very large divergence between emerging and developed markets, and especially US technology stocks – In USD terms, NASDAQ rose by 24.2% over the year, while the global emerging markets index fell.

Our £2.7 billion hedge fund portfolio continued its improved performance, rising by 10.5% in Sterling. The best performing sub-portfolio was equity long/short as stock performance dispersion increased. Our total return funds also benefitted from a return of volatility and substantial deal flow in merger arbitrage, with financing markets remaining conducive to M&A.

Our £7.1 billion private equity portfolio was cash flow positive, and saw strong valuation uplifts. Together these factors contributed to total return of 20.2%. The standout performers were the venture capital portfolio, where our partners are investing in an exciting wave of innovation, and our growing book of co-investments.

The performance of our £2.4 billion property portfolio was again mixed. Our agricultural portfolio and our residential assets in London and the Southeast of England were marked down, in response to a market struggling under the uncertainty of Brexit. However, our other operating businesses made a strong positive contribution, taking the composite total return to 5.9%.

Figure 3
Volatility (standard deviation) of returns (%)



Outlook

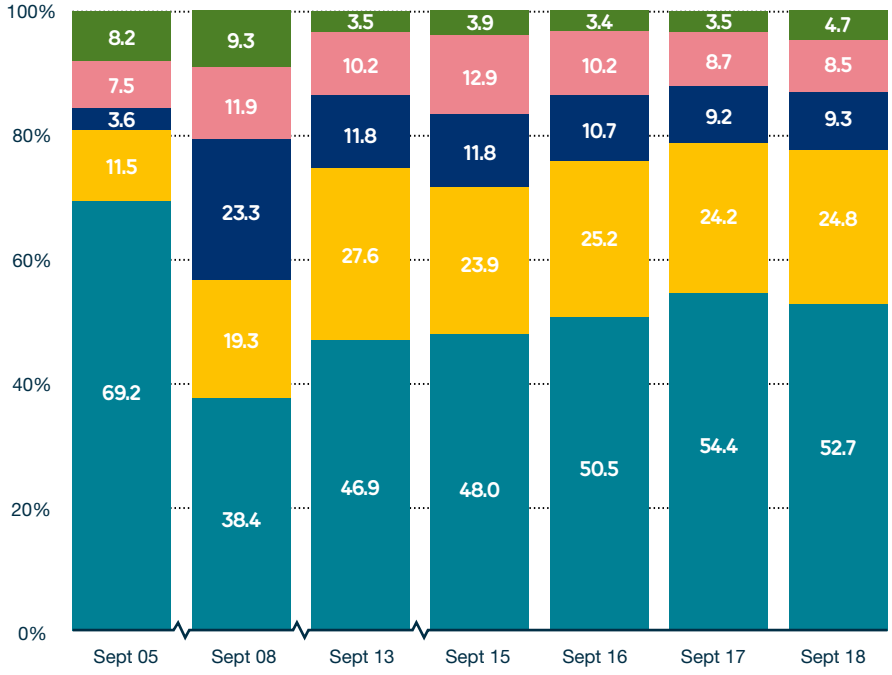
The US economy grew by 3% in the year to September 2018. This was boosted by a fiscal stimulus, primarily from lower taxes, which is likely to push interest rates up further. An expanding fiscal deficit will require large scale bond issuance, which will coincide with the Federal Reserve selling some of the bonds it accumulated during QE. Bond rates have already increased sharply in the US, and are likely to go on rising.

Real wage growth has been sluggish during the post-crisis global economic recovery, despite historically very tight labour markets. There are now signs that real wages are starting to rise in many economies, which will support consumption growth, but will also make it harder for Central Banks to hold short-term interest rates down. Real rates remain negative in most of the developed world, which is likely to change if the economic recovery continues.

A combination of slowing, but still positive, growth and higher interest rates will not make the backdrop for equity markets and other risk assets any easier in the foreseeable future. However, market valuations have become less stretched after a volatile 2018 and strong earnings growth. This makes us somewhat more comfortable about the environment. It would be unusual for equity markets to go into a bear market without an economic recession, especially at a time when corporate cash flows remain robust.

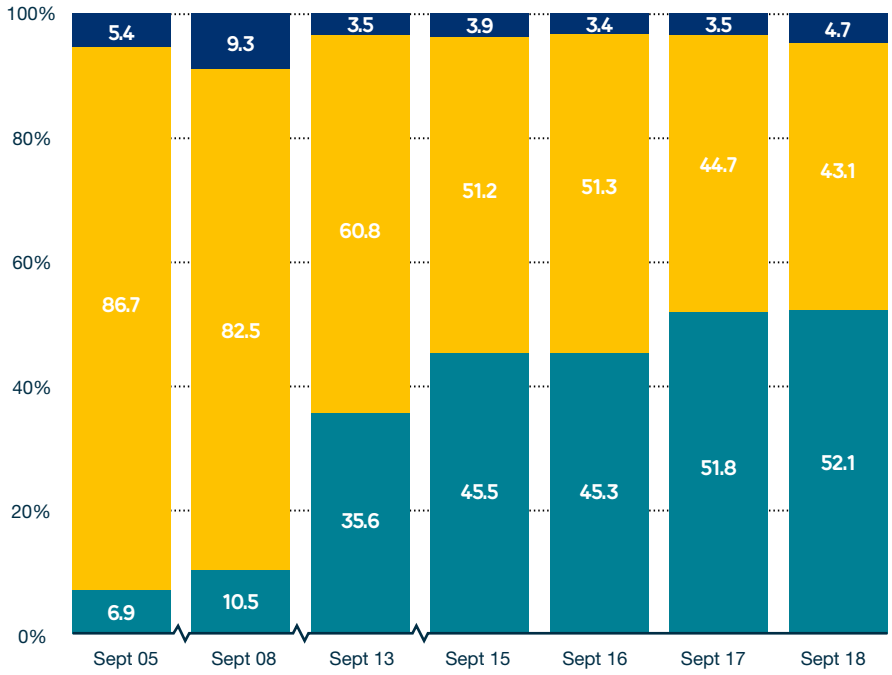
Our reaction to a more volatile backdrop, especially since the end of the financial year, has been to focus on the cash flow generation potential of the assets we own, and the overall liquidity profile of the portfolio. Portfolio turnover continues to be very limited. Well-run companies, disciplined investment partnerships and cash generative assets should do well even in a more unpredictable environment. Higher cash levels provide assurance that we can meet our charitable commitments without recourse to fire sales of assets, and a pool of available liquidity in case good assets reach attractive entry prices.

Figure 4
Evolution of asset allocation (%)



The percentages exclude foreign exchange overlays and derivatives. Public markets include public equities, equity index and commodity futures and options.

Figure 5
Evolution of asset allocation, directly and indirectly managed (%)



The percentages exclude foreign exchange overlays. Directly managed includes the ETFs and all equity and commodity derivatives.

Figure 6
Investment asset allocation as at 30 September 2018

	2018 £m	2017 £m	2016 £m	2018 %	2017 %	2016 %	Change in allocation Sept 2017 to Sept 2018 %
Total public equities	**14,943**	**13,487**	**11,663**	**52.1**	**52.3**	**50.5**	**(0.2)**
Indirectly managed	**3,680**	**3,741**	**4,221**	**12.9**	**14.5**	**18.3**	**(1.6)**
Global	1,629	1,498	1,342	5.7	5.8	5.8	(0.1)
Developed markets	935	724	1,139	3.3	2.8	4.9	0.5
Growth markets	1,116	1,519	1,739	3.9	5.9	7.5	(2.0)
Directly managed	**11,263**	**9,746**	**7,442**	**39.2**	**37.8**	**32.2**	**1.4**
Mega cap basket	7,070	6,091	5,213	24.6	23.6	22.6	1.0
Optionality basket	2,430	2,460	1,799	8.5	9.5	7.8	(1.0)
Growth basket	846	536	430	2.9	2.1	1.9	0.8
Other	917	659	-	3.2	2.6	-	0.6
Equity Index futures and options*	**181**	**233**	**-**	**0.6**	**0.9**	**-**	**(0.3)**
Commodity futures and options*	**-**	**310**	**-**	**-**	**1.2**	**-**	**(1.2)**
Hedge funds	**2,679**	**2,368**	**2,463**	**9.3**	**9.2**	**10.7**	**0.1**
Equity long/short	1,506	1,503	1,495	5.2	5.8	6.5	(0.6)
Directional hedge funds	460	360	435	1.6	1.4	1.9	0.2
Non Directional hedge funds	713	505	533	2.5	2.0	2.3	0.5
Cash & Bonds	**1,363**	**893**	**797**	**4.7**	**3.5**	**3.4**	**1.2**
Private equity	**7,126**	**6,238**	**5,831**	**24.8**	**24.2**	**25.2**	**0.6**
Buyout funds	1,128	1,197	1,176	3.9	4.6	5.1	(0.7)
Specialist funds	1,340	1,289	1,187	4.7	5.0	5.1	(0.3)
Multi asset partnerships	714	690	710	2.5	2.7	3.1	(0.2)
Venture funds	2,817	2,203	2,043	9.8	8.5	8.8	1.3
Directs	1,127	859	716	3.9	3.4	3.1	0.5
Property	**2,427**	**2,244**	**2,355**	**8.5**	**8.7**	**10.2**	**(0.2)**
Net overlay assets*	**(11)**	**(13)**	**(8)**	**-**	**-**	**-**	**-**
Total assets	**28,708**	**25,760**	**23,101**	**-**	**-**	**-**	**-**
Bond liabilities	(2,654)	(2,041)	(2,248)	-	-	-	-
Other liabilities	(174)	(531)	-	-	-	-	-
Total liabilities	**(2,828)**	**(2,572)**	**(2,248)**	**-**	**-**	**-**	**-**
Total assets net of all liabilities	**25,880**	**23,188**	**20,853**	**-**	**-**	**-**	**-**

*Since September 2017, the equity and commodity derivatives have been shown separately as notional exposures, with futures offsets included in other liabilities. Net overlay assets comprise foreign exchange overlays and the related cash collateral amounts due to counterparties.

A reconciliation to the amounts presented in the Consolidated Balance Sheet is included in note 15(g).

Figure 7

Public equity net returns (%) Period to 30 September 2018

	Annualised return in £ (%)		
	1 year	3 years	5 years
Global	10.4	19.8	14.1
Developed world	26.3	23.3	17.5
Growth markets	(1.8)	13.2	8.2
Total public equities	**9.9**	**19.1**	**13.6**
Direct public equities by strategy			
Mega cap basket	13.3	21.9	15.3
Optionality basket	(0.4)	14.6	10.1
Growth basket	(7.9)	13.6	7.0
MSCI AC World	13.5	19.9	14.1

Figure 8

Direct public equities IRR by strategy (£) (%) Inception to 30 September 2018

	2018 Value £m	IRR (%)
Mega cap basket (inception Sept 2008)	7,070	14.7
Optionality basket (inception July 2008)*	2,430	13.0
Growth basket (inception Dec 2009)	846	3.6
Total public equities (including indirectly managed)	14,943	11.3

*Returns adjusted for private purchases.

Figure 9

Top ten direct public equity holdings As at 30 September 2018

Rank 2018	Rank 2017		Total Value £m	Total Value US$m	Return on Cost GBP (Inception dates differ)
1	N/A	Syncona*	689	898	44%
2	3	Apple	606	790	1075%
3	5	Microsoft	570	743	471%
4	1	Vonovia**	506	660	192%
5	4	Bank Of America	452	589	192%
6	2	Alibaba**	420	548	439%
7	6	JPMorgan Chase	407	530	281%
8	8	Royal Dutch Shell	356	464	103%
9	13	Alphabet	331	432	463%
10	11	Siemens	324	423	68%

*Return since transfer into investment portfolio in May 2018.

**Return on cost has been adjusted for when the asset was held directly as a private company.

Our direct equity holdings above $150m as at 30 September 2018 can be found on the Wellcome Trust website.

Public Equity

In 2017/2018, Global Equity Markets (MSCI AC World) returned 13.5% in Sterling or 10.3% in US Dollars. US equities led the way, with a total return of 21.3% (S&P 500), followed by those in Japan, which rose by 13.0% (Topix) and the UK, which were up 6.1% (FTSE100). Emerging Markets rose by 2.4% (MSCI EMF), but European equities (Eurostoxx50) fell by 1.0% (all in Sterling).

Our total public equity portfolio lagged the global index (Figure 7) delivering a 9.9% return, 3.6% behind global equities. Our focus remains firmly on long-term absolute return. The Internal Rate of Return (IRR) of our equity portfolio since June 2008 (when we started owning public stocks directly, rather than running a purely outsourced portfolio) has been 11.3% (Figure 8).

The Megacap Basket (MCB) is the core of the portfolio and has been running since September 2008. The MCB had a strong year, keeping pace with global equities with a Sterling return of 13.3%, which takes the IRR since inception to 14.7%. The market shift to passive investment, which involves buying an index, has provided a tailwind given that MCB stocks tend to be large index constituents.

The Optionality Basket (OB) had a poor year, falling -0.4%, well behind broader equities. This is a concentrated portfolio, so significant volatility is not unexpected, nevertheless it was disappointing to see negative contributions from most of the constituent companies for a variety of idiosyncratic reasons.

In Emerging Markets, the internally managed Growth Basket (GB) also had a poor year, falling -7.9%. There were some strong performances from Al Rajhi (Saudi Arabia) and Itau Unibanco (Brazil), but these were overwhelmed by a difficult year for stocks like Garanti Bank (Turkey) and Lenta (Russia). From October 1st 2018 we have moved Alibaba and JD.com (China) from the Optionality Basket into the Growth Basket, which will increasingly be concentrated into larger, more liquid Emerging Market companies.

Figure 10a
Illiquid asset net returns (£) (%) Period to 30 September 2018

	Annualised return in £ (%)			
	1 year	3 years	5 years	10 years
Directional	8.4	10.9	8.6	9.1
Non Directional	7.9	9.3	7.4	8.8
Equity Long/Short	11.9	12.9	12.7	11.3
Total Hedge funds	**10.5**	**11.9**	**10.6**	**10.2**
Large buyout funds	22.9	26.3	20.8	15.6
Mid buyout funds	16.0	18.1	16.1	
Specialist funds	10.5	17.8	14.5	
Multi asset partnerships	(3.8)	3.0	2.9	
Venture funds	32.0	18.0	25.8	17.7
Direct Private	(2.3)			
Private co-investments	50.1	29.8		
Total Private equity funds	**20.2**	**17.4**		
Non-Residential property	14.6	8.1	8.4	3.7
Residential property	(2.0)	0.7	6.2	9.2
Property & infrastructure	**5.9**	**4.5**	**7.3**	**7.5**
MSCI AC World	13.5	19.9	14.1	12.2

Figure 10b
Illiquid asset net returns (US$) (%) Period to 30 September 2018

	Annualised return in US$ (%)			
	1 year	3 years	5 years	10 years
Directional	5.4	5.5	4.0	5.8
Non Directional	4.9	4.0	2.9	5.4
Equity Long/Short	8.7	7.4	7.9	7.9
Total Hedge funds	**7.4**	**6.5**	**6.0**	**6.8**
Large buyout funds	19.5	20.2	15.7	12.0
Mid buyout funds	12.7	12.3	11.2	
Specialist funds	7.4	12.1	9.7	
Multi asset partnerships	(6.5)	(2.0)	(1.5)	
Venture funds	28.3	12.3	20.4	14.1
Direct Private	(5.0)			
Private co-investments	45.9	23.5		
Total Private equity funds	**16.8**	**11.7**		
Non-Residential property	11.4	2.9	3.8	0.5
Residential property	(4.7)	(4.2)	1.7	5.8
Property & infrastructure	**3.0**	**(0.6)**	**2.7**	**4.2**
MSCI AC World	10.3	14.0	9.2	8.8

There was a wide range in the performance of our external managers, both in absolute terms and measured against their respective benchmarks. We terminated one external equity mandate during the year, but also added a new mandate with a manager focused on European equities. This is the first new external long-only mandate in the portfolio since 2011. We have also used passive investment vehicles in Japan and Emerging Markets during the year.

Hedge Funds

Our £2.7 billion hedge fund portfolio had another solid year (Figures 10a & 10b). The equity long/short funds struggled in Q4 2017 as the liquidity-fuelled bull market continued, but have fared much better in 2018 in choppier markets. The job of these managers in the portfolio is to generate alpha through the cycle. We particularly like managers that can generate alpha from short positions as well as long, but good ones are difficult to find.

The total return funds (both directional and non-directional) are employed to provide sources of return that are less correlated to equities, which can be especially valuable in a more difficult market environment. This group of managers has been hamstrung by artificially low interest rates, but there should now be more opportunities for them, with volatility rising as Central Banks withdraw QE.

Whilst we believe that this is a point in the cycle when hedge funds ought to be able to deliver attractive risk adjusted returns, it remains difficult to find managers that meet our bar, especially given the popularity of some crowded trades among hedge funds. We added three new absolute return hedge funds during the year, and terminated the mandate of one.

Private Equity

The value of our private equity (PE) investments in buyout funds, venture capital funds, direct private investments and Multi Asset Partnerships has risen to £7.1 billion. After another strong year, PE ticked up slightly as a proportion of the portfolio to 24.8% (Figure 4), but remains well below the post-GFC highs of 27.8% seen in 2011.

The long-term performance of PE funds has attracted significant flows of new capital into the asset class, with the result that there is now an unprecedented amount of uncalled funds in the industry waiting to be deployed. With credit still freely available, this will be levered up to create an even bigger war chest. Inevitably this means that new deals are extremely competitive and entry prices are rising. Expectations for future returns are therefore more muted than those we have been enjoying in recent years.

Figure 11

Private equity fund net returns (multiples) Inception to 30 September 2018

	Drawn (£m)	Realised (£m)	Net Asset Value (£m)	Total Value to Drawn
Buyouts	4,375	5,592	1,128	1.54x
Specialist	2,673	2,581	1,340	1.47x
Venture	2,295	2,539	2,415	2.16x
Healthcare and Healthcare/Venture	1,525	1,963	402	1.55x
All Private equity funds <=2012	8,880	12,464	2,775	1.72x
All Private equity funds >=2013	1,988	211	2,510	1.37x
All Private equity funds total	**10,868**	**12,675**	**5,285**	**1.65x**

Total Value equals Realised plus Net Asset Value. Total Value to Drawn gives a measure of return on invested capital. Funds of vintage years 2012 and earlier have generally finished their investment period.

With technology shares leading public markets, it has been a bumper year for returns from our Venture Capital portfolio (Figures 10a & 10b). After a long period when companies have been opting to remain private for longer, there have been signs that the IPO market is back in vogue, with high profile listings of companies like Dropbox and Spotify. One reason might be that more mature companies have found that employees want liquidity from their stock options, which is easier to provide as a public company.

Other standout performances in the PE portfolio came from large buyout funds and from our book of private co-investments, in which our largest position, Dell, is now marked at more than 3x our cost. However, our Multi-Asset Partnerships, which focus on investments alongside partners in various emerging markets, suffered along with many assets in these regions.

The pace of PE distributions has picked up over the year as partners have taken advantage of a strong M&A market and public market appetite for technology stocks. Our VC portfolio became cash flow positive again, with net distributions of £70 million, the highest level for three years. Our buyout funds produced a positive net cash flow of £346 million.

It was also a big year for new commitments to buyout funds, not because we have added new partners, but because of the fundraising cycle of many of our existing partners. Commitments to new buyout funds in the year totalled £936 million, more than three times the level of last year. This remains well below our 2007 peak level of commitments, but we are aware that fund sizes are growing and are alert for signs that the PE industry may be starting to become irrational. VC commitments were a more modest £375 million.

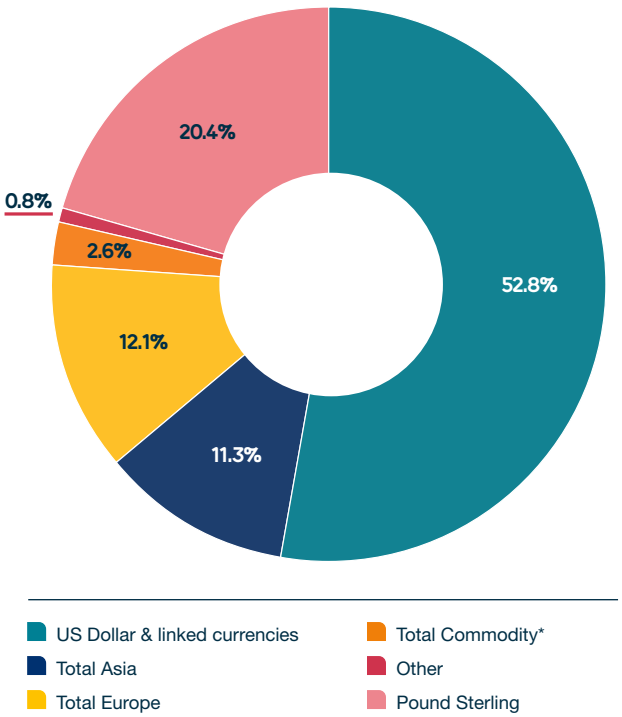
Property and Asset Backed Operating Companies

Our £2.4 billion property holdings are almost all in the UK, which means that asset values have been affected by sentiment towards Brexit. The Prime Central London residential real estate market, which is heavily influenced by overseas buyers, has been quite weak. According to Savills, Prime Central London prices have fallen by over 18% since the peak in 2014, and by 4% over the last year. The South Kensington estate was not immune, falling in value by about 2% on a like-for-like basis, while our other residential properties in London and the South East were also down about 3%.

The prospects for the residential market look quite uncertain. A decline in net migration due to Brexit is likely to take some of the steam out of the market for an extended period, while there is some evidence that the long-term undersupply of housing may not have been as extreme as many believe. After several decades of large real increases in residential property prices in the UK, it would not be a surprise to see an extended period of sub-par performance.

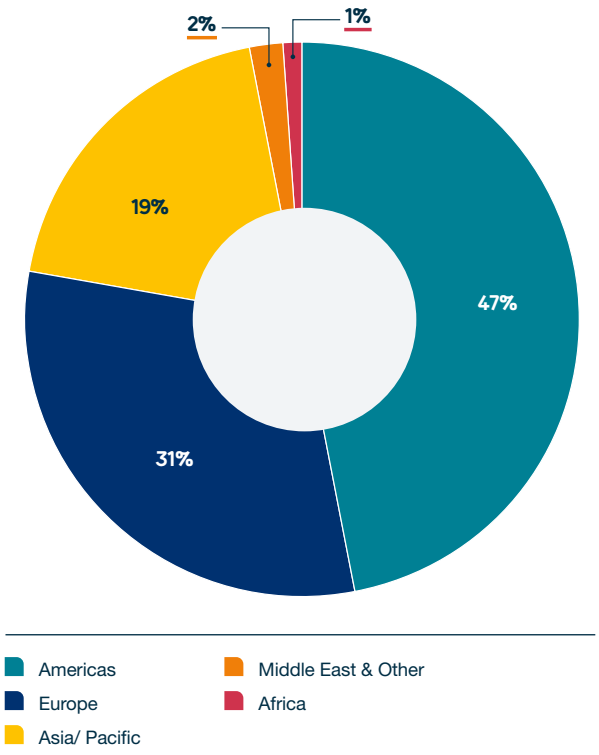
However, we saw some excellent performances from our asset backed operating companies, which more than cancelled out the weakness in residential property, and took the overall property composite to a gain of 5.9% in Sterling terms. Student accommodation company iQ, budget hotel group Point A and Premier Marinas all delivered strong performances. The only exception was Farmcare, where agricultural land prices were adversely affected by concerns as to the impact of Brexit on agricultural subsidies.

Figure 12
Currency allocation (net of currency forwards) (%)
As of 30 September 2018



*Currencies of countries with significant exposure to commodities and natural resource industries, excluding currencies which are directly linked to the US Dollar.

Figure 13
Public and private equity regional exposure (%)
As of 30 September 2018



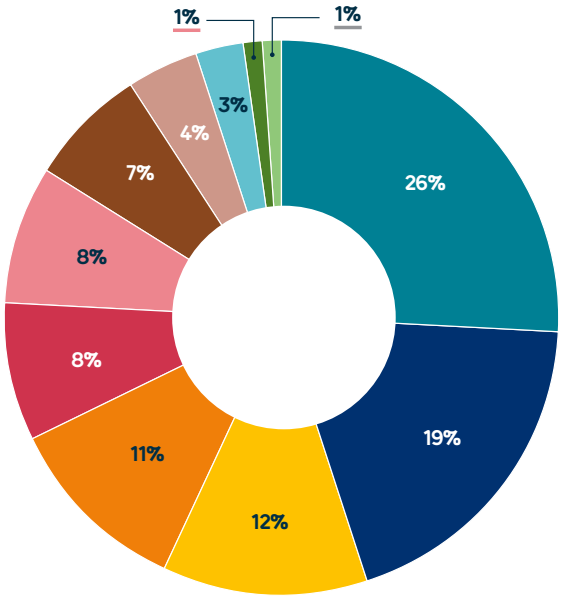
Currency, Regional and Sectoral Overview

Sterling exposure through the year has been maintained at around the 20% level (Figure 12). Most of this is natural exposure resulting from our holdings of assets in the UK, although there have been some hedges in place from JPY and EUR. Exposure to European currencies, chiefly EUR and CHF has grown through the year to 12.1%, mainly through adding underlying exposure. US Dollar exposure has been relatively stable at 52.8%.

Our exposure to Asian currencies has increased through purchases of assets, and from the removal of Chinese RMB hedges after a period of weakness, and reduction in JPY hedges. Exposure to other emerging market and commodity currencies has been reduced. The currency overlay book includes positions in Asian and emerging market currency forwards and options in addition to the USD, EUR and GBP, and has generated meaningful profits since inception in 2010. We focus on fundamental value, and where possible we look for long dated positions to take advantage of our time horizon – we currently have currency positions out as far as 2036.

Underlying public and private equity exposures have been very stable (Figure 13). At the margin we have been selling US equity positions into strength, and adding to positions in Europe and Asia into weakness. However, the underlying strength of the US market and US Dollar has meant that our 47% exposure to the Americas is at the same level as last year. The US economy continues to outperform other developed markets, while its companies continue to lead globally in innovation.

Figure 14
Public and private equity sectoral exposure (%)
As of 30 September 2018



- Information Technology
- Financials
- Consumer Discretionary
- Health Care
- Consumer Staples
- Industrials
- Energy
- Real Estate
- Materials
- Telecoms
- Utilities

Strong performance from both public and private companies has pushed up our weighting to technology companies (Figure 14). Most of this weighting is concentrated in the US, although there is also an increasing representation of Chinese technology companies in both public holdings and through VC funds.

The financial sector weighting has come down largely due to relatively weak performance, despite rising interest rates, which are typically good for banks and other financial companies. Banks in many countries now have levels of capital on their balance sheets that are very high by historical standards, thanks to tougher regulation. As a result, returns on equity are structurally lower than before the financial crisis. However, current valuation multiples seem to be discounting a much worse economic outcome than we believe is likely.

Financial Review

Overview
for the year ended 30 September 2018

	2018 £m	2017 £m	Change £m
Investment activity			
Income	439	386	53
Expenditure	(144)	(146)	2
Investment gain/(loss)	2,615	3,060	(445)
	2,910	**3,300**	**(390)**
Charitable activity			
Income	46	39	7
Expenditure	(723)	(1,221)	498
Present value adjustment for discounting of grant liability	85	65	20
Foreign exchange revaluation of grant liability	-	22	(22)
	(592)	**(1,095)**	**503**
Net income before tax	**2,318**	**2,205**	**113**
Taxation	(52)	(45)	(7)
Actuarial gains on defined benefit pension schemes	57	154	(97)
Net movement in funds	**2,323**	**2,315**	**8**

Net Funds
at 30 September 2018

	2018 £m	2017 £m	Change £m
Fixed assets	431	435	(4)
Investment assets	28,685	26,184	2,501
Net current assets/(liabilities)	(662)	(1,127)	465
Long term liabilities	(4,254)	(3,615)	(639)
Net funds	**24,200**	**21,877**	**2,323**

These tables provide an overview of charitable and investment activities, as well as the funding position.

Investment Activity

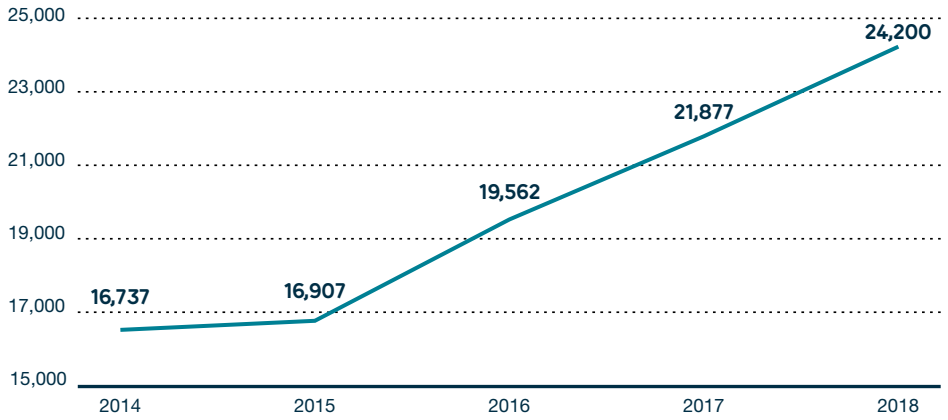
Our Investment activity generated net income of £2,910 million (2017: £3,300 million), reflecting another period of very strong performance.

Strong investment gains were delivered across all the main investment asset classes: a full commentary is provided on pages 18-27.

As detailed in note 15a, in February 2018 the Wellcome Trust issued £750 million 2.517% Guaranteed Bonds due 2118. A sum of £275 million is shown separately in the notes to the financial statements, to be held for the purposes of repaying the principal amount of the bonds maturing in 2021.

The Net funds of the Group increased by £2,323 million (11%) to £24,200 million (2017: £21,877 million).

Total funds of the Charity (£m) as at 30 September



Charitable Activity

Income from grants, programme related investment activity and Wellcome Collection was £46 million (2017: £39 million), including grant income received by the Wellcome Trust Sanger Institute.

Expenditure of £723 million (2017: £1,221 million) was markedly lower than recent years; this principally reflects the timing of significant commitments as this was a year with no renewals (which typically cover funding for five years) or major one-off commitments. In contrast, the expenditure in 2017 included 5 year commitments for primary activities to fund Science PhD programmes of £155 million, £27 million for the renewal of the Malawi-Liverpool-Wellcome Trust Clinical Research Programme and a £124 million commitment to fund Wellcome UK Centres. In addition to the primary activities noted, 2017 also included a Priority Area commitment of £82 million to fund the Coalition for Epidemic Preparedness Innovations (CEPI).

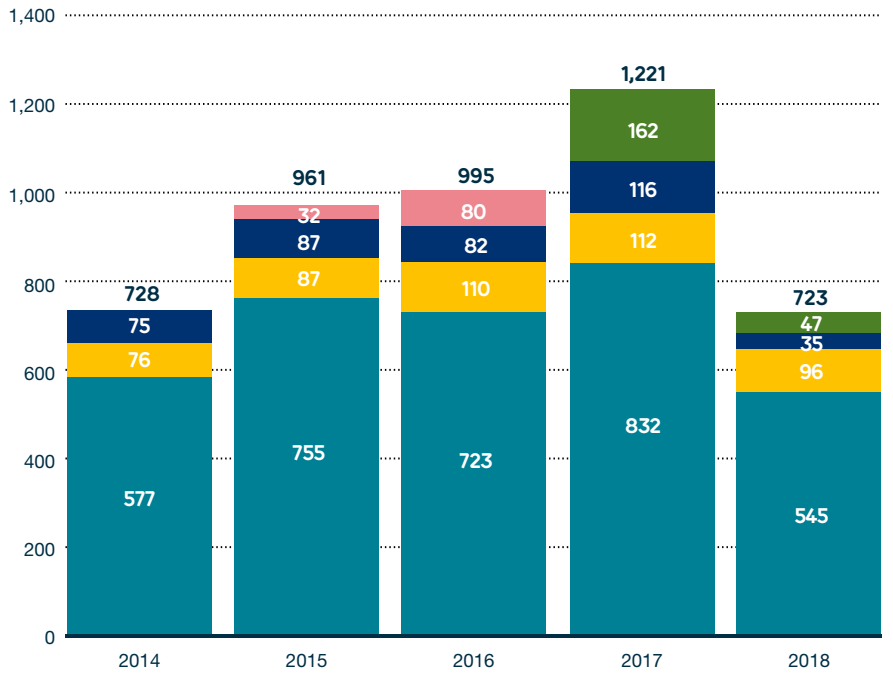
Two further factors influenced the lower level of expenditure. All funding areas took the decision to build flexibility for future periods by slightly reducing commitments made in 2018 and, particularly in Innovations, took advantage of partnership funding to support our objectives. In addition, there were an unusual number of grant writebacks from previous years totaling £55 million (2017: £20 million).

Despite this expenditure trough in 2018, we anticipate that we will incur £5.5 billion over the next five years: expenditure on core activities is anticipated to be £4.5 billion (this includes approximately £1.4 billion on renewals). We also expect increased expenditure on priority areas and other high-impact, large scale activities; the budget for these is approximately £1.0 billion.

Annual Charitable Expenditure for the year ended 30 September 2018

	2018 £m	2017 £m	Change £m
Science	545	832	(287)
Culture and society	96	112	(16)
Innovations	35	116	(81)
Priority areas	47	162	(115)
Gross spend on charitable activity	**723**	**1,221**	**(498)**
Present value adjustment – discounting of grant liability	(5)	(28)	23
Present value adjustment – changes to discounting model assumptions	(80)	(37)	(43)
Foreign exchange revaluation of grant liability	-	(22)	22
Total	**638**	**1,134**	**(496)**

Total Gross Spend on Charitable Activities (£m)



- Science
- Culture & Society
- Innovations
- Strategy
- Priority areas

An overview of the Charitable Activities is provided on pages 7-17.

The figures from 2015 (the year of transition to FRS102) onwards exclude the adjustment for the discounting of grants.

The figures from 2016 onwards also exclude the foreign exchange revaluation of the grant liability.

2017/18 expenditure incurred supported the following key areas of activity:

Science – expenditure of £545 million (2017: £832 million):
During the year this expenditure included:

- Investigator Awards, £100 million
- Collaborative Awards, £38 million
- Fellowships and studentships, £129 million
- Wellcome Trust Sanger Institute (via our wholly owned subsidiary Genome Research Limited "GRL"), £118 million.

Expenditure is lower than 2017 due to significant commitments in 2017 including:

- Science PhD programmes, £155 million
- Science Wellcome UK Centres, £80 million
- The renewal of the Malawi-Liverpool-Wellcome Trust Clinical Research Programme, £27 million.

Culture & Society – expenditure of £96 million (2017: £112 million), including:

- Wellcome Collection expenditure, £13 million
- Humanities & Social Science, largely Investigator and Collaborative Awards, £26 million
- Public Engagement expenditure, £19 million.

Innovations – expenditure of £35 million (2017: £116 million):
During the year this expenditure included:

- Partnerships and Network Awards, £15 million
- Flagships and Priorities, £22 million.

Expenditure is lower than 2017 due to:

- A commitment in 2017 of £32 million to Innovations Wellcome UK Centres
- The amount for 2018 is net of a number of writebacks from previous years totaling £31 million as discussed in note 6.

Priority areas – expenditure of £47 million (2017: £162 million):
During the year this expenditure included:

- Our Planet, Our Health research partnerships, £17 million
- Drug Resistant Infection awards, £8 million
- Science Education – National Science Learning Centre and Research & Evaluation Grants, £5 million.

Expenditure is lower than 2017 due to significant commitments in 2017 including:

- CEPI, £82 million.

Across Wellcome, additional funding included £2 million to support a rapid research response to the 2018 Ebola outbreaks in the Democratic Republic of the Congo.

Financial Planning

Our objective when setting the annual budget is to preserve the value of Wellcome's investment portfolio so that the purchasing power of our charitable expenditure is maintained over time, while minimising short-term volatility in commitments caused by changes in asset values. We also aim to ensure that we fund only the best research and that this is achieved in an efficient manner.

Charitable activities represent funding that we commit to, which is recognised in the year in which the grant is awarded. However, payment in cash of many of these commitments will be made over many years, so charitable cash payments in any one year will include amounts relating to grants awarded in prior years.

As highlighted in last year's report, from October 2017, we have implemented a revised methodology for defining our future charitable expenditure plans. This is discussed below. As part of this new financial planning approach we continue to review expected future investment returns and cashflows.

We plan to support the core research and other activities we deliver through Science, Culture and Society, and Innovations with a consistent level of funding in real terms. Having established a baseline expenditure level of £900 million in 2017/18, we expect this to grow in line with inflation on an annual basis, accepting that the phasing of some of our larger awards will mean that this is averaged over a five-year period. This funding will not be tied so closely to the performance of our investment portfolio, which means we will have more stability and predictability in our support.

In addition, we fund priority areas and other large-scale, high-impact activities. Last year's report highlighted that we had a budget of £500 million to spend on new areas.

We will add to this funding only when the investment portfolio performance is sufficiently strong, subject to annual review. In June 2018, due to strong investment portfolio performance, the Board of Governors approved the allocation of another £200 million to this budget.

In June 2018, the Board of Governors conditionally approved two new initiatives – a Mental Health priority area and the Leap Fund. These are discussed further on pages 13 and 15.

Pensions

The Group provides employees with the opportunity to participate in either defined benefit or defined contribution pension schemes. Since April 2016, new employees have joined the defined contribution scheme.

The combined accounting deficit for both Group defined benefit pension schemes at 30 September 2018 amounted to £202 million (2017: £248 million). The deficit has decreased principally due to strong asset returns against a stable backdrop of assumptions supporting the liability assessment.

The defined benefit pension schemes are required to have triennial actuarial valuations, which are then updated in an interim valuation each year at the balance sheet date of the schemes. As at 31 December 2017, the deficit of the GRL scheme using actuarial valuation assumptions was circa £10 million; the Wellcome Trust scheme was in surplus on this interim basis. A rolling deficit recovery plan to address the actuarial deficit over a period of five years is in place for both schemes and will be deployed as required.

More detail on the pension schemes is given in note 11(e) Retirement benefits.

Reserves policy

The reserve balance at 30 September 2018 was £24,200 million (2017: £21,877 million). Our financial planning approach is intended to ensure that the level of reserves is maintained. The funding methodology defines a minimum level for the net Investment portfolio of £20 billion (in real terms as at 30 September 2017) to be maintained over the medium term. This level will be subject to annual review by the Board of Governors.

The reserves are mainly unrestricted but certain awards made to the Wellcome Trust's subsidiary undertaking, GRL, by other funders are subject to specific conditions imposed by the donors and are therefore restricted in their use. These amounted to £32.2 million at the end of 2018 (2017: £26.2 million).

Investment policy

Our assets are invested in accordance with the wide investment powers set out in Wellcome Trust's Constitution and within its investment policy. The investment policy is reviewed periodically by the Board of Governors. We invest globally and across a very broad range of assets and strategies. It is our policy not to invest in companies that derive material turnover or profit from tobacco or tobacco-related products.

Our response to the FRC UK Stewardship Code, together with further details of our investment policy, is available at www.wellcome.ac.uk. We support the investment industry's continued efforts to strengthen the role played by institutional investors in corporate governance, and we review our statement and our investment policy regularly, updating them when necessary.

Going concern and viability

The Board of Governors have assessed the viability of Wellcome and its subsidiaries over the five years to September 2023. They consider the affordability of the financial plan as part of their review, and have concluded that there is a reasonable expectation that there are adequate resources, including the strength to operate and meet the liabilities of the Group as they fall due over the period of their assessment and for the foreseeable future.

This assessment has been in line with the financial planning approach described above and after considering the significant risks laid out in the Risk Management section in the Trustee's Report, as well as the significant accounting estimates and judgements in note 2.

Structure and Governance

The Wellcome Trust (Wellcome) is an independent global charitable trust. It was created in 1936 by the will of Sir Henry Wellcome and is now governed by its Constitution, which was established in February 2001 by a scheme of the Charity Commission and has been subsequently amended.

Wellcome is a charity registered in England and Wales (registration number 210183) under the Charities Act 2011.

Principles of governance

With regard to governance, Wellcome takes into account its charitable status, the nature of its activities and its risk profile, and has regard to the principles of good governance and best practice such as those set out in the UK Corporate Governance Code 2016 and the Charity Governance Code.

The Trustee and the Board of Governors

The sole Trustee of Wellcome is The Wellcome Trust Limited (the Trustee), a company limited by guarantee (registration number 2711000), whose registered office is The Gibbs Building, 215 Euston Road, London NW1 2BE. The Trustee is governed by its memorandum and articles of association. The Trustee's directors (known as Governors), the Company Secretary of the Trustee, the Executive Leadership Team (ELT) and other administrative details are shown on pages 116 to 119.

The Board of Governors sets strategy, decides priorities, maintains a framework for accountability, allocates budgets, makes strategic funding decisions, monitors progress and retains overall responsibility for risk management. During 2017/18, the Board met six times, including a two-day residential strategic review meeting, and had five private meetings without the ELT.

Members of the Board of Governors are distinguished in the fields of medicine, science, business and policy. The Board considers each of the Governors to be independent in character and judgement and manages any relationships or circumstances that are likely to affect, or could appear to affect, the Governors' judgement. Governors are appointed for terms of four years, with an extension of three years, following a successful review, on mutual agreement, and a further three-year term in exceptional circumstances. Wellcome undertakes a comprehensive induction programme for all new Governors and training is available as required.

The Chair of the Board is Eliza Manningham-Buller, an independent, crossbench peer in the House of Lords. She joined Wellcome as a Governor in 2008 and was appointed Chair in 2015. She is also Co-President of Chatham House.

Fiona Powrie, Director of the Kennedy Institute of Rheumatology, University of Oxford, joined the Board in January 2018.

An evaluation of the performance of the Board of Governors has been undertaken by an independent specialist, Ffion Hague Independent Board Evaluation. While feedback gathered in the evaluation noted that overall the Board of Governors performs well, the evaluation also identified some areas that could be developed to further improve the Board's effectiveness. Recommendations contained in the evaluation are being taken forward by the Board and its Committees.

Executive Leadership Team

The ELT, chaired by Wellcome's Director, reports directly to the Board of Governors. It is responsible for the day-to-day management of Wellcome's operations and provides advice to the Governors and the Director with regard to strategy, planning, operational or policy matters, the delivery of objectives, and issues arising from the specific functional areas for which its members are responsible. It provides leadership across the organisation in support of the overall direction given by the Director. Other than for certain key governance areas and matters having a material impact, an Operational Sub-Group of the ELT has the full delegated authority of ELT in relation to all operational matters affecting Wellcome, and implementing policy agreed by the Board of Governors or ELT in relation to them.

The Wellcome Trust Group comprises Wellcome Trust and its subsidiary undertakings. Subsidiaries support Wellcome Trust through either delivering against charitable objectives or as investment entities. Management of the subsidiaries is delegated by the ELT to the Board of Directors of each entity.

Ted Smith stepped down as Director of People and Places at the end of December 2017 after three years. In August 2018, Kathy Poole was appointed as Director of People. Kathy has worked in a number of organisations at a senior level including Channel 4 and British Airways.

Statement of the Trustee's responsibilities

The Trustee is responsible for preparing the Trustee's Annual Report and Financial Statements in accordance with applicable law and UK Accounting Standards (UK Generally Accepted Accounting Practice), including FRS 102 'The Financial Reporting Standard applicable in the UK and Republic of Ireland'. The law applicable to charities in England and Wales requires the Trustee to prepare Financial Statements for each financial year that give a true and fair view of the state of affairs of Wellcome and the Group, and of the incoming resources and application of resources of Wellcome and the Group for that period.

In preparing these Financial Statements, the Trustee is required to:

- select suitable accounting policies and then apply them consistently
- observe the methods and principles in the Charities Statement of Recommended Practice 'Accounting Reporting by Charities'
- make judgements and estimates that are reasonable and prudent
- state whether applicable accounting standards have been followed, subject to any material departures. disclosed and explained in the Financial Statements
- prepare the Financial Statements on the going concern basis unless it is inappropriate to presume that Wellcome will continue in business.

The Trustee is responsible for keeping proper accounting records that disclose with reasonable accuracy at any time the financial position of Wellcome and enable them to ensure that the Financial Statements comply with the Charities Act 2011 and the Charity (Accounts and Reports) Regulations 2008.

The Trustee is also responsible for safeguarding the assets of the Group and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities and for the maintenance and integrity of the charity and financial information included on Wellcome's website. UK legislation governing the preparation and dissemination of Financial Statements may differ from legislation in other jurisdictions.

The Trustee has reviewed and considered the work and the recommendations of the Audit and Risk Committee, as detailed in the Audit and Risk Committee Report on pages 47-48, and considers that the Annual Report and Financial Statements, taken as a whole, are fair, balanced and understandable and provide the information necessary to assess the performance and strategy of Wellcome and the Group.

Grant-making policy

Wellcome's grant-making policy supports its status as a public benefit entity.

For our core activities, we consider and fund a large number of grants and awards through a wide portfolio of funding schemes. The scheme categories are: Biomedical science research, Population health research, Product development and applied research, Humanities and social science, and Public engagement and creative industries.

We also consider and fund a number of discretionary awards (single grants or one-off calls for funding) through our priority areas or other divisions and departments within Wellcome. Priority areas are identified by Wellcome for our mission and primarily led by Wellcome. Levels of funding are determined through the scoping, development and implementation stages.

All applications are reviewed by the grants team to ensure that they will be supported by adequate and appropriate resources and used only for grant activities. Grants are generally subject to requirements to submit progress reports during the grant period as well as an end of grant report within three months of the end of the grant period. We are in the process of moving end of grant reporting for the majority of our schemes to Researchfish, a commercial research impact assessment platform. Data from Researchfish will help us to assess progress against our ambitions and to compare our data with that of other funders.

Our Terms and Conditions require that recipients of funding have formal procedures in place preventing fraud, tax evasion, bribery or any other corrupt practices, and that expenditure is controlled in accordance with these arrangements.

Details of how to apply for grants, together with the relevant forms, are available on wellcome.ac.uk.

Public benefit

The Trustee confirms that it has referred to the guidance contained in the Charity Commission's general guidance on public benefit when reviewing Wellcome's aims and objectives, in planning future activities, and in setting the grant-making policy for the year.

Statement of disclosure of information to auditors

So far as the Trustee is aware, there is no relevant audit information of which Wellcome's auditors are unaware. The Trustee has taken all the steps that it believes it ought to have taken to make itself aware of any relevant audit information and to establish that Wellcome's auditors are aware of that information.

Scheduled Board and Committee attendance during 2017/18

	Board	Executive Leadership Team	Audit and Risk	Investment	Nominations	Remuneration
Total number of scheduled meetings	6	11	4	5	1	4
Members	Attended	Attended	Attended	Attended	Attended	Attended
Eliza Manningham-Buller	6			5	1	4
Michael Ferguson	6		3 (3)	5	1	4
Tobias Bonhoeffer	6					
Alan Brown	5 (6)			5		4
Damon Buffini (to 30 September 2018)	5 (6)			5	1	
William Burns	6		4			
Kay Davies (to 31 December 2017)	2 (2)			1 (2)	0 (0)	1 (1)
Bryan Grenfell	6					
Anne Johnson	6		1 (1)			
Fiona Powrie (from 1 January 2018)	4 (4)					
Jeremy Farrar		10 (11)		3 (5)		
Chris Bird		11				
Stephen Caddick		10 (11)				
Simon Chaplin		9 (11)				
Alyson Fox		10 (11)				
Peter Pereira Gray		4*		5		
Mark Henderson		10 (11)				
Chonnettia Jones		10 (11)				
Tim Livett		10 (11)		4 (5)		
Nick Moakes		2*		5		
Kathy Poole (from 7 August 2018)		1 (1)				
Jim Smith		8 (11)				
Ted Smith (to 31 December 2018)		2 (2)				
James Thomas		10 (11)				
Ed Whiting		8 (11)				
Adéle Anderson			4			
Tim Clark (to 30 April 2018)			2 (2)			
Chris Jones			4			
Stefan Dunatov				5		
Sarah Fromson				5		
Naguib Kheraj				4 (5)		
David Mayhew				5		
Michael Moritz (to 31 March 2018)				0 (3)		
Danny Truell				5		
Total number of ad-hoc meetings	-	-	-	1	2	-

The numbers shown in brackets denote the number of meetings individuals were eligible to attend.
*Members of the Investment Executive attend Executive Leadership Team meetings as appropriate.

Committees of the Board of Governors

The Board of Governors is supported by its principal committees, each of which has at least one Governor as a member.

The Board considers that committee members have the necessary skills, knowledge and experience to ensure that each committee is effective in discharging its responsibilities.

The performance of each of these committees is reviewed on a regular basis with input from the members and key executives.

Details of the membership of each committee are set out on page 116 and their attendance at meetings during the year on page 35.

- Nominations Committee (Report on page 44)
- Remuneration Committee (Report on page 45)
- Investment Committee (Report on page 46)
- Audit and Risk Committee (Report on pages 47-48).

The terms of reference of these committees can be found at wellcome.ac.uk/about-us/governance.

In its grant-funding and direct charitable activities, the Board of Governors is also supported by a number of advisory committees, which some Governors attend as observers. These committees assess, review and advise which grant applications to fund, and also advise on policy issues in various fields.

Internal control

While no system of internal control can provide absolute assurance against material misstatement or loss, Wellcome's systems are designed to provide the Board of Governors with reasonable assurance that there are proper procedures in place and that the procedures are operating effectively. The ELT reviews key internal operational and financial controls annually and confirms the operating effectiveness of those controls to the Board of Governors, which in turn also reviews key controls.

The key elements of the system of internal control are:

- Delegation: there is a clear organisational structure with documented lines of authority and responsibility for control, and documented procedures for reporting decisions, actions and issues
- Policies: a suite of policies covers all major activities and risk areas. Wellcome has adopted a values-based approach to internal policies which places greater emphasis on personal judgement and responsibility. Governors, committee members and employees are expected to conduct themselves with integrity and impartiality, be open, fair and unbiased when making decisions on behalf of Wellcome, and act in its best interests
- Reporting: the Board of Governors approves and reviews annual budgets and expenditure, and monitors forecast expenditure, investment performance and risk reports on a regular basis
- Risk management: a risk management policy states Wellcome's approach to risk and documents the process of internal control. Wellcome maintains a grants assurance framework to monitor the appropriate use of funds
- Internal audit: a team evaluates the design and effectiveness of risk management, control, and governance processes across Wellcome, and at selected grant recipients and third parties
- Review: the Audit and Risk Committee, which has at least one Governor and two external members, oversees the outcomes of external and internal audits, reviews Wellcome's processes of internal control and risk management, considers its compliance with relevant statutory and finance regulations, and advises the Board of Governors of any relevant matters.

Bullying and harassment and whistleblowing

In May 2018, Wellcome introduced an enhanced policy clarifying our responsibilities as a funder in relation to bullying and harassment. Unacceptable behaviour causes significant harm, stops people achieving their full potential and stifles good research.

The policy, which is in line with existing internal policies for Wellcome employees, sets out what we expect from the researchers we fund and the organisations that employ them. Our aim is to ensure that people involved in Wellcome-funded activities are treated with dignity and respect.

In July, we learned that a Wellcome-funded researcher had resigned from her institution following an independent investigation into allegations of bullying. In line with our new policy, we decided to terminate this researcher's Wellcome grants or transfer them to other researchers, and ban her from applying for new Wellcome grants for two years. Having at first not had access to all the information in this case, we also intend to update our bullying and harassment policy in 2019 to include a requirement for institutions not to enter into agreements that prevent them from telling us the findings of such investigations.

Following receipt of allegations submitted under its whistleblowing procedure, the board of directors of the Wellcome Sanger Institute commissioned an independent investigation this year into allegations of gender discrimination, wrongful exploitation of scientific work, misuse of grant monies and bullying. None of the allegations was upheld. However, the investigation highlighted that further work is needed to address the gender imbalance among the institute's scientific leaders and the challenges faced by women in scientific careers. The institute recognises the need for improvement and, in particular, is reviewing its faculty model and other policies and practices that may inadvertently foster inequality.

Conflicts of interest

Wellcome's policy on conflicts of interest, which applies to Governors, employees and committee members, sets out principles for identifying and managing actual and potential conflicts of interest to ensure decisions are free from any undue external influence. Where a potential conflict is identified it will be managed according to its materiality, with actions ranging from not participating at all or being involved in discussions but not voting, to being fully involved if the conflict is immaterial.

Governors who have paid appointments with institutions, or who supervise grant holders within an institution, that are in receipt of grants from Wellcome are detailed in note 7 to the Financial Statements.

Social Responsibility

Employment and inclusion

Diversity and Inclusion is a priority area for Wellcome, and you can read about our work with the research community and wider society on page 16. As one of the biggest funders of science and research in the UK, we want to lead by example and we know that Wellcome is not as inclusive as we could be. Therefore, we are changing some of our internal structures and practices in order to broaden the diversity of people we fund, engage with and employ.

In spring 2018, we updated the diversity monitoring questions that we ask of our colleagues so that we know we are working with the right information about diversity within Wellcome. Collecting data about people is sensitive, especially with the new General Data Protection Regulation introduced this year, and we were pleased to achieve 70% data completion among staff.

Wellcome is committed to creating a working culture in which people are motivated and equipped to reduce bias in their work. Training to mitigate bias will roll out to all employees by summer 2019 and is already part of our Executive Leadership Team's inclusive leadership programme. New initiatives are being developed to improve the way we make the most of everyone's talents at Wellcome, including fairer ways to recruit, support and retain women at senior leadership levels.

But we cannot progress only through top-down approaches, which is why the growth of staff networks at Wellcome to support employees from different groups has been so important. Our networks include BAME (black, Asian and minority ethnic), the Disability Interest Group, LGBTQ+, Women of Wellcome and a Working parents' and carers' group, all of which are helping to drive culture change. This year, we improved 63 places in Stonewall's workplace equality index, a measure of lesbian, gay, bi and trans inclusivity.

Diversity and inclusion principles are increasingly embedded in Wellcome's annual delivery plans, making this work more sustainable. In this sense, progress has been faster than anticipated, and although there is still more to do, it is indicative of the commitment at every level of the organisation to make Wellcome more inclusive.

The Wellcome Sanger Institute expanded its Equality, Diversity and Inclusion programme this year to give more support to under-represented and marginalised groups. The programme aims to catalyse cultural change, develop partnership, communicate activities, champion work at a national and international level, and position it as a sector leader in diversity and inclusion. The Sex in Science initiative, which has been running across the Wellcome Sanger Institute since 2011, changed its name to Equality in Science to reflect broader aspects of diversity.

Health and environment

Wellcome has a combined Health and Safety and Environment (HSE) policy. The Chief Financial Officer has overall responsibility for Environment and Health and Safety.

We are committed to employees' physical and mental wellbeing, and train some staff in both physical and mental health first aid through recognised, certified training.

For Wellcome, the British Safety Council Five Star Occupational Health and Safety Audit is conducted every two years. Higher risk departments and divisions are audited internally every year, and no significant actions have been raised.

The Wellcome Genome Campus's Health, Safety and Wellbeing policy was revised in 2018. Tenants and embedded contractors have signed a memorandum of understanding in terms of cooperation and communication around health and safety, and a new member of the team is supporting the management of new biological risk assessments. A mental health first aid volunteer team has been established and trained, part of a wider wellbeing strategy to be rolled out over the next year.

We are committed to protecting the environment and improving the environmental footprint of our buildings. At our London sites, we currently recycle 60% of our waste, send 19% to anaerobic digestion and the remainder to a recovery facility, known as energy-from-waste, thus maintaining our policy of zero waste to landfill. We have also made significant reductions around single-use plastics, eliminating them from our catering operations.

A number of initiatives have helped reduce our electricity and gas consumption. These include LED lighting and control system upgrades, moving away from traditional maintenance to predictive demand-led maintenance, and installing energy saving technology on our plant equipment. In our other operations, we continue to eliminate food waste and minimise the use of harsh chemicals and water through our eco cleaning regimes.

Wellcome's carbon emissions, reported under the Carbon Reduction Commitment (CRC) Energy Efficiency Scheme, totalled 29344 tonnes between April 2017 and March 2018. The Wellcome Genome Campus is the largest contributor. Overall, emissions from gas and electricity consumption reduced by 7% compared with the previous year.

Risk Management

Wellcome's risk management policy sets out our risk management objectives and principles and attitude to risk. This policy summarises the responsibilities of key roles for risk management, including the role of the Board of Governors, the Executive Leadership Team (ELT) and the Audit and Risk Committee.

Wellcome is risk averse with respect to liquidity risk and to health and safety risk, and receptive (taking risk within accepted limits) with respect to investment portfolio risk and certain charitable activities, such as supporting milestone driven grants within the UK scientific and research community. It is bold with respect to other charitable activities, for example, where Wellcome supports research and developments in priority areas such as drug-resistant infections and vaccines.

Wellcome's statement required by the Modern Slavery Act 2015 is available on our website.

A programme of implementation activity for the EU General Data Protection Regulation (GDPR) was led by Wellcome's Data Protection Officer working within Wellcome's Information Governance framework and with oversight from Wellcome's Senior Information Risk Officer. This included an all staff training and awareness programme, an extensive data mapping exercise, and a review of all relevant Wellcome contracts, policies, procedures and data processing activities and arrangements. This built on the preparatory work done by an internal, cross-divisional working group. In line with guidance from the Information Commissioner's Office, we recognise that GDPR preparation did not end on the 25th May 2018 and we continue to work to embed good practice, corporate responsibility and senior accountability to meet the enhanced data protection requirements of GDPR.

The Corporate Risk Register contains the key corporate risks owned and managed by the ELT and the Board of Governors. It is updated and reviewed on a regular basis by the Head of Risk, the Chief Financial Officer and then by the ELT. It is also reviewed by the Board of Governors annually and by the Audit and Risk Committee.

The Corporate Risk Register includes Wellcome's Corporate Risk Matrix, against which the risks are scored, and a description of each corporate risk and treatment plan.

For each of the risks included, the Corporate Risk Register gives:

- a description of the risk
- the owner of the risk, as designated by the ELT
- the controls currently in place to manage the risk
- the current risk assessment score
- any further actions proposed with delivery deadline
- the owner of each proposed action
- the target risk assessment score.

The current risk assessment ranking estimates the level of risk that is currently faced taking into account the effectiveness of existing preventative and mitigating controls. The target risk assessment ranking estimates the level of risk that will be faced once all planned actions are completed. The target risk ranking does not estimate the desired level of risk – just the level of risk that will be faced once the planned actions are completed. The target risk ranking is often used to determine whether sufficient actions are being implemented for significant risks.

The risk categories are:

- delay or non-delivery of Wellcome's objectives, eg skill shortages, key partner or supplier failure, delay in delivery of a strategic objective
- financial loss, eg impact causes monetary loss, fraud
- investment loss, eg volatile investment markets, negative real returns
- reputation and licence to operate, eg criticism by stakeholders, unethical behaviour by Wellcome impacting a key stakeholder group
- regulatory, legal, accounting or tax compliance issues, eg inquiry by a regulator, potential prosecution
- health and safety, eg injury, fatality.

There is also an Operating Risk Register, which is reviewed quarterly by the Operational Sub-Committee of the ELT. Risks may be moved from the Operating Risk Register to the Corporate Risk Register if they are considered to have increased in likelihood or impact.

The Wellcome Trust's wholly owned operating investment subsidiaries take responsibility for risk management within their respective operating companies. The Board of each operating company includes appropriate representation from Wellcome Trust and is responsible for ensuring that the operating company has an appropriate balance between risk and reward, and an appropriate risk management culture. The Audit Committee or Audit & Risk Committee for each operating company is responsible for carrying out the roles delegated to it by the Board. This includes reviewing the adequacy and effectiveness of the company's internal financial controls, internal control systems and risk management systems. Wellcome's Head of Risk attends these committees of the subsidiaries and escalates any substantive issues to Wellcome's ELT and Audit and Risk Committee.

The Directors of Genome Research Limited (GRL) have implemented a formal risk management process to assess financial and business risk and implement risk management strategies for the Wellcome Genome Campus. They have identified the main risks GRL faces, prioritised them in terms of potential impact and likelihood of occurrence, and have identified means of mitigating the risks. The GRL Audit and Risk Committee reviews the risk management policy, risk processes and the Wellcome Trust Sanger Institute Risk Register annually.

The actions Wellcome has taken in building capacity and capability in its Policy team have strengthened Wellcome's ability to deal with the strategic policy challenges of Brexit and wider changes in government. Management believes that these steps provide some mitigation to the longer-term risk that Wellcome is unable to deliver its objectives with respect to its policy goals, such that this risk is no longer within the top three risks which it is deemed appropriate to highlight. We also note that there are a range of possible Brexit outcomes which could impact Wellcome's ability to achieve its longer term, strategic objectives and we continue to monitor developments, although no particular significant actions are currently planned. The investment portfolio is only 20% exposed to Sterling and the Investment Executive are seeking to manage the portfolio with respect to the range of potential Brexit outcomes as discussed in the Review of Investment Activities section of the Trustee's Report. However, Wellcome recognises that the uncertainty of the Brexit outcome poses potential risks to Wellcome's operations including personal data flows, travel, recruitment, tax arrangements and the cost of grants and is taking action to mitigate these risks. This risk was considered as part of the Going Concern and Viability assessment detailed on page 32.

Specific risks that the Board of Governors considers to be the most serious are shown in the table below:

Key risks

	Nature of risk	Management and oversight of risk
Investment Risk	Failure to support Wellcome's ability to maintain the real level of charitable spend in the future, due to one or more of: catastrophic loss of one or more assets within the portfolio, inadequate liquidity, or lack of protection against the impact of inflation.	The Investment Executive manages this risk by: global diversification across assets and asset classes to limit the potential for value loss, diversification of cash flow sources and the regular review of forecast cash flows to manage the portfolio's liquidity profile, and regular consideration of inflation protection within the portfolio with a focus on equities and property holdings. There is an independent Investment Risk function reporting to the Chief Financial Officer. Oversight is provided by the Investment Committee (focusing on investment risks), the Audit and Risk Committee (oversight of the operational risk aspects of the Investments and related functions) and the Board of Governors.
International initiatives in low- and middle-income countries	Failure to deliver the scientific objectives or research capacity building objectives of these initiatives. Risks to the health and safety of Wellcome and third-party personnel local to the initiatives. There could also be suboptimal use of grant awards and a risk to Wellcome's reputation.	Wellcome management is focused on the governance structures and operational integrity at these initiatives and has enhanced the depth of its relationships and its oversight with respect to the universities through which a number of these initiatives are funded. Where the initiatives are funded directly or as part of a joint venture, Wellcome has consistently engaged with the relevant stakeholders. Oversight within Wellcome is provided by the Funding and Direct Activities Group of the Executive Leadership team, and by the Audit and Risk Committee and the Board of Governors.
Digital Resilience and Cyber Security	External risks include increasingly sophisticated cyber-attacks, either directly targeted or opportunistic. Internal risks include changes within the Digital & Technology (D&T) function in terms of moving to a cloud-enabled delivery model and team resourcing and restructure.	There were two successful phishing attacks both of which were reported to the Information Commissioner's Office. The more significant data breach involved four staff members' email accounts being compromised. Wellcome has also filed a serious incident report to the Charity Commission. As per the Audit and Risk Committee report, management is taking a number of mitigating actions with respect to this and other kinds of cyber threats: awareness and education for all employees, putting in place a managed security service provider to provide 24-hour event collection, monitoring and escalation services, and a gap analysis of the current security measures and capabilities, which may highlight opportunities for improvement. D&T is developing a future technology roadmap that will articulate the technology and required external service providers to ensure appropriate digital provision and resilience for its evolving business needs. It is also continuing the phased transition of its team to ensure that it will have the required skills, knowledge and competencies. Oversight is being provided by the Operations Sub-Committee of the Executive Leadership Team and by the Audit and Risk Committee and by the Board of Governors.

Remuneration Report

Wellcome develops and maintains remuneration strategies and policies in line with the strategy, culture and objectives of the organisation. Our aim is to attract, retain, motivate and effectively reward our people and recognise their contribution to Wellcome's overall mission.

Our key principles are that remuneration should be:

- **Competitive:** salaries are benchmarked using external market data appropriate to the sector in which people work
- **Performance-linked:** individual performance and behaviours are assessed for the award of bonuses during the annual salary review
- **Simple and transparent:** remuneration structure is openly communicated to colleagues. The bonus scheme and benefits are available to all employees. Benefits can be accessed and managed through a portal that also provides a total reward statement.

During the year, Willis Towers Watson acted as independent consultants to provide us with salary benchmarking data and McLagan provided independent advice on the remuneration of the investments team. PwC advised us on the production of our gender pay gap data and validated our results.

Elements of remuneration

Base salary
Salaries are reviewed annually, taking account of responsibilities and development in the role. They are regularly benchmarked against the market using appropriate specialist surveys or independent consultants.

Benefits
A competitive benefits package is available to all employees, including private medical insurance, medical assessments, group income protection, an on-site gym, enhanced maternity and paternity pay, childcare vouchers, a cycle to work scheme, shopping and entertainment discounts and season ticket loans.

Bonuses
All colleagues are included in a bonus scheme based on individual achievements. The Investments team has a separate, additional bonus element in their remuneration. Other individual and project-based awards are made at management's discretion.

Long-term incentive plans
In order to ensure that remuneration of the Investments team remains competitive and to encourage a long-term view, certain employees participate in a long-term incentive plan. Awards to employees are made annually, based on investment returns and individual performance over a period of three to five years.

Pension
The Group sponsors two approved funded defined benefit schemes: the Wellcome Trust Pension Plan and the Genome Research Limited Pension Plan. Pensions payable are related to length of service, salary and level of personal contribution. The Group also provides a defined contribution Group Personal Pension plan, into which both employee and employer contributions are paid. Since April 2016, new employees are auto-enrolled into the defined contribution scheme.

Governors' remuneration
In accordance with the will of Sir Henry Wellcome, Governors are entitled to receive remuneration from the Trustee, The Wellcome Trust Limited, of which they are directors.

Under Wellcome's Constitution, Governors are entitled to receive £57,100 a year from 1 April 2000, adjusted with effect from 1 April each year by an amount equal to the percentage increase recommended by the Review Body on Senior Salaries in respect of the salary pay bands of the Senior Civil Service.

Following approval by the Charity Commission of a scheme in October 2011, the levels of remuneration of Chairs and Deputy Chairs can be set by the Board of Governors at up to 2 and 1.5 times the level of a Governor respectively.

The Remuneration Committee

The Board of Governors appoints the Remuneration Committee, chaired by Eliza Manningham-Buller. The members are all Governors, all of whom are excluded from any discussion which affects their own pay. The responsibilities of the committee are to approve the reward strategy and policies for remuneration of employees, including incentive and benefit plans, and to determine individual remuneration packages and terms and conditions of employment for members of the Executive Leadership Team (ELT) and other senior staff.

In addition, the committee exercises any powers, and approves any decisions required by Wellcome, in respect of the Wellcome Trust Pension Plan, the Genome Research Limited Pension Plan, and any other pension arrangements.

It ensures that remuneration practices and policies facilitate the employment and retention of talented people.

The Report of the Remuneration Committee is on page 45.

Key Management Personnel

The key management personnel of the Wellcome Trust Group and Wellcome have been defined as the Board of Governors and the ELT (consisting of the Director, 11 senior executives and the Investment Executive (responsible for decision making in respect of the investment portfolio)). The roles and responsibilities of the Board of Governors and the ELT are discussed in the Structure and Governance section on page 33.

The total consideration includes Governors' remuneration, salaries, benefits in kind, bonuses, amounts accrued under long-term incentive plans, termination payments and employer pension contributions. The determination of the remuneration of the Governors is discussed above. The remuneration of members of the ELT is determined in accordance with the principles for all staff as detailed within this Remuneration Report.

The remuneration of the Investment Executive is discussed under "Investments team" below.

Details of the number of employees working on the charitable activities of the Group whose total benefits (excluding employer pension contributions) fall within specific £10,000 bandings, where benefits exceed £60,000, are shown within the Financial Statements under note 11(d).

Investments team

Wellcome manages the investment portfolio that underpins our charitable activities through an internal Investments team, including the Investment Executive, which manages a large proportion of the investments directly rather than through external fund managers. Due to the size, breadth and long-term nature of its portfolio, Wellcome can attract and retain a highly skilled group of investment professionals. With the right leadership and approach, this group has been able to generate superior returns and incur lower costs than would be the case if this activity were outsourced to traditional asset management organisations. The performance of the portfolio supports this approach.

Members of the Investments team are remunerated through their base salary, supported by significant variable elements, which are based directly on the performance of the portfolio, either in the form of annual bonus or, more significantly, long-term incentive plans as detailed above. The structure and quantum of remuneration is benchmarked on an ongoing basis using market data and external consultants.

Details of the number of employees working on the investment activities of the Group whose total benefits (excluding employer pension contributions) fall within specific £10,000 bandings, where benefits exceed £60,000, are shown within the Financial Statements under note 5.

Governors' Remuneration Year to 30 September

	2018 £	2017 £
Baroness Manningham-Buller (Chair)	**142,108**	142,108
Professor Michael Ferguson (Deputy Chair)	**97,699**	71,054
Professor Dame Kay Davies (Deputy Chair)	**26,645**	106,581
Professor Tobias Bonhoeffer	**71,054**	71,054
Mr Alan Brown	**71,054**	71,054
Sir Damon Buffini	**71,054**	71,054
Mr William Burns	**71,054**	71,054
Professor Bryan Grenfell	**71,054**	71,054
Professor Richard Hynes	**-**	17,764
Professor Dame Anne Johnson	**71,054**	71,054
Professor Fiona Powrie	**53,291**	-
Total remuneration	**746,067**	763,831

Expenses in respect of travel, subsistence, telephone and sundries incurred by the Governors in the course of their duties amounted to £213,773 (2017: £102,061), of which £205,544 (2017: £90,546) was paid directly by Wellcome, and £8,229 (2017: £11,515) was paid by Governors and directly reimbursed to them. The increase in the expenses paid directly by Wellcome for 2018 is driven by integration coaching fees for a new Governor and the new Deputy Chair. No pension contributions were paid in respect of the Governors.

The Governors were included in the Directors' and Officers' liability insurance in the year to 30 September 2018.

Consideration of Key Management Personnel Year to 30 September

	2018 £	2017* £
Governors Remuneration	**746,067**	763,831
Director of Wellcome Trust	**455,761**	445,220
Executive Leadership Team (excluding Director and Investment Executives)	**2,473,528**	2,277,859
Investment Executive	**8,392,236**	8,923,802
Employer Pension Contributions (for relevant staff)	**400,027**	256,735
Employer NI	**1,236,734**	1,067,119
	13,704,353	13,734,565

*Personnel costs of the Executive Leadership Team have been amended in 2017 to exclude the cost of the Director.

Nominations Committee Report

Key duties and role of the Committee

As the Chair of the Nominations Committee, I am pleased to present our report for the year ended 30 September 2018. The Nominations Committee considers the structure, size and composition of the Board, advising on succession planning and making appropriate recommendations to ensure the Board retains an appropriate mix of skills, experience, knowledge and diversity in line with our strategy. The Committee also considers succession planning for the Director and other senior executives.

On behalf of the Committee, I would like to welcome Mike Ferguson and thank Kay Davies for her contribution during her time as a member of the Committee.

The Committee's role and responsibilities are set out in its Terms of Reference, which were reviewed during the year and approved by the Board in June 2018. The Committee's key responsibilities and focus over the year have been to:

- Consider the performance and ability of Jeremy Farrar as Director and to recommend to the Board that his appointment be renewed for a further five years
- Review the structure, size, experience, diversity and composition required by the Board
- Review potential Governor candidates
- Develop and enhance the role of the Committee around board effectiveness, induction and training of Board and Committee members, and succession planning.

Committee meetings during the year

The Committee met once during the year.

Eliza Manningham-Buller
Chair of the Nominations Committee

Remuneration Committee Report

As the Chair of the Remuneration Committee, I am pleased to present our report for the year ended 30 September 2018. This report summarises the work the Committee has done over the past year in fulfilling our responsibilities to provide effective governance over the remuneration of our employees.

Effective Committee Governance

The membership of the Remuneration Committee ("the Committee") is set out on page 116. Although not members of the Committee, the Director and the Director of People attend each meeting.

The performance of the Committee should be reviewed on a regular basis with input from the Committee members and key executives. A review has been scheduled in the coming year.

The Committee also initiated a review of its terms of reference, which will be finalised in 2019.

After each Committee meeting the Chair of the Committee reports to the Board on the main issues that the Committee discussed.

On behalf of the Committee, I would like to thank Kay Davies who stepped down from her role in December 2017, most sincerely for her invaluable contributions to the development and functioning of the Committee during her time as Deputy Chair. I would also like to welcome Mike Ferguson to the Committee.

Compensation

During the year, the Committee focused on specific topics, which included:

- The package attached to Danny Truell's role as Emeritus Partner
- The in-depth review of the Investments division's competitive position against the market, with support from McLagan
- The initiation of a project for the development of a new pay structure that recognises different career pathways and is more precise and transparent
- The launch of a review of the fundamental principles underpinning our approach to rewarding our employees, to ensure alignment with our newly launched success framework and refreshed principles
- The reporting of our Gender Pay Gap numbers, as published on the Wellcome web site, both for the April 2017 and April 2018 cycles, and the development of an action plan to eradicate the gap within 10 years.

Benefits

The Committee validated the approach taken to create a benefits package for our employees in our newly created Germany office, thus ensuring that it remained aligned with the package offered to employees in London while being competitive in the German market.

The Committee also took great interest in the results of a review of our benefits package completed by Thomsons Online and the suggested adjustments required to make it more competitive.

Wellbeing

In addition to its traditional duties on remuneration, the Committee recognised that it should address the broad issue of Wellcome's employees wellbeing. As a result, the Remuneration Committee will:

- Officially oversee Wellbeing in Wellcome
- Embed this new responsibility in its Terms of Reference
- Review the organisation's Wellbeing performance regularly
- Ensure that Wellcome leverages its unique resources and networks to develop innovative, evidence-based initiatives
- Encourage the publication and sharing of any best practice we develop.

Eliza Manningham-Buller
Chair of the Remuneration Committee

Investment Committee Report

As the Chair of the Investment Committee, I am pleased to present our report for the year ended 30 September 2018. The Investment Committee's role is to act as an advisory on any investment matters. This report summarises the work the Committee has done over the past year in fulfilling our responsibilities to act as an advisory body to the Board of Governors on investment matters.

On behalf of the Committee, I would like to thank Damon Buffini and Mike Moritz, who have both stepped down from their roles for their invaluable contributions to the functioning of the Committee. I would also like to welcome Mike Ferguson who joined the Committee in January 2018.

Activities during the year

The Investment Committee met in November and December 2017 and March, May and September 2018. There was also an extra call in May 2018 for the Committee to review a specific investment opportunity being considered by the CIO and Investment team.

It reviewed the positioning and performance of the investment portfolio in the context of prevailing investment market conditions and the evolving macro-economic and geopolitical environment.

At the December 2017 meeting the Committee considered the attractiveness of raising a hundred-year bond at current low rates and gave the approval for the investment team to explore this. A Bond Issuance committee was subsequently approved by the Board of Governors and the bond was issued in February 2018.

Other topics of discussion during the year included the currency exposures within the portfolio, notably sterling in the context of Brexit; endorsement of the recommendation to include Syncona within the investment portfolio; and a review of the expected resilience of net cash flow generation from the portfolio over the next five years.

The Committee constructively challenged potential investment opportunities at each meeting.

Alan Brown
Chair of the Investment Committee

Audit and Risk Committee Report

As Chairman of the Audit and Risk Committee, I am pleased to present our report for the year ended 30 September 2018. This report summarises the work the Committee has done over the past year in fulfilling our responsibilities to provide effective governance over the Group financial reporting.

Effective Committee Governance

In April 2018, as part of the review of the effectiveness of the Board of Governors, it was decided to extend the Terms of Reference of the Committee to create an Audit and Risk Committee, formalising some of the responsibility for review of risk already undertaken by the former Audit Committee and adding some new areas of review. The Investment Committee still remains responsible for the oversight of investment risk and the Board of Governors retains its own overarching risk responsibilities.

It was subsequently decided to have longer, quarterly meetings to accommodate the Committee's increased risk management remit, which started in June 2018.

External audit

At the April meeting each year, the Committee discusses with the auditors the scope of their audit and makes recommendations to the Board before the audit commences. The significant audit risks, that are in line with 2017, are:

- The valuation of unquoted investments relating to: Direct Investments; Private Equity funds; Joint Ventures; unconsolidated subsidiary investments (Premier Marinas and Farmcare)
- Gains and losses on investments, as listed above
- Management override of controls (which is a risk in any organisation)
- The rate of discount selected to discount the grant liabilities.

The Committee seeks to ensure the continued independence and objectivity of Wellcome's external auditors. At the April meeting each year, it reviews the performance of the external auditors, discusses this with management and recommends their reappointment if appropriate.

In order to meet regulatory or business requirements, the external auditors may be employed for certain non-audit services. To safeguard the independence and objectivity of the external auditors, the Committee has determined policies as to the approval process related to non-audit services. The value of non-audit services is reviewed against the audit fees at each meeting and all such services require Audit and Risk Committee approval. These policies take in to account the changes required by the relevant EU Regulations and Directives, the FRC "Guidance on Audit Committees" and the "Revised Ethical Standard".

At the April, September and December meetings each year, the Committee reviews the Auditor's report about independence of its staff, its policies for maintaining staff independence and monitoring compliance with relevant requirements and its safeguards in relation to the provision of non-audit services.

Financial reporting

At the December meeting each year, in line with its Terms of Reference the Committee reviews the Annual Report and Financial Statements and related announcements for statutory and regulatory compliance. In particular, it reviews the integrity of the disclosures in the Financial Statements and considers the minutes of the Valuation Group meetings. It reports its views to the Board to assist in its approval of such documents. The main area of risk considered at the December 2018 meeting was the valuation of investments in private equity and real estate in the financial statements. The valuation of these classes of investments involves a level of complexity and judgement; the results of the detailed work of the Valuation Group were considered. This included consideration of co-investor valuations and a review of material movements in property valuations.

Other matters covered in 2018 were:

- A review of the assessment that management has made of the key judgements and estimations applied to assets and liabilities reported in the Group Balance Sheet to ensure that these are appropriate and are considered when finalising the year end results.
- The Committee also considered:
  - The rate used to discount the grant liabilities and agreed that that it was appropriate to apply management's expectation of the long-term return of the Wellcome's investment portfolio as approved by the Board of Governors;
  - Management's assessment of the realised and unrealised gains on private equity and real estate;
  - The reclassification of Syncona Limited from a mixed motive investment to a financial investment; and
  - Accounting and reporting for the issue of the £750 million 2.517% 2118 Guaranteed Bonds.

On the basis of the work done, the Committee recommended to the Board of Governors that the Annual Report taken as a whole is fair, balanced and understandable. In justifying this statement, the Audit and Risk Committee has considered the robust process in place which includes the following:

- Clear guidance is given to all contributors;
- Revisions to regulatory requirements are monitored on an ongoing basis and are discussed at the Audit and Risk Committee meetings throughout the year;
- Finance staff meet with the auditors throughout the year to discuss developments within the business and any impact on the financial reporting; and
- A thorough process of review, evaluation and verification is undertaken by senior management and finance staff.

Internal audit

Wellcome Trust has an in-house internal audit function that is supplemented through the use of a co-source partner, which provides external expertise where relevant. The Head of Internal Audit reports functionally into the Audit and Risk Committee which evaluates her performance annually and considers the work done by the team as a whole. Internal Audits are performed based on a risk-based internal audit plan ("the plan"). The plan is reviewed and approved by the Audit and Risk Committee prior to implementation, with the 2018/19 plan being endorsed by the Committee during the September 2018 Audit and Risk Committee meeting. The plan outlines how each audit will be resourced to provide assurance that it has the right expertise for execution. The plan is regularly reviewed and updated taking into account Wellcome's risks.

At each meeting, the Committee receives an update on audit reports completed and observations identified, progress on completion of actions arising from the audits and performance of the internal audit function. In 2018 this included reviews of third party grant recipients and covered the control environments of the Asia and Africa Programmes and Wellcome's oversight of these programmes; as well as reviews performed on research administration and policies at universities.

Risk management (including fraud and whistleblowing)

At each meeting, the Committee monitors and reviews risk management processes and the standards of risk management and internal control, including the processes and procedures for ensuring that material business risks are properly identified and managed. In 2018 specific considerations for discussion were:

- Cyber security and the IT control environment – In 2018 there were two successful phishing attacks, the more significant of which targeted the email of senior management personnel. In addition to the work done to investigate the incidents, management within Finance and Investments carried out a detailed review of the potential risks and concluded that existing controls would address all significant fraud risk of theft of assets or financial misstatement, although these controls could not have prevented the loss of commercially sensitive data within emails. No financial loss has been identified as a result of these incidents. A programme of areas identified for improvement is being implemented, including the acceleration of some actions already identified under the D&T strategy
- Reputational risk – including safeguarding, bullying and harassment. The whistleblowing allegations at the Wellcome Sanger Institute were a topic for specific discussion. (The outcome of these allegations is discussed on page 37)
- Consideration of a broad, change-management risk and the need to improve awareness of and accountability for risk management across the organisation
- A review of international grant funding activity with a particular focus on the Africa and Asia programmes operated through key partner institutions.

The key areas monitored by the Committee are listed on pages 40-41.

Additional areas of focus

In addition to the reviews of external audit, financial reporting, internal audit and risk management discussed above, key governance areas considered by the Committee during the year were:

- The moving of the management of the Syncona investment to the main investment portfolio;
- General Data Protection Regulation (GDPR) compliance including the actions to be taken to ensure this is embedded within the organisation and is recognised as an evolving process;
- Governance and accountability particularly in the context of the new Charity Governance Code and the revised Corporate Governance Code. Consideration was given to the appropriate approach for Wellcome as both a Public Interest Entity and an un-incorporated charity;
- The impact if there were to be a change of government.

In April 2018, Tim Clark ended his second term as an independent member of the Committee. I would like to thank Tim for his valuable contributions over the years.

I look forward to working with the Committee as its remit continues to evolve to face the challenges of the current environment.

William Burns
Chair of the Audit and Risk Committee

17 December 2018

Independent Auditor's Report

Opinion

In our opinion, the financial statements of Wellcome Trust (the "Trust") and its subsidiaries (the "group"):

- give a true and fair view of the state of the group's and of the Trust's affairs as at 30 September 2018 and of the group's and the Trust's incoming resources and application of resources for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice, including FRS 102 "The Financial Reporting Standard applicable in the UK and Republic of Ireland"; and
- have been prepared in accordance with the requirements of the Charities Act 2011.

We have audited the financial statements which comprise:

- the consolidated and the Trust Statements of Financial Activities;
- the consolidated and the Trust Balance Sheets;
- the consolidated Cash Flow Statement; and
- the related notes 1 to 27.

The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice), including Financial Reporting Standard 102 "The Financial Reporting Standard applicable in the UK and Republic of Ireland" (United Kingdom Generally Accepted Accounting Practice).

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the auditor's responsibilities for the audit of the financial statements section of our report.

We are independent of the group and the Trust in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the Financial Reporting Council's) (the FRC's) Ethical Standard as applied to listed public interest entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We confirm that the non-audit services prohibited by the FRC's Ethical Standard were not provided to the group or the Trust.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Summary of our audit approach

Key Audit Matters	The key audit matters that we identified in the current year were: • Valuation of Unquoted investments relating to joint ventures (iQ) and controlled, unconsolidated subsidiary investments (Premier Marinas and Farmcare) including realised and unrealised gains/losses related to these investments • Valuation of Unquoted investments relating to direct investments and private equity funds, including realised and unrealised gains/losses related to these investments • Data breach arising from Targeted phishing attack • Risk of the grant liability being misstated due to an incorrect discount rate being applied Within this report, any new key audit matters are identified with ⌃ and any key audit matters which are the same as the prior year are identified with ⟩.
Materiality	The group materiality that we used in the current year for the financial statements as a whole was £241 million which was determined on the basis of 1% of net assets. We also applied a lower level materiality to balances related to the Trust's grant liabilities and grant expenditures included within Costs of Charitable Activities on the Statement of Financial Activities. The lower level materiality we used in the current year was £10.3 million which was determined on the basis of 2% of grant expenditure.
Scoping	Our group audit scope included the audit of all subsidiaries that accounted for more than 1% of net assets as well as any subsidiary that required a statutory audit. This meant that 99% of net assets were subject to a full scope audit for the year ended 30 September 2018.
Significant changes in the approach for the current year	There have been no significant changes in our audit approach in the current year other than the below changes in key audit matters: **Additional Key Audit Matter:** We have included a new key audit matter related to data breach arising from a targeted phishing attack. **Removal of Key Audit Matter:** A previous key audit matter relating to departure from the Charities SORP in accounting for joint ventures and associates under the fair value method is no longer a key audit matter. We concluded in our previous audit report that we concur with management's view that fair value is a better indicator to the readers of the financial statements of the value of these investments. The accounting policies appropriately reflected this departure from the SORP. Therefore, we have not identified this as a key audit matter in the current year.

Conclusions related to going concern

We are required by ISAs (UK) to report in respect of the following matters where:

- the directors' use of the going concern basis of accounting in preparation of the financial statements is not appropriate; or
- the directors have not disclosed in the financial statements any identified material uncertainties that may cast significant doubt about the group's or the parent company's ability to continue to adopt the going concern basis of accounting for a period of at least twelve months from the date when the financial statements are authorised for issue.

We have nothing to report in respect of these matters.

Key audit matters

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) that we identified. These matters included those which had the greatest effect on: the overall audit strategy, the allocation of resources in the audit; and directing the efforts of the engagement team.

These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Valuation of Unquoted investments relating to joint ventures (iQ) and controlled, unconsolidated subsidiary investments (Premier Marinas, Farmcare) including realised and unrealised gains/losses related to these investments	
Key audit matter description	The valuation of Premier Marinas, Farmcare and iQ Student Accommodation involves significant judgement when determining the valuation approach and the use of key judgemental inputs and assumptions. As a result of these judgements, there is more potential for fraud in this area. The primary input to each of these valuations is the fair value of alternative real estate assets including marina assets, student accommodation and farmland. There are few comparable transactions for alternative real estate assets such as Marinas and therefore this increases the judgement in determining the fair valuation of those assets. There is a risk that the application of an inappropriate valuation methodology and/or the use of inappropriate assumptions could result in the valuation of unquoted investments being materially misstated. This would subsequently drive the changes in gains and losses. The valuation of Premier Marinas, Farmcare and iQ Student accommodation amount to £0.98 billion, which is 8.9% of the group's unquoted investments, and 4.0% of the group's net assets. The Audit and Risk Committee Report on pages 47-48 identifies the valuation of real estate assets as a main area of risk. The significant accounting judgements with respect to the group's fair value measurement and valuation policies are described in notes 2 and 15.
How the scope of our audit responded to the key matter	In responding to the key audit matter arising when determining the fair value of Premier Marinas, Farmcare and iQ Student Accommodation, we performed the following procedures: **Controls Assessment** • We performed an assessment of the design, implementation and tested the operating effectiveness of the key controls identified. • In performing this work, we obtained and reviewed policies and processes by which the investments are valued, reviewed and attended Valuation group meetings to understand how ongoing monitoring and reassessment of valuations was performed. **Premier Marinas and Farmcare** • We obtained and reviewed 30 September 2018 and 30 September 2017 external valuation reports. Management instructed and determined that the valuation approach for each was in accordance with the Royal Institution of Chartered Surveyors ('RICS') Valuation – Professional Standards. We assessed the competence, qualifications, capabilities and independence of the third party valuers. We compared 2017 and 2018 reports to assess any changes in methodology or approach year on year; and • We involved real estate specialists as part of our audit team to review the third party valuation reports. We challenged the appropriateness of the fair value methodologies used for the various real estate assets, the market assumptions used as part of their valuations (e.g. berth rates for Premier Marinas, rents, yields, discounts for tenancies and discount rates) and their valuation conclusions. As part of this process, we held a meeting with the third party valuers used where we challenged the key judgements made in their valuation against our expectations, our own market intelligence and external information; • Specifically for Premier Marinas: we determined whether cash flow data used in the discounted cash flows valuation was appropriate given our understanding of the business; and • Specifically for Farmcare: for a sample of assets we obtained relevant third party data to support acreage and other inputs that drive the valuation. **iQ Student Accommodation** • We obtained and reviewed the 30 September 2018 and 30 September 2017 external valuation report and noted that the valuations were in accordance with the Royal Institution of Chartered Surveyors ('RICS') Valuation – Professional Standards. We assessed the competence, qualifications, capabilities and independence of the third party valuers. We compared 2017 and 2018 reports to assess any changes in methodology or approach year on year; and • We involved real estate specialists as part of our audit team to review information provided by Management, including asset listings and yields. We assessed the appropriateness of the key assumptions driving the valuation including rental assumptions, occupancy rates, operating cost assumptions and yield assumptions. We challenged these assumptions based on our own market intelligence and external information. **Realised and unrealised gains/losses** • We sampled purchases and sales during the period and traced these to supporting documentation and recalculated the associated gains and losses.
Key observations	As a result of our procedures we found the valuations of these investments were appropriate.

Valuation of Unquoted investments relating to unquoted direct investments and private equity funds, including realised and unrealised gains/losses related to these investments	
Key audit matter description	The valuation of private equity funds and unquoted direct investments requires significant judgement as the values are derived from unobservable inputs and assumptions. As a result of these judgements, there is more potential for fraud in this area. The values are obtained from co-investors, underlying private equity fund managers, or are valued based on internal models. As these underlying valuations are sensitive to these unobservable inputs and assumptions, there is a risk that the application of an inappropriate valuation methodology and/or the use of inappropriate market assumptions could result in the valuation of unquoted investments being materially misstated. These judgements and assumptions over investments subsequently drive the changes in gains and losses. The valuation of the group's investments in private equity funds and unquoted direct investments amount to £7.0 billion which is 63.5% of the group's unquoted investments, and 28.8% of the group's net assets. The Audit and Risk Committee Report on pages 47-48 the valuation of private equity funds assets as a main area of risk. The significant accounting judgements with respect to the group's fair value measurement and valuation policies are described in notes 2 and 15.
How the scope of our audit responded to the key matter	We assessed Management's valuation methodology and considered whether it was in accordance with the accounting policies of the Trust, applicable accounting standards and industry practice. We assessed the controls applied by Management and tested these controls where we placed reliance on them. **Controls Assessment** We assessed the design, implementation and tested the operating effectiveness of key controls. This included gaining an understanding of the procedures related to the ongoing monitoring of fund managers and the processes by which valuation approaches are continually re-assessed and challenged by the Valuation group. • We tested the controls and procedures performed by Management during the year, including reviewing minutes of the calls/meetings held with the external fund managers and co-investors to monitor these investments; • For private equity investments, we reperformed the review of the private equity fund financial statements by Management and determined whether the review appropriately assessed key elements in the financial statements such as whether the funds measured the investments at fair value, auditor information, basis of preparation and going concern; and • For unquoted direct investments, we reperformed Management's review for a sample of investment assets by inspecting documentation to determine whether valuations were challenged based on recent knowledge of the investments, as gained through calls with key Management personnel of the investment companies; • We inspected documentation and attended the July and November 2018 Valuation Group meeting to evidence that the Valuation Group has reviewed and reasonably challenged the valuation of investments at year end, as presented by Management and as recorded in the financial statements. **Private equity funds** To verify the year-end valuation for private equity investments, we independently obtained and reviewed the valuation statements for a sample of funds. • We assessed the financial statements of the underlying funds are fair valued and assessed whether the auditor standing, auditor location, audit opinion, basis of preparation, going concern and subsequent events disclosure indicated any areas of concern. As part of this review, we critically assessed whether the underlying investments held by the fund were being measured at fair value and whether the methodologies and unobservable inputs disclosed demonstrated appropriate fair value treatment. • For the portfolio as a whole, we the results and compared these to independently sourced market information to understand the correlation of the portfolio movements as compared to movements in the industry and wider market. **Unquoted direct investments** • For selected samples, we independently obtained and reviewed the unquoted direct investments valuation statements to determine whether the value recorded by the group was appropriate. We challenged Management's assessment of the valuation assumptions and appropriateness of valuation methodologies used by the third party to determine the fair value. • Where the valuation is determined by the group, we obtained and reviewed the valuation derivation and assessed the reasonableness of any significant judgemental inputs and assumptions. As part of this process, we sought independent evidence including considering contradictory evidence and market comparables to challenge the appropriateness of the judgemental assumptions. **Realised and unrealised gains/losses** • We sampled purchases and sales during the period and traced these to supporting documentation, based on this procedure and the above procedures we recalculated the gains and losses associated to conclude on the accuracy thereof.
Key observations	As a result of our procedures we found the valuations of these investments were appropriate.

Data breach arising from Targeted phishing attack	
Key audit matter description	As referred to within the Risk Management section on page 41 and Audit and Risk Committee report on page 48 of the Annual Report, during the year, the Group was exposed to a cyber breach as a result of a targeted phishing attack on senior management personnel that resulted in unauthorised access to systems and sensitive information. Following the identification of the breach, the Group investigated the potential exposure and took remedial actions including reporting the matter to the Information Comission Officer, the Charities Commission and the police. We identified a risk and a key audit matter that the Group could be exposed to financial loss as a result of external parties having access to information and systems.
How the scope of our audit responded to the key matter	Supported by IT and forensic specialists, we have reviewed and assessed incident reports prepared by management in order to understand the nature of the breach. We assessed the impacts that the breach could have on the financial statements We specifically focused on potential exposure to financial loss in relation to unauthorised transactions. Based on the above, for each individual impacted, we assessed: • Approvals during the period of exposure; and • Any existing controls which would prevent unauthorised transactions. We performed the following procedures to address the risk identified. **Controls assessment:** We tested controls over approvals, processing and reconciliation of transactions **Focused Testing:** We performed additional substantive testing of transactions during the period of exposure to determine whether those transactions were valid business transactions and that they had been appropriately authorised.
Key observations	We did not identify significant control deficiencies that would have a material impact to the financial statements as a result of our procedures performed. As referred to the in Risk Management section on page 41 of the Annual Report and page 48 of the Audit and Risk Committee Report, steps are being taken by management to mitigate future risks.

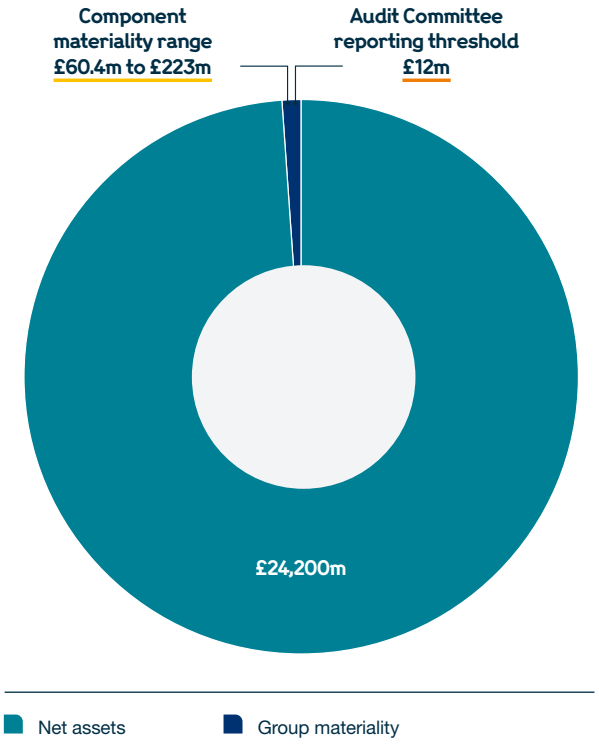
Risk of the grant liability being misstated due to an incorrect discount rate being applied	
Key audit matter description	The discount rate used is identified as a significant estimate in Note 2 of the annual report. The sensitivity analysis performed in Note 2 shows that a 0.5% change in the discount rate will result in a material change to the grant liabilities of £17 million (0.7%), based on the application of our lower level materiality. The grant liabilities (£1,530 million) are discounted, as per the requirements of FRS 102. The amount at which they are discounted is based on a calculation involving a discount rate selected and applied by Management, and is based on Management's expectation of the long-term return of the Trust's portfolio. The discount rate used should reflect the opportunity cost to the Trust of not earning an investment return on funds granted and its current assessment of the time value of money. The appropriate discount rate depends on the circumstances of the charity and determining this discount rate requires significant Management judgement concerning future expectations of investment performance. The discounted portion of the grant liabilities is sensitive to small changes in the discount rate applied and small differences in the discount rate can lead to material misstatement of the grant liabilities. The Audit and Risk Committee Report on page 47 makes reference to the significant estimate in this area.
How the scope of our audit responded to the key matter	**Controls Assessment** We assessed the design and implementation of key controls identified in relation to the selection of an appropriate discount rate throughout our planning and interim work. This included gaining an understanding of the procedures related to the review of Management's papers on the selection of an appropriate discount rate and expected rates of long-term return by the Board of Governors used in financial planning and budgeting considerations. **Substantive procedures** In responding to the key audit matter that an appropriate discount rate has not been applied and the grant liabilities balance is potentially misstated, we performed the following procedures: • We reviewed Management's paper to the Board of Governors on its expectation of a long-term nominal rate of return of 5.9% and challenged the assertions made by Management by: - testing the split of investments stated in the paper and the associated expected investment return of each category; - assessing the stated ranges of nominal rates of return with reference to third party forecasts; and - performing sensitivity analysis on the rate of return by using third party market data in the calculation of the discount rate and determining if variances were material. • We tested the arithmetical accuracy of the grant liabilities discounting workings to determine whether the grant liability was materially accurate, and used Deloitte's Analytics tools to challenge the integrity of these spreadsheets.
Key observations	As a result of our audit procedures, we found the discount rate to be appropriate.

Our application of materiality

We define materiality as the magnitude of misstatement in the financial statements that makes it probable that the economic decisions of a reasonably knowledgeable person would be changed or influenced. We use materiality both in planning the scope of our audit work and in evaluating the results of our work.

Based on our professional judgement, we determined materiality for the financial statements as a whole as follows:

Group materiality for the financial statements as a whole	£241 million (2017: £221 million)
Basis for determining materiality	1% of net assets
Rationale for the benchmark applied	The Wellcome Trust is an asset based charity making returns on its investment portfolio to support the charitable actives. The basis of group materiality is 1% of net assets which aligns our methodology with industry practice for comparable asset–based organisations.



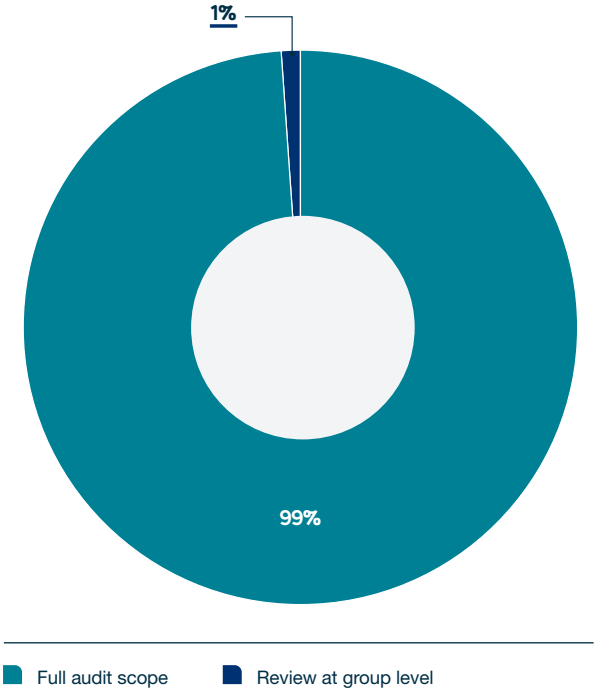
Furthermore, we determined that using lower materiality threshold for grant liabilities and grant expenditure was appropriate as these balances are important to the users of the financial statements.

Lower level materiality	£10.3 million (2017: £18.2 million)
Basis for determining materiality	2% of grant expenditure
Rationale for the benchmark applied	We have based the lower level materiality on the related grant expenditure balance in the Consolidated Statement of Financial Activities. The basis has been determined using professional judgement. Although gross income is the benchmark most commonly used in the sector, grant expenditure is a significant balance for users of these financial statements, being the primary indicator of the level of charitable activity of the Trust during the year.

We agreed with the Audit and Risk Committee that we would report to the Committee all audit differences in excess of £12 milllion (2017: £11.1 million), as well as differences below that threshold that, in our view, warranted reporting on qualitative grounds. We also report to the Audit and Risk Committee on disclosure matters that we identified when assessing the overall presentation of the financial statements.

An overview of the scope of our audit

Our group audit was scoped by obtaining an understanding of the group and its environment, including group-wide controls, and assessing the balances within each entity and the risks of material misstatement at the group level. Our group audit scope included the full scope audit of subsidiaries which accounted for >1% of Net Assets and those requiring statutory financial statements and all of these subsidiaries were audited directly by the group audit team. Audits were performed at a materiality level determined by reference to the scale of the business concerned. Where components didn't require a statutory audit, the work was performed by the group to component materialities ranging from £60.4 million to £223 million (2017: £55 million to £209 million). The vast majority of audit procedures were performed at the Trust itself.



Other subsidiaries not in audit scope within the group contributed to less than 1% of net assets. Analytical procedures were performed at group level for these non-significant subsidiaries.

At the group level we also tested the consolidation process.

Other information

The Trustee is responsible for the other information. The other information comprises the information included in the annual report (including comments from the Chair and the Director, Trustee's Report, Audit and Risk Committee Report, Reference and Administrative Details) other than the financial statements and our auditor's report thereon.

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether there is a material misstatement in the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in respect of these matters.

Responsibilities of the Trustee

As explained more fully in the Trustee's responsibilities statement, the Trustee is responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the governors determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Trustee is responsible for assessing the group's and the Trust's ability to continue as a going concern, disclosing as applicable, matters related to going concern and using the going concern basis of accounting unless the governors either intend to liquidate the group or the Trustor to cease operations, or have no realistic alternative but to do so.

Auditor's responsibilities for the audit of the financial statements

We have been appointed as auditor under section 151 of the Charities Act 2011 and report in accordance with regulations made under section 154 of that Act.

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

Details of the extent to which the audit was considered capable of detecting irregularities, including fraud are set out below.

A further description of our responsibilities for the audit of the financial statements is located on the Financial Reporting Council's website at: www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditor's report.

Extent to which the audit was considered capable of detecting irregularities, including fraud

We identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and then design and perform audit procedures responsive to those risks, including obtaining audit evidence that is sufficient and appropriate to provide a basis for our opinion.

Identifying and assessing potential risks related to irregularities

In identifying and assessing risks of material misstatement in respect of irregularities, including fraud and non-compliance with laws and regulations, our procedures included the following:

- enquiring of management, internal audit and the audit and risk committee, including obtaining and reviewing supporting documentation, concerning the group's policies and procedures relating to:
  - identifying, evaluating and complying with laws and regulations and whether they were aware of any instances of non-compliance;
  - detecting and responding to the risks of fraud and whether they have knowledge of any actual, suspected or alleged fraud;
  - the internal controls established to mitigate risks related to fraud or non-compliance with laws and regulations;
- discussing among the engagement team, and involving relevant internal specialists, including IT, property valuations, forensic and pensions specialists regarding how and where fraud might occur in the financial statements and any potential indicators of fraud. As part of this discussion, we considered potential for fraud in the valuation of certain unquoted investments where judgement is involved, management override of controls and data breach arising from targeted phishing attacks in the year; and
- obtaining an understanding of the legal and regulatory framework that the group operates in, focusing on those laws and regulations that had a direct effect on the financial statements or that had a fundamental effect on the operations of the group. The key laws and regulations we considered in this context included the Charities Act 2011.

Audit response to risks identified

As a result of performing the above, we identified the following areas as key audit matters. The key audit matters section of our report explains the matter in more detail and also describes the specific procedures we performed in response to that key audit matter:

- valuation of Unquoted investments relating to joint ventures (iQ) and controlled, unconsolidated subsidiary investments (Premier Marinas, Farmcare) including realised and unrealised gains/losses related to these investments;
- valuation of Unquoted investments relating to unquoted direct investments and private equity funds, including realised and unrealised gains/losses related to these investments; and
- data breach arising from targeted phishing attack.

In addition to the above, our procedures to respond to risks identified included the following:

- reviewing the financial statement disclosures and testing to supporting documentation to assess compliance with relevant laws and regulations discussed above;
- enquiring of management, the audit and risk committee and in-house legal counsel concerning actual and potential litigation and claims;
- performing analytical procedures to identify any unusual or unexpected relationships that may indicate risks of material misstatement due to fraud;
- reading minutes of meetings of those charged with governance and reviewing internal audit reports;
- in addressing the risk of fraud through management override of controls, testing the appropriateness of journal entries and other adjustments; assessing whether the judgements made in making accounting estimates are indicative of a potential bias; and evaluating the business rationale of any significant transactions that are unusual or outside the normal course of business.

We also communicated relevant identified laws and regulations and potential fraud risks to all engagement team members including internal specialists and significant component audit teams, and remained alert to any indications of fraud or non-compliance with laws and regulations throughout the audit.

Report on other legal and regulatory requirements

Matters on which we are required to report by exception

Adequacy of explanations received and accounting records

Under the Charities (Accounts and Reports) Regulations 2008 we are required to report in respect of the following matters if, in our opinion:

- sufficient accounting records have not been kept; or
- the financial statements are not in agreement with the accounting records and returns; or
- we have not received all the information and explanations we require for our audit.

We have nothing to report in respect of these matters.

Consistency of the Trustees' Report with the Financial Statements

Under the Charities (Accounts and Reports) Regulations 2008 we are required to report to you if, in our opinion the information given in the Trustee's Report is inconsistent in any material respect with the Financial Statements

We have nothing to report in respect of this matter.

Other matters

Auditor tenure

Following the recommendation of the Audit and Risk Committee we were appointed by the Trust at its Board of Governor's meeting on 14 December 2015 to audit the financial statements of the Trust for the period ending 30 September 2016 and subsequent financial periods.

Our total uninterrupted period of engagement is 3 years, covering periods from our appointment through to the period ending 30 September 2018.

Consistency of the audit report with the additional report to the Audit and Risk Committee

Our audit opinion is consistent with the additional report to the Audit and Risk Committee we are required to provide in accordance with ISAs (UK).

Use of our report

This report is made solely to the charity's trustees, as a body, in accordance with Part 4 of the Charities (Accounts and Reports) Regulations 2008. Our audit work has been undertaken so that we might state to the charity's trustees those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the charity and the charity's trustees as a body, for our audit work, for this report, or for the opinions we have formed.

The engagement partner on the audit resulting in this independent auditor's report is Terri Fielding.

Deloitte LLP
Statutory Auditor
London
17 December 2018

Deloitte LLP is eligible for appointment as auditor for the charity by virtue of its eligibility for appointment as audit of a company under section 1212 of the Companies Act 2006.

Financial statements

At the Wellcome Centre for Human Genetics in Oxford, researchers working on all kinds of projects use human cell samples. These cells need to be preserved so that they can be used for years to come, so they stored cryogenically in liquid nitrogen, with temperatures reaching as low as -210ºC.

Consolidated Statement of Financial Activities

for the year ended 30 September 2018

	Note £m	Restricted funds £m	Unrestricted funds £m	**2018 £m**	Restricted funds £m	Unrestricted funds £m	2017 £m
Income from investments							
Dividends and interest	3	-	402.4	**402.4**	-	348.0	348.0
Rental income		-	37.0	**37.0**	-	37.4	37.4
Other income		-	-	**-**	-	0.9	0.9
		-	439.4	**439.4**	-	386.3	386.3
Charitable income							
Grants receivable	4(a)	19.8	-	**19.8**	21.9	-	21.9
Other charitable income	4(b)	-	25.6	**25.6**	11.6	5.5	17.1
Total income		19.8	465.0	**484.8**	33.5	391.8	425.3
Expenditure on raising funds							
Management fees and other investment costs	5(a)	-	(71.2)	**(71.2)**	-	(86.1)	(86.1)
Interest payable on bond liability		-	(71.9)	**(71.9)**	-	(59.7)	(59.7)
Expenditure on charitable activities	6	(13.8)	(624.3)	**(638.1)**	(20.6)	(1,113.8)	(1,134.4)
Total expenditure		(13.8)	(767.4)	**(781.2)**	(20.6)	(1,259.6)	(1,280.2)
Net realised and unrealised gains on investments	15(f)	-	2,589.3	**2,589.3**	-	2,797.5	2,797.5
Realised gain on disposal of subsidiary	21	-	-	**-**	-	124.8	124.8
Realised and unrealised gains on mixed motive investments	15(d)	-	25.8	**25.8**	-	137.9	137.9
Net income before taxation		6.0	2,312.7	**2,318.7**	12.9	2,192.4	2,205.3
Taxation	13	-	(52.2)	**(52.2)**	-	(44.8)	(44.8)
Net income after taxation		6.0	2,260.5	**2,266.5**	12.9	2,147.6	2,160.5
Actuarial gains/(losses) on defined benefit pension schemes	11(e)(iii)	-	56.6	**56.6**	-	154.3	154.3
Net movement in funds		6.0	2,317.1	**2,323.1**	12.9	2,301.9	2,314.8
Funds at start of year	20	26.2	21,850.8	**21,877.0**	13.3	19,548.3	19,561.6
Non-controlling interests		-	-	**-**	-	0.6	0.6
Funds at end of year	20	32.2	24,167.9	**24,200.1**	26.2	21,850.8	21,877.0

There are no gains or losses apart from those recognised above. All income is derived from continuing activities.

An analysis of the movement of Funds in 2018 is shown in note 20.

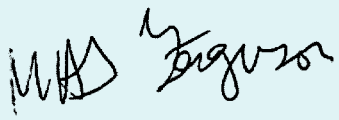
Consolidated Balance Sheet

as at 30 September 2018

	Note	2018 £m	2017 £m
Tangible fixed assets	14(a)	**430.6**	435.0
Investment assets			
Quoted investments	15(a)	**14,919.7**	13,147.8
Unquoted investments	15(a)	**10,988.6**	9,611.4
Investment properties	15(a)	**1,352.3**	1,390.5
Derivative financial instruments	15(b)	**45.7**	178.6
Investment cash and certificates of deposit	15(c)	**1,156.4**	946.7
Other investment assets	15(c)	**204.5**	445.4
Social investments			
Mixed motive investments	15(d)	**-**	457.2
Programme related investments	15(e)	**17.5**	6.4
Total Fixed Assets		**29,115.3**	26,619.0
Current assets			
Stock		**6.2**	2.2
Debtors	16	**27.3**	36.7
Cash at bank and in hand		**23.7**	15.7
Total Current Assets		**57.2**	54.6
Creditors falling due within one year	17	**(718.9)**	(1,181.8)
Net current liabilities		**(661.7)**	(1,127.2)
Total assets less current liabilities		**28,453.6**	25,491.8
Creditors falling due after one year	17	**(3,859.4)**	(3,247.9)
Provision for liabilities and charges	18	**(191.9)**	(119.0)
Net assets excluding pension deficits		**24,402.3**	22,124.9
Defined benefit pension schemes' deficits	11(e)(iv)	**(202.2)**	(247.9)
Net assets including pension deficits		**24,200.1**	21,877.0
Funds of the charity			
Restricted Funds	20	**32.2**	26.2
Unrestricted Funds	20	**24,167.9**	21,850.8
Total Funds		**24,200.1**	21,877.0

The Financial Statements on pages 59-115 were approved and authorised for issue by The Wellcome Trust Limited, as Trustee, on 17 December 2018 and signed on its behalf by:

Baroness Manningham-Buller
Chair



Professor Michael Ferguson
Deputy Chair

Statement of Financial Activities of the Trust

for the year ended 30 September 2018

	Note	2018 £m	2017 £m
Income from investments			
Dividends and interest	3	**383.0**	323.2
Rental income		**36.6**	34.8
		419.6	358.0
Charitable income			
Other charitable income	4(b)	**85.6**	11.9
Total income		**505.2**	369.9
Expenditure on raising funds			
Management fees and other investment costs	5(a)	**(69.6)**	(70.7)
Interest payable to group undertakings		**(29.8)**	(27.1)
Interest payable on bond liability		**(32.7)**	(20.4)
Expenditure on charitable activities	6	**(602.0)**	(1090.3)
Total expenditure		**(734.1)**	(1,208.5)
Net realised and unrealised gains on investments	15(f)	**2,456.9**	2,928.8
Net income		**2,228.0**	2,090.2
Actuarial gains/(losses) on defined benefit pension schemes	11(e)(iii)	**30.2**	75.6
Net movement in funds		**2,258.2**	2,165.8
Funds at start of year		**21,771.9**	19,606.1
Funds at end of year		**24,030.1**	21,771.9

There are no gains or losses apart from those recognised above. All income is derived from continuing activities.
All funds are unrestricted.

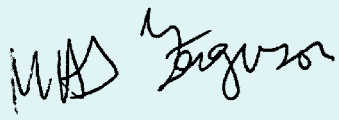
Balance Sheet of the Trust

as at 30 September 2018

	Note	2018 £m	2017 £m
Tangible fixed assets	14(b)	**224.1**	230.9
Investment assets			
Quoted investments	15(a)	**13,581.2**	12,505.7
Unquoted investments	15(a)	**9,716.5**	8,551.8
Investment properties	15(a)	**1,198.1**	1,229.3
Derivative financial instruments	15(b)	**45.6**	178.6
Investment cash and certificates of deposit	15(c)	**1,156.4**	946.6
Other investment assets	15(c)	**195.9**	439.2
Subsidiary and other undertakings		**2,637.0**	2,332.9
Social investments			
Programme related investments	15(e)	**17.5**	6.4
Total Fixed Assets		**28,772.3**	26,421.4
Current assets			
Debtors	16	**8.6**	13.6
Cash at bank and in hand		**19.0**	8.7
Total Current Assets		**27.6**	22.3
Creditors falling due within one year	17	**(1,599.7)**	(2,092.3)
Net current liabilities		**(1,572.1)**	(2,070.0)
Total assets less current liabilities		**27,200.2**	24,351.4
Creditors falling due after one year	17	**(3,022.0)**	(2,413.3)
Provision for liabilities and charges	18	**(59.8)**	(53.3)
Net assets excluding pension deficit		**24,118.4**	21,884.8
Defined benefit pension scheme's deficit	11(e)(iv)	**(88.3)**	(112.9)
Net assets including pension deficit		**24,030.1**	21,771.9
Funds of the charity			
Unrestricted Funds		**24,030.1**	21,771.9
Total Funds		**24,030.1**	21,771.9

The Financial Statements on pages 59-115 were approved and authorised for issue by The Wellcome Trust Limited, as Trustee, on 17 December 2018 and signed on its behalf by:

Baroness Manningham-Buller
Chair



Professor Michael Ferguson
Deputy Chair

Consolidated Cash Flow Statement

for the year ended 30 September 2018

	Note	2018 £m	2017 £m
Net income for the year (as per the Statement of financial activities)		**2,323.1**	2,314.8
Adjustments to exclude non-cash items and investment income and expenditure			
Decrease/(increase) in debtors		**9.4**	(14.5)
Decrease/(increase) in stock		**(4.0)**	-
Decrease in intangible assets		**-**	10.5
(Decrease)/increase in grant commitments		**(232.1)**	278.6
Decrease in creditors and provisions		**(3.8)**	(75.1)
Less unrealised gains on Programme Related Investments	15 (e)	**(6.2)**	(1.3)
Increase in Net Write Down for Programme Related Investments	15 (e)	**12.4**	22.9
Increase in other investment debtors		**36.2**	19.2
Depreciation and Disposals of Fixed Assets		**23.9**	29.6
Investment income		**(439.4)**	(386.3)
Bond interest		**71.9**	59.7
Net realised and unrealised gains on investments		**(2,600.2)**	(2,797.5)
Non cash sale proceeds on disposal of subsidiary	21	**-**	(176.9)
Unrealised gain on mixed motive investments	15(d)	**(25.8)**	(137.9)
Net cash flows from operating activities		**(834.6)**	(854.3)
Cash flows from investing activities:			
Investment income received	23(a)	**439.2**	386.2
Proceeds from sales of investment assets	23(c)	**5,403.7**	4,906.4
Purchase of investment assets	23(c)	**(5,552.2)**	(4,417.1)
Purchase of tangible fixed assets	14(a)	**(19.5)**	(15.5)
Net cash inflow upon settlement of derivative financial instruments	23(c)	**97.0**	49.5
Net cash flows from investing activities		**368.2**	909.5
Cash flows from financing activities:			
Cash outflow for servicing of finance	23(b)	**686.5**	(58.4)
Net cash flows from financing activities		**686.5**	(58.4)
Change in cash and cash equivalents during the year		**220.2**	(3.2)
Cash and cash equivalents at the beginning of the year		**962.5**	973.0
Change in cash and cash equivalents due to exchange rate movements		**(2.5)**	(7.3)
Cash and cash equivalents at the end of the year		**1,180.2**	962.5

Certain line items have been reclassified in the current year to more accurately present the underlying cash flows and this has also been reflected in the comparative figures.

Cash and cash equivalents include cash at bank and in hand, and investment cash and certificates of deposits.

A statement of net debt is included in note 23(d).

Notes to the Financial Statements

1. Accounting policies

(a) Statement of compliance

The Financial Statements of the Wellcome Trust (the "Trust") and the consolidated Financial Statements of the Trust and its subsidiary undertakings (the "Group") have been prepared on a going concern basis and in accordance with applicable UK accounting standards (UK Generally Accepted Accounting Practice), including Financial Reporting Standard 102 'The Financial Reporting Standard applicable in the United Kingdom and the Republic of Ireland' ("FRS 102"). In particular, they comply with the Charities Act 2011, the Charities (Accounts and Reports) Regulations 2008 and the Statement of Recommended Practice 'Accounting and Reporting by Charities' published in 2015 (the "SORP") in all material respects with the exception of the valuation of certain joint ventures and associates as detailed under the Basis of Consolidation below.

Wellcome Trust meets the definition of a public benefit entity under FRS 102. The Financial Statements have been prepared under the historical cost convention, as modified by the revaluation of investments on a basis consistent with prior years.

The functional currency of the Trust is considered to be Pounds Sterling because that is the currency of the primary economic environment in which the Trust operates. The consolidated Financial Statements are also presented in Pounds Sterling.

Wellcome Trust meets the definition of a qualifying entity under the SORP and has therefore taken advantage of the disclosure exemptions available to it in respect of its separate Financial Statements, which are presented alongside the consolidated Financial Statements. Exemptions have been taken in relation to financial instruments and the presentation of a Cash Flow Statement.

(b) Summary of significant accounting policies

The principal accounting policies applied in the preparation of these consolidated and separate Financial Statements are set out below. These policies have been consistently applied to all years presented, unless otherwise stated.

Basis of preparation

The preparation of Financial Statements in conformity with FRS 102 requires the use of certain significant accounting estimates. It also requires management to exercise its judgement in the process of applying the Group's accounting policies. The areas involving a higher degree of judgement or complexity, or areas where assumptions and estimates are significant to the Financial Statements are disclosed in note 2.

Basis of consolidation

The consolidated Financial Statements include the Financial Statements of the Trust and its subsidiary undertakings together with the Group's share of the results of associates and joint ventures (other than those included as part of the investment portfolio discussed below) made up to 30 September. Subsidiary undertakings are entities over which the Trust has control. Control is the power to govern the financial and operating policies of an entity so as to obtain benefits from its activities. When the Group owns less than 50% of the voting powers of an entity, but controls the entity by virtue of an agreement with other investors that gives it control of the financial and operating policies, it accounts for these as subsidiaries. The Financial Statements of subsidiaries are included from the date that control commences until the date that it ceases.

The Trust consolidates four types of subsidiary undertakings:

(i) charitable subsidiary undertakings formed to pursue charitable objects closely allied to those of the Trust;

(ii) non-charitable operating subsidiary undertakings to conduct non-primary purpose trading;

(iii) a non-charitable financing subsidiary undertaking formed to issue listed debt to finance Group activities; and

(iv) non-charitable investment subsidiary undertakings formed to hold investments and freehold property on behalf of the Trust.

A subsidiary is excluded from consolidation where the interest in the subsidiary is held as part of the investment portfolio and its value to the Group is through fair value rather than as the medium through which the Group carries out business and where it has not previously been consolidated in the consolidated Financial Statements under FRS 102.

These subsidiaries are included at fair value within investments in accordance with 9.9B(a) of FRS 102.

Further detail on the Trust's significant subsidiary undertakings is provided in note 22.

A joint venture is a contractual arrangement whereby the Group and one or more parties undertake an economic activity that is subject to joint control. The Group considers that it has joint control where there is contractually agreed sharing of control over an economic activity, and exists only when the strategic, financial and operating decisions relating to the activity require the unanimous consent of the parties sharing control. The results of the joint ventures are accounted for using the equity method of accounting unless the entity is held as part of the investment portfolio or as a Social Investment as discussed below.

An associate is an entity, being neither a subsidiary nor a joint venture, in which the Group holds a long-term interest and has significant influence. The Group considers it has significant influence where it has the power to participate in the financial and operating decisions of the associate. The results of the associate are accounted for using the equity method of accounting unless the entity is held as part of the investment portfolio or as a Social Investment as discussed below and on page 69.

Where an associate or joint venture is held as part of the investment portfolio or as a Mixed Motive Investment and its value to the Group is through fair value rather than as medium through which the Group carries out business, the associate or joint venture is measured at fair value with changes in fair value recognised in profit or loss (Statement of Financial Activities) in the consolidated Financial Statements in accordance with 14.4B or 15.9B of FRS 102. The fair value is determined in accordance with the accounting policies for Financial Assets and Liabilities detailed on pages 68-69. This is a departure from the SORP which requires that all such investments are accounted for using the equity method of accounting. The fair value of the associates and joint ventures held in the investment portfolio is included in Unquoted investments in note 15(a). The value of the Mixed Motive investment, which has been reclassified to quoted investments during the year, is shown in note 15(d).

All intra-group transactions, balances, income and expenses are eliminated on consolidation of subsidiaries. Adjustments are made to eliminate the profit or loss arising on transactions with joint ventures or associates to the extent of the Group's interest in the entity. Where subsidiaries, joint ventures and associates are held as part of the investment portfolio or as a Social Investment and measured at fair value, no elimination of intra-group items is undertaken.

Income

The Group recognises income at the fair value of the consideration received or receivable when the significant risks and rewards of ownership have been transferred, the amount of revenue can be measured reliably, it is probable that future economic benefits will flow to the Group and when the specific criteria relating to the each of Group's income channels have been met, as described below. All amounts are net of discounts and rebates allowed and value added taxes if applicable.

Dividend income including any recoverable tax is recognised from the ex-dividend date when it becomes receivable.

Rental income is recognised on an accruals basis, and is recognised on a straight line basis unless there is compelling evidence that benefits do not accrue evenly over the period of the lease.

Interest income is recognised using the effective rate of interest.

Other investment income is recognised when the significant risks and rewards of ownership have been transferred and the amounts can be reliably estimated.

Charitable income for performance-related grants is recognised when the expenditure is incurred as this reflects the service levels. Income for non-performance-related grants is recognised when awarded as this represents entitlement. Capital grants with no performance related conditions are recognised when the charity is entitled, the receipt is probable and the amount is measurable which is when the award letter is received. Any receipts that do not meet these criteria are held as deferred income.

Gift aid income is recognised on an accruals basis when the receipt is both probable and measurable.

Expenditure

Expenditure and liabilities are recognised as soon as there is a legal or constructive obligation committing the Group to that expenditure, it is probable that settlement will be required and the amount of the obligation can be measured reliably. All expenditure is recognised on an accruals basis, with the exception of grants as noted below.

Expenditure on raising funds relates to the management of the investment portfolio and includes the allocation of support costs relating to this activity.

Expenditure on charitable activities is analysed between grant funding and the cost of activities performed directly by the Trust and the Group together with the associated support costs, including governance costs. Governance costs are the costs of governance arrangements that relate to the general running of the Group as opposed to those costs associated with investments or charitable activities. These costs include such items as internal and external audit, legal advice for Governors and costs associated with constitutional and statutory requirements.

Where possible, expenditure incurred that relates to more than one activity is apportioned. The method of apportionment uses the most appropriate basis for each cost type.

Grants awarded to institutions outside the Group are recognised as expenditure in the year in which the grant is formally approved by the Trust and has been communicated to the recipient, except to the extent that it is subject to conditions that enable the Trust to revoke the award.

The provision for multi-year grants is recognised at its present value where settlement is due over more than one year from the date of the award, there are no unfulfilled performance conditions under the control of the Trust that would permit it to avoid making the future payments, settlement is probable and the effect of the discounting is material. The discount rate used is regarded by the Board of Governors as the most current available estimate of the opportunity cost of money and is based on the expected real rate of return on the investment portfolio. The impact of the discount rate is discussed in note 2 (significant accounting estimates and assumptions).

Research expenditure is written off in the Statement of Financial Activities in the year in which it is incurred and is included in Expenditure on Charitable Activities.

Employee benefits

The Group provides a range of benefits to employees, including annual bonus arrangements, long-term incentive plans, paid holiday arrangements and defined benefit and defined contribution pension plan. These are detailed in the Remuneration Report on page 42.

Short term benefits
Short term benefits, including private medical insurance, medical assessments and group income protection are recognised as an expense in the period in which the service is received.

Pension schemes
The Group pension arrangements are detailed in note 11(e).

The contributions to defined contribution plans are recognised as an expense when they are due. Amounts not paid are shown in accruals in the balance sheet. The assets of the plan are held separately from the Group in independently administered funds.

The liability recognised in the balance sheet in respect of a defined benefit plan is the present value of the defined benefit obligation at the end of the reporting date less the fair value of plan assets at the reporting date. Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited to "Actuarial gains and losses on defined benefit pension schemes" in the Statement of Financial Activities.

The cost of the defined benefit plans, recognised in charitable expenditure as employee costs comprises:

(a) the increase in pension benefit liability arising from employee service during the period; and

(b) the cost of plan introductions, benefit changes, curtailments, settlements, and administration expenses.

Other retirement benefits are included within provisions and are valued at the present value of the defined benefit obligation at the end of the reporting date.

Annual bonus plan
An expense is recognised in the Statement of Financial Activities when the Group has a legal or constructive obligation to make payments under the plan as a result of past events and a reliable estimate of the obligation can be made.

Long-term incentive plans
The cost is recognised in the Statement of Financial Activities over the period of service to which the plan relates. Where amounts are left in the plan after vesting date, any adjustment in value between the date of vesting and the date of payment is recognised in the Statement of Financial Activities.

Termination benefits
Termination benefits are payable when employment is terminated by the Group, or whenever an employee accepts voluntary redundancy in exchange for these benefits. The Group recognises termination benefits when it is demonstrably committed to either (i) terminating the employment of current employees according to a detailed formal plan without possibility of withdrawal or (ii) providing termination benefits as a result of an offer of voluntary redundancy.

Fund accounting

The Group's charitable funds consist of restricted funds, held in Genome Research Limited, and unrestricted funds.

Tangible fixed assets

Tangible fixed assets, excluding land and investment properties, held by the Group and the Trust are stated at cost less accumulated depreciation and any accumulated impairment losses. Land is stated at cost less any accumulated impairment losses. Cost includes the original purchase price and costs directly attributable to bringing the asset to its working condition for its intended use. Fixed assets are subject to review for impairment when there is an indication of a reduction in their carrying value. They are reviewed annually and any impairment is recognised in the year in which it occurs.

Assets in the course of construction are stated at cost and are not depreciated until available for use.

Depreciation is calculated using the straight-line method to allocate the cost of each asset less its residual value over its estimated useful life. Residual value represents the estimated amount that would currently be obtained from disposal of an asset, after deducting estimated costs of disposal if the asset were already of the age and in the condition expected at the end of its useful life. Depreciation commences from the date an asset is brought into service.

The useful lives for depreciation purposes for the principal categories of assets are shown in Table 1.

Table 1

	Years
Buildings	50
Leasehold Land and Buildings	Over the term of the lease
Other Plant and Equipment. Fixtures and fittings	3 to 15
Computer Equipment	3 to 5

Heritage assets
The Trustee does not consider that reliable cost or valuation information can be obtained for the vast majority of heritage assets held by the Trust. This is because of the diverse and specialist nature of the assets held, the number of assets held and the lack of comparable market values. The cost of valuing the entire collection would be onerous compared with the benefit derived by users of the Financial Statements in assessing the Trustee's stewardship of the assets. Assets are recognised on the Balance Sheet if they meet the definition of a heritage asset, their value can be reliably measured and they are considered to be material. Further details are provided in note 14.

Leased assets
Where assets are financed by leasing agreements that give rights to the lessee approximating to ownership (finance leases) the assets are treated as if they had been purchased outright by the lessee. The amount capitalised is the present value of the minimum lease payments payable during the lease term. The corresponding lease commitments are shown as obligations to the lessor. Interest is charged over the duration of the lease in proportion to the balance outstanding. Depreciation on the relevant assets and interest on the lease are charged to the Statement of Financial Activities. The annual rentals for operating leases are charged to the Statement of Financial Activities on a straight-line basis over the lease term.

Financial assets and liabilities

The Group has chosen to adopt Sections 11 and 12 of FRS 102 in respect of financial instruments. Financial assets and financial liabilities are recognised when the Group becomes a party to the contractual provisions of the instrument.

Financial assets which qualify as basic financial instruments as laid out in FRS 102 paragraph 11.8, including trade and other receivables and cash and bank balances, are subsequently valued at amortised cost and assessed for impairment at the end of each reporting period.

Other financial assets, including investments, are subsequently valued at fair value.

Financial liabilities and equity instruments are classified according to the substance of the contractual arrangements entered into. All financial assets and liabilities are initially measured at transaction price (including transaction costs), except for those financial assets classified as at fair value through profit or loss, which are initially measured at fair value (normally the transaction price excluding transaction costs), unless the arrangement constitutes a financing transaction. If an arrangement constitutes a financing transaction, the financial asset or financial liability is measured at the present value of the future payments discounted at a market rate of interest for a similar debt instrument.

Financial assets and liabilities are only offset in the Balance Sheet when there exists a legally enforceable right to set off the recognised amounts and the Group intends either to settle on a net basis, or to realise the asset and settle the liability simultaneously.

Financial assets are derecognised only when (a) the contractual rights to the cash flows from the financial asset expire or are settled, (b) the Group transfers to another party substantially all of the risks and rewards of ownership of the financial asset, or (c) the Group, despite having retained some, but not all, significant risks and rewards of ownership, has transferred control of the asset to another party.

Financial liabilities are derecognised only when the obligation specified in the contract is discharged, cancelled or expires.

Investment valuation policies and procedures are reviewed by the Valuation Group which is responsible for valuation decisions. Specific policies are detailed below and the detail of the application of these policies is disclosed in the relevant note to the accounts where appropriate.

(i) Quoted investments
Quoted investments comprise publicly quoted, listed securities including shares, bonds and units. Quoted investments are stated at fair value at the balance sheet date. The basis of fair value for quoted investments is equivalent to the market value, using the bid-price. Asset sales and purchases are recognised at the date of trade.

(ii) Unquoted investments
Unquoted investments are valued at management's best estimate of fair value. Further details are provided in note 2 (Significant accounting judgements and key sources of estimation uncertainty).

(iii) Derivative financial instruments

Derivative financial instruments are used as part of the Group's portfolio risk management and as part of the Group's portfolio management and investment return seeking strategy. The Group's use of derivative financial instruments includes equity index-linked futures and options, commodities futures and options, options on individual equities, warrants and currency forwards.

The Group's exchange traded options are stated at fair value, equivalent to the market value, using the bid price, on the relevant exchange. Long-term linked currency forwards are stated at management's estimate of fair value, using the market value of a transactions with equivalent cash flows and market observable forward rates.

The Group's warrants are held at the fair value determined by management. These will generally reflect the valuations used by the Group's co-invest partners where these exist and where there is confidence in their approach. Valuations will generally be intrinsic value, as the best estimate of fair value, but for some warrant holdings the use of a Black-Scholes valuation methodology will be used by management.

The fair value of contract positions is recognised in the Balance Sheet and gains and losses on the contracts are recognised in the Statement of Financial Activities.

(iv) Investment cash and certificates of deposit, other investment assets and other investment liabilities

Investment cash and certificates of deposit, and debtors and creditors arising as part of the investment portfolio are stated at their fair value.

(v) Bond liabilities

Bond liabilities are measured at amortised cost using the effective interest rate method. Initial amortised cost is equal to the proceeds of issue net of transaction costs directly attributable. Transaction costs form part of the effective interest rate and are recognised in the Statement of Financial Activities over the term of the Bonds. The fair value of the Bonds disclosed within the notes to the Financial Statements is the market value of the Bonds at the year end date. The Group is not required to, and therefore does not, recognise any adjustment to fair value in the Balance Sheet and the Statement of Financial Activities.

Investment properties

Investment properties for which fair value can be measured reliably on an ongoing basis are measured at fair value annually with any change recognised in the Statement of Financial Activities. The fair values are based on valuations estimated by third party professional valuers; however, where properties are acquired close to the balance sheet date, valuations are not obtained because the acquired properties are recorded at open market value upon initial recognition, which management considers to be a reasonable estimate of open market value at the balance sheet date. Property transactions are recognised on the date of completion.

Investments in subsidiaries

Subsidiary undertakings established purely to hold investments are included in the Trust's Balance Sheet at their net asset value, which represents the fair value of their underlying net assets.

Securities lending programme

The Group undertakes securities lending arrangements whereby securities are loaned to external counterparties for a set period of time ("the loan period"). The Group receives cash collateral of greater value than the securities loaned from each counterparty for the duration of the loan period and receives a share of the interest earned on the cash collateral held. Under the terms of the securities lending agreements, the Group retains substantially all the risks and rewards of ownership of the loaned securities, and the contractual rights to any cash flows relating to the securities. The loaned securities are not derecognised on the Group's and Trust's Balance Sheets. The cash collateral and the obligation to return the cash collateral to the lender are recognised in the Group's and Trust's Balance Sheets.

Social investments

Mixed motive investments

These are valued at fair value. For a listed entity, this value represents the bid price of the shares in the market in which it is listed. Where a decision is taken that a mixed motive investment should be held to generate a financial return and not in part to further the objects of the charity, it will be transferred to the main investment portfolio and measured accordingly. These are discussed in note 15(d).

Programme related investments

Programme related investments are made directly by the charitable divisions in pursuit of the Trust's charitable aims and although they may generate a financial return, the primary motivation is to further the objects of the charity. They are held at fair value, if this can be measured reliably; or if fair value cannot be measured reliably, at cost less impairment. Where a decision is taken that a programme related investment should be held to generate a financial return and that the primary motivation for holding it is no longer to further the objects of the charity, it will be transferred to the main investment portfolio and measured accordingly. These are discussed in note 15(e).

Stock

Stock consists of consumables and goods for sale and is stated at the lower of cost and estimated selling price less costs to complete and sell, which is equivalent to the net realisable value. Cost is determined on a first-in-first-out basis. Where necessary, provision is made for obsolete, slow moving and defective stock.

Provisions and contingencies

Provisions

Provisions are recognised when the Group has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required to settle the obligation and the amount has been reliably estimated. Provisions are discounted to present value where the effect is material.

Contingencies

Contingent liabilities are potential future cash outflows, where the likelihood of payment is considered more than remote, but is not considered probable or cannot be measured reliably. These are not recognised but are disclosed in the Financial Statements.

Contingent assets are not recognised. Contingent assets are potential future inflows of economic benefits where the likelihood of receipt is considered more than remote, but is not considered probable or cannot be measured reliably. These are not recognised but are disclosed in the Financial Statements.

Foreign currencies

Transactions denominated in foreign currencies are translated into Pounds Sterling at the exchange rates ruling at the date of transaction. Monetary assets and liabilities denominated in foreign currencies are translated into Pounds Sterling at the rate ruling at the balance sheet date. All foreign exchange gains and losses, realised and unrealised, are recognised in the Statement of Financial Activities.

Taxation

The charitable members of the Group are exempt from taxation on their income and gains falling within Part 11 of the Corporation Tax Act 2010 or section 256 of the Taxation of Chargeable Gains Act 1992 to the extent that they are applied to their charitable purposes.

The non-charitable subsidiaries, although subject to taxation, do not pay UK Corporation Tax because their policy is to donate taxable profits as Gift Aid to the Wellcome Trust. Foreign tax incurred on overseas investments is charged as it is incurred. In common with many other charities, the charitable members of the Group are unable to recover the majority of Value Added Tax ("VAT") incurred on expenditure. The amount of VAT that cannot be recovered is included within the underlying cost to which it relates.

Current tax, including UK corporation tax and foreign tax, is provided at amounts expected to be paid (or recovered) using the tax rates and laws that have been enacted or substantively enacted by the balance sheet date.

Deferred tax is recognised in respect of all timing differences that have originated but not reversed at the balance sheet date. Timing differences are differences between the taxable profits and results as stated in the Financial Statements.

Unrelieved tax losses and other deferred tax assets are recognised only to the extent that, on the basis of all available evidence, it can be regarded as more likely than not that there will be suitable taxable profits from which the future reversal of the underlying timing differences can be deducted.

Deferred tax is recognised on fair market value adjustments of investment subsidiaries even though the subsidiaries will be able to donate the profits from the future realisation of the underlying assets so that no current tax charge will arise.

Deferred tax is measured using the tax rates and laws that have been enacted or substantively enacted by the balance sheet date that are expected to apply to the reversal of the timing difference.

2. Significant accounting judgements and key sources of estimation uncertainty

Estimates and judgements are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances.

Significant judgements in applying the Group's accounting policies

Judgement is required in valuing the items listed below. Subject to review and challenge by management, this is primarilu in the form of judgement applied by third parties. Where management applies further judgement this is detailed below. There are no items where the amount of judgement is considered to be critical:

A. Fair value measurement and valuation processes
Some of the Group's assets and liabilities are measured at fair value for financial reporting purposes. The Group applies judgement in selecting the appropriate valuation techniques for calculating the fair value for reporting purposes.

Unquoted investments
Management's judgement is required in valuing the items listed below. This is supported by information supplied by third parties which is reviewed and challenged. There are no items where the amount of judgement is considered to be critical:

(i) Private equity, venture and property funds
– Value at 30 September 2018: £5,847 million
These funds are valued externally by their fund managers and the controls operating at the underlying funds are carefully considered. In exceptional cases where management is not satisfied with the robustness of these external valuations, these funds are internally valued, and then certain judgements are required relating to the probability of future distributions from the funds.

(ii) Direct investments
– Value at 30 September 2018: £1,133 million
The majority of these are made with co-investors (who are funds within our private equity, venture and property funds portfolio discussed above) and the co-investor valuation is used to determine the fair value. Where there is no co-investor, these investments are internally valued, generally using the price of recent investment.

(iii) Investment properties
– Value at 30 September 2018: £1,352 million
These are valued based on external valuers employing RICS valuation methodology who are required to apply a moderate amount of judgement.

(iv) Investment operating subsidiaries and joint ventures
– Value at 30 September 2018: £1,046 million
As noted in the Basis of Consolidation on page 65, certain subsidiaries and joint ventures and associates are excluded from consolidation where the interest in the entity is held as part of the investment portfolio. Rather than holding these entities to carry out business, they are held and measured on a fair value basis. The most significant item is property, which is valued using external valuers employing RICS valuation methodology.

B. Grant liabilities
– Value at 30 September 2018: £2,010 million
The initial liability recognised is based on actual amounts awarded, but as the awards are paid out over a number of years non-current liabilities (refer to notes 6 & 8) are discounted based on expected future cash outflows. Internal judgement is required in selecting the appropriate discount rate as well as determining when the liability will be called down as a claim to be paid.

C. Defined benefit pension scheme liabilities
– Value at 30 September 2018: £747 million
The valuations are based on a model provided by external qualified actuaries who exercise a judgement in determining the actuarial assumptions required by FRS 102. Internal judgement is applied by management in agreeing the appropriate corporate bond and inflation rate curves to use.

Significant accounting estimates and assumptions

The Group makes estimates and assumptions to produce the Financial Statements. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are addressed below.

A. Defined benefit pension scheme

Management is required to apply appropriate assumptions to estimate the discount rate and rate of inflation used for the calculation of the pension scheme liabilities.

A sensitivity analysis is provided below:

Estimate	Change in estimate	Impact on pension liabilities
Discount rate	Increase/decrease of 0.5% p.a.	Decrease/increase by £96.1 million (13.2%)
Rate of inflation	Increase/decrease of 0.5% p.a.	Increase/decrease by £67.0 million (9.2%)

For further details, refer to note 11.

B. Grant liabilities

The initial liability recognised is based on actual amounts awarded but as the awards are paid out over a number of years, this value is discounted based on expected future cash outflows.

The rate applied to discount the grant liabilities payable within more than twelve months requires an estimate of the opportunity cost of income from investments foregone by the Group.

A sensitivity analysis is provided below:

Estimate	Change in estimate	Impact on grant liabilities
Rate used to discount grant liability	Increase/decrease of 0.5% p.a.	Decrease/increase by £17 million (0.7%)

For further details, refer to note 8.

3. Dividends and interest

	Group		Trust	
	2018 £m	2017 £m	**2018 £m**	2017 £m
Dividends from UK equities	**94.6**	92.1	**89.0**	86.5
Dividends and interest from subsidiaries	**-**	-	**3.9**	-
Dividends from overseas equities	**237.4**	205.6	**219.8**	188.4
Income from unquoted investments	**65.0**	47.1	**64.9**	46.0
Interest from quoted investments	**2.1**	-	**2.1**	-
Interest on cash and cash deposits	**1.4**	0.9	**1.4**	0.8
Securities lending income	**1.9**	2.3	**1.9**	1.5
	402.4	348.0	**383.0**	323.2

Interest from quoted investments relates to the funds held for the purposes of repaying the 2021 bonds detailed in Note 15(a).

4. Other income

(a) Grants receivable

	Group		Trust	
	2018 £m	2017 £m	**2018 £m**	2017 £m
	19.8	21.9	**-**	-

Grants receivable mainly represents awards to the Trust's subsidiary undertaking Genome Research Limited by other funders, notably government grants of £5.6 million (2017: £7.2 million). Income on these grants is recognised in line with the accounting policy for charitable income.

(b) Other charitable income

	Group		Trust	
	2018 £m	2017 £m	**2018 £m**	2017 £m
	25.6	17.1	**85.6**	11.9

Included in other income above for the Trust are Gift Aid donations, which are equal to the estimated taxable profit of each subsidiary undertaking listed below, totalling £73.1 million (2017: £8.2 million). The level of these donations is driven by the gains and losses generated in each individual entity. Details of significant group undertakings are given in note 22.

	2018 £m	2017 £m
Wellcome Trust Trading Limited	**0.9**	0.8
Wellcome Trust Finance plc	**3.4**	3.4
Wellcome Trust GP Limited	**-**	0.1
Wellcome Trust Residential 1 Limited	**-**	0.8
Wellcome Trust Residential 2 Limited	**0.1**	0.1
North London Ventures Limited	**68.7**	-
Gower Place Investments Limited	**-**	3.0
	73.1	8.2

5. Management fees and other investment costs

(a) Total investment costs

	Group		Trust	
	2018 £m	2017 £m	**2018 £m**	2017 £m
External investment management fees	**39.4**	41.8	**38.0**	39.7
Internal investment administration	**25.9**	25.7	**25.8**	25.5
Investment support cost allocation	**5.9**	5.6	**5.8**	5.5
Syncona Investment				
Administration	**-**	6.0	**-**	-
Operating Costs	**-**	7.0	**-**	-
	71.2	86.1	**69.6**	70.7

The amount accrued for Long Term Incentive Plans included in the internal investments administration costs above was £11.2 million (2017: £11.3 million). Senior staff in the Investments team receive performance-based remuneration, as noted on page 42, which can give rise to variations in the amount charged to internal investment administration year on year.

The Trust sold its 100% interest in the Syncona Partners LLP (an independent investment subsidiary group focused on the health and biotechnology sectors) in December 2016. Further details are provided in note 21.

The methodology behind the support cost allocation is detailed in note 9.

The bandings disclosures in note 5 show employees working on the investment activities of the Group.

(b) Investment team salary bandings

	Group and Trust	
	2018	2017
£60,000-£69,999	**2**	3
£70,000-£79,999	**3**	2
£80,000-£89,999	**2**	1
£90,000-£99,999	**5**	1
£100,000-£109,999	**1**	3
£110,000-£119,999	**2**	3
£120,000-£129,999	**2**	1
£130,000-£139,999	**-**	1
£140,000-£149,999	**2**	3
£150,000-£159,999	**2**	-
£160,000-£169,999	**1**	-
£170,000-£179,999	**-**	2
£190,000-£199,999	**1**	-
£220,000-£229,999	**2**	1
£270,000-£279,999	**1**	-
£300,000-£309,999	**-**	1
£310,000-£319,999	**1**	-
£320,000-£329,999	**-**	1
£360,000-£369,999	**-**	2
£370,000-£379,999	**1**	-
£420,000-£429,999	**-**	1
£490,000-£499,999	**1**	-
£550,000-£559,999	**1**	-
£750,000-£759,999	**1**	-
£850,000-£859,999	**-**	1
£910,000-£919,999	**-**	1
£1,050,000-£1,059,999	**1**	-
£1,060,000-£1,069,999	**-**	1
£1,100,000-£1,109,999	**1**	-
£1,160,000-£1,169,999	**1**	1
£2,330,000-£2,339,999	**1**	-
£2,470,000-£2,479,999	**-**	1
£2,730,000-£2,739,999	**-**	1
£2,880,000-£2,889,999	**1**	-
£3,170,000-£3,179,999	**1**	-
£3,700,000-£3,709,999	**-**	1
	37	33

The number of employees working within the Investment team whose total benefits (excluding employer pension contributions and employer National Insurance Contributions) fell within the bands as shown in the table above.

(c) Syncona Partners LLP team salary bandings

Syncona Partners LLP was a subsidiary for only 2.5 months of the 2017 financial year. One individual was paid in that period total benefits (excluding employer pensions contributions and employer national insurance contributions) of greater than £60,000, which fell within the £110,000-£119,999 band due to receipt of an additional relocation allowance.

6. Charitable activities

Group	Grant funding £m	Direct £m	Allocated support £m	**Total 2018 £m**
Science	349.5	145.1	50.7	**545.3**
Culture & Society	39.2	33.2	23.5	**95.9**
Innovations	11.8	16.6	6.4	**34.8**
Priority Areas	33.3	8.0	5.6	**46.9**
	433.8	**202.9**	**86.2**	**722.9**
Present value adjustment – discounting of grant liability	(4.6)	-	-	**(4.6)**
Present value adjustment – changes to discounting model assumptions	(80.6)	-	-	**(80.6)**
Foreign exchange revaluation of grant liability	0.4	-	-	**0.4**
Total	**349.0**	**202.9**	**86.2**	**638.1**

Grant funding and direct charitable activities totalled £636.7 million. Support costs related to the grant funding activities of the Group included in the total allocated support costs above are; Science £35.8 million, Culture & Society £12.7 million, Innovations £2.6 million and Priority Areas £4.6 million.

The 2018 spend for Innovations is net of £30.9 million writebacks relating to commitments made in previous years that are no longer required.

The 'present value adjustment – discounting grant liability' is the movement due to grants awarded and grant payments made in year using the current discount model assumptions. The 'present value adjustment – changes in discounting model assumptions' is the movement in the discounting of opening grant liability due to changes in discount model assumptions in year (refer to note 8).

Group	Grant funding £m	Direct £m	Allocated support £m	**Total 2017 £m**
Science	636.4	144.8	50.8	**832.0**
Culture & Society	56.5	31.9	23.3	**111.7**
Innovations	87.7	19.3	9.0	**116.0**
Priority Areas	151.1	4.4	6.2	**161.7**
	931.7	**200.4**	**89.3**	**1,221.4**
Present value adjustment – discounting of grant liability	(28.2)	-	-	**(28.2)**
Present value adjustment – changes to discounting model assumptions	(37.1)			**(37.1)**
Foreign exchange revaluation of grant liability	(21.7)	-	-	**(21.7)**
Total	**844.7**	**200.4**	**89.3**	**1,134.4**

Grant funding and direct charitable activities totalled £1,132.1 million. Support costs related to the grant funding activities of the Group included in the total allocated support costs above are; Science £33.3 million, Culture & Society £15.2 million, Innovations £7.5 million and Priority Areas £6.0 million.

Trust	Grant funding £m	Direct £m	Allocated support £m	**Total 2018 £m**
Science	467.1	11.2	31.8	**510.1**
Culture & Society	39.2	32.3	23.5	**95.0**
Innovations	11.8	16.6	6.4	**34.8**
Priority Areas	33.3	8.0	5.6	**46.9**
	551.4	**68.1**	**67.3**	**686.8**
Present value adjustment – discounting of grant liability	(4.6)	-	-	**(4.6)**
Present value adjustment – changes to discounting model assumptions	(80.6)	-	-	**(80.6)**
Foreign exchange revaluation of grant liability	0.4	-	-	**0.4**
Total	**466.6**	**68.1**	**67.3**	**602.0**

Grant funding and direct charitable activities totalled £619.5 million. Support costs related to the grant funding activities of the Trust included in the total allocated support costs above are; Science £31.0 million, Culture & Society £12.9 million, Innovations £2.6 million, and Priority Areas £4.6 million.

Trust	Grant funding £m	Direct £m	Allocated support £m	**Total 2017 £m**
Science	742.8	12.3	33.8	**788.9**
Culture & Society	56.5	30.9	23.3	**110.7**
Innovations	87.7	19.3	9.0	**116.0**
Priority Areas	151.1	4.4	6.2	**161.7**
	1,038.1	**66.9**	**72.3**	**1,177.3**
Present value adjustment – discounting of grant liability	(28.2)	-	-	**(28.2)**
Present value adjustment – changes to discounting model assumptions	(37.1)			**(37.1)**
Foreign exchange revaluation of grant liability	(21.7)	-	-	**(21.7)**
Total	**951.1**	**66.9**	**72.3**	**1,090.3**

Grant funding and direct charitable activities totalled £1,105.0 million. Support costs related to the grant funding activities of the Trust included in the total allocated support costs above are; Science £33.2 million, Culture & Society £15.4 million, Innovations £7.5 million, and Priority Areas £6.0 million.

7. Grants awarded

Grants are generally awarded to a particular individual, although the actual award is made to the host institution. Small grants may be awarded directly to individuals for the purpose of travel and for public engagement with science.

Grants no longer required relates to unspent amounts of grants awarded in previous years. Supplementations relate to agreed additional research costs for existing grants.

Grants awarded during the year are analysed by organisation in the table below. The reduction in grant expenditure is due to one-off commitments and renewals in 2016/17 that were not repeated, including £82.0 million awarded to the Coalition for Epidemic Preparedness Innovations and £27.0 million awarded to Liverpool School of Tropical Medicine for the renewal of the Malawi-Liverpool-Wellcome Trust Clinical Research Programme. The increase in Grants no longer required in 2017/18 is due to writebacks on historic grants that were reviewed this year and a £10.0 million Innovations write off on a previously awarded grant.

The grants included within 'Grants to other organisations' for 2018 totalled less than £6.0 million in value for each organisation. The institutions listed in the 2017 table are those institutions that received grants in excess of £6.0 million in 2018.

Group	Science £m	Culture & Society £m	Innovations £m	Priority Areas £m	**2018 £m**
University of Oxford	56.3	2.3	1.1	2.4	**62.1**
University College London	35.1	2.4	6.4	10.7	**54.6**
University of Cambridge	51.4	2.5	0.3	0.2	**54.4**
Imperial College London	33.0	0.4	0.1	5.2	**38.7**
University of Edinburgh	20.3	0.9	-	-	**21.2**
King's College London	11.2	2.6	0.5	-	**14.3**
Monash University, Australia	-	-	13.6	0.1	**13.7**
University of Birmingham	10.6	1.4	0.6	-	**12.6**
University of Bristol	9.2	2.5	-	-	**11.7**
Diamond Light Source Ltd	11.3	-	-	-	**11.3**
Medical Research Council	10.1	-	-	-	**10.1**
Drugs for Neglected Diseases Initiative, Switzerland	-	-	10.0	-	**10.0**
Newcastle University	8.2	0.5	0.8	-	**9.5**
University of Glasgow	8.7	0.2	-	-	**8.9**
University of Dundee	8.9	-	-	-	**8.9**
University of Manchester	5.9	0.6	2.1	-	**8.6**
London School of Hygiene & Tropical Medicine	6.5	0.7	0.8	0.1	**8.1**
University of Sheffield	6.3	0.5	0.1	-	**6.9**
Cardiff University	6.0	0.1	0.7	-	**6.8**
World Health Organization, Switzerland	4.4	0.1	-	1.7	**6.2**
Queen Mary University of London	4.7	1.2	0.1	-	**6.0**
Grants to other organisations	57.3	28.6	5.5	13.0	**104.4**
Total grants (excluding grants no longer required)	**365.4**	**47.5**	**42.7**	**33.4**	**489.0**
Less: grants no longer required	(15.9)	(8.3)	(30.9)	(0.1)	**(55.2)**
	349.5	**39.2**	**11.8**	**33.3**	**433.8**

Group	Science £m	Culture & Society £m	Innovations £m	Priority Areas £m	**2018 £m**
Grants awarded by the Group are split as follows:					
United Kingdom	328.0	35.2	(3.2)	24.6	**384.6**
Directly funded international	21.5	4.0	15.0	8.7	**49.2**
Grants awarded by the Group	**349.5**	**39.2**	**11.8**	**33.3**	**433.8**

The current year saw a significantly higher level of write backs for grants awarded in prior years no longer required which particularly impacted innovations (as noted in the Financial Review on page 28).

Trust	Science £m	Culture & Society £m	Innovations £m	Priority Areas £m	**2018 £m**
Grants awarded by the Group	349.5	39.2	11.8	33.3	**433.8**
Plus: Grants awarded to subsidiary undertakings	117.6	-	-	-	**117.6**
Grants awarded by the Trust	**467.1**	**39.2**	**11.8**	**33.3**	**551.4**

Group	Science £m	Culture & Society £m	Innovations £m	Priority Areas £m	**2017 £m**
University of Oxford	84.6	5.4	5.6	5.6	**101.2**
University College London	66.3	0.4	6.6	0.8	**74.0**
University of Cambridge	116.5	2.9	3.5	-	**122.9**
Imperial College London	35.8	0.6	7.2	0.2	**43.7**
University of Edinburgh	43.3	1.4	3.3	0.6	**48.6**
King's College London	20.5	0.3	6.9	-	**27.7**
Monash University, Australia	-	-	-	8.7	**8.7**
University of Birmingham	8.7	-	-	-	**8.7**
University of Bristol	16.5	1.2	0.5	-	**18.2**
Diamond Light Source Ltd	9.0	-	-	-	**9.0**
Medical Research Council	18.9	0.1	-	-	**19.0**
Drugs for Neglected Diseases Initiative, Switzerland	-	-	-	1.0	**1.0**
Newcastle University	15.5	0.4	-	-	**15.8**
University of Glasgow	4.6	1.0	-	-	**5.6**
University of Dundee	12.0	-	21.1	-	**33.1**
University of Manchester	23.8	1.5	0.7	-	**26.0**
London School of Hygiene & Tropical Medicine	22.1	0.2	5.4	5.6	**33.3**
University of Sheffield	6.5	0.7	3.3	-	**10.5**
Cardiff University	6.5	-	-	-	**6.5**
World Health Organization, Switzerland	-	-	-	-	**-**
Queen Mary University of London	2.0	1.0	-	-	**3.0**
Grants to other organisations	137.2	40.0	29.2	128.8	**335.2**
Total grants (excluding grants no longer required)	**650.1**	**57.2**	**93.5**	**151.2**	**952.0**
Less: grants no longer required	(13.7)	(0.7)	(5.8)	(0.1)	**(20.3)**
	636.4	**56.5**	**87.7**	**151.1**	**931.7**

Group	Science £m	Culture & Society £m	Innovations £m	Priority Areas £m	**2017 £m**
Grants awarded by the Group are split as follows:					
United Kingdom	592.3	52.6	71.3	15.8	**732.0**
Directly funded international	44.1	3.9	16.4	135.3	**199.7**
Grants awarded by the Group	**636.4**	**56.5**	**87.7**	**151.1**	**931.7**

Trust	Science £m	Culture & Society £m	Innovations £m	Priority Areas £m	**2017 £m**
Grants awarded by the Group	636.4	56.5	87.7	151.1	**931.7**
Plus: grants awarded to subsidiary undertakings	106.4	-	-	-	**106.4**
Grants awarded by the Trust	**742.8**	**56.5**	**87.7**	**151.1**	**1,038.1**

Further details of grants awarded by the Trust are published on the Trust's website, at the address given on the back cover.

The following Governors had appointments with or supervised individuals within organisations which were in receipt of grants during the year:

Professor Tobias Bonhoeffer – Max-Planck-Institut für Neurobiologie
Mr William Burns – The Institute of Cancer Research
Professor Dame Kay Davies – University of Oxford
Professor Fiona Powrie – University of Oxford
Professor Michael Ferguson – University of Dundee
Professor Bryan Grenfell – Princeton University
Professor Dame Anne Johnson – University College London

8. Grants awarded but not yet paid

	Group		Trust	
	2018 £m	2017 £m	**2018 £m**	2017 £m
Liability at 1 October	**2,242.0**	1,963.4	**2,244.9**	1,967.7
Grants awarded during the year	**433.8**	931.7	**551.4**	1,038.1
Grants paid during the year	**(581.0)**	(566.1)	**(700.1)**	(674.0)
Present value adjustment – discounting of grant liability	**(4.6)**	(28.2)	**(4.6)**	(28.2)
Present value adjustment – changes to discounting model assumptions	**(80.6)**	(37.1)	**(80.6)**	(37.1)
Foreign exchange revaluation of grant liability (note 6)	**0.4**	(21.7)	**0.4**	(21.7)
Liability as at 30 September	**2,010.0**	2,242.0	**2,011.4**	2,244.8
Of which:				
- falling due within one year (note 18)	**480.0**	571.5	**481.4**	574.3
- falling due after one year (note 18)	**1,530.0**	1,670.5	**1,530.0**	1,670.5
Liability as at 30 September	**2,010.0**	2,242.0	**2,011.4**	2,244.8

The present value adjustment – discounting grant liability is the movement due to grants awarded and grant payments made in year using the current discount model assumptions. The present value adjustment – changes in discounting model assumptions is the movement in the discounting of opening grant liability due to changes in discount model assumptions in year.

The total value of the grant liability discount for the year ended 30 September 2018 is £322.3 million (2017: £237.1 million) applying the following discount model assumptions: an expected nominal rate of investment return of 5.9% (2017: 5.6%); monthly future grant payments (2017: six monthly); and discounting non-current liabilities a further year to the reporting date (2017: discount was applied to a year from the reporting date).

9. Support costs

Support costs are those costs that, while necessary to deliver an activity, do not themselves produce or constitute the output of the charitable activity. Support costs are allocated to the activities shown in the table below.

Funding administration costs are those costs that can be directly attributed to an activity.

Operations comprise an allocation of costs of the following departments; Internal Communications, People, Facilities and Workplace, Finance, Legal, and Digital and Technology.

The remaining support costs have been apportioned using the allocation methods indicated and include governance costs.

- Where costs have been allocated on the basis of headcount numbers, headcount numbers are the average number of full time employees within each activity
- Where costs have been allocated on the basis of expenditure, expenditure is determined as being either the total grant expenditure of the charitable activities; or where appropriate, based on a proportion of both grant and direct spend on the activity.

Group	Costs of generating funds £m	Science £m	Culture & Society £m	Innovations £m	Priority Areas £m	**Total 2018 £m**	Allocation method
Funding administration	-	14.9	1.9	3.3	1.0	**21.1**	Expenditure/Directly attributed
Support of scientific research	-	18.7	-	-	-	**18.7**	Directly attributed
Operations	5.1	12.7	21.0	2.8	4.3	**45.9**	Headcount/Expenditure
Other	0.4	2.6	0.4	0.2	0.2	**3.8**	Expenditure
Governance Costs	0.4	1.8	0.2	0.1	0.1	**2.6**	Expenditure/Directly attributed
	5.9	**50.7**	**23.5**	**6.4**	**5.6**	**92.1**	

Group	Costs of generating funds £m	Science £m	Culture & Society £m	Innovations £m	Priority Areas £m	**Total 2017 £m**	Allocation method
Funding administration	-	15.1	2.4	4.8	2.6	**24.9**	Expenditure/Directly attributed
Support of scientific research	-	16.9	-	-	-	**16.9**	Directly attributed
Operations	5.1	15.4	20.5	3.7	2.9	**47.6**	Headcount/Expenditure
Other	0.1	1.9	0.2	0.3	0.4	**2.9**	Expenditure
Governance Costs	0.4	1.5	0.2	0.2	0.3	**2.6**	Expenditure/Directly attributed
	5.6	**50.8**	**23.3**	**9.0**	**6.2**	**94.9**	

Trust	Costs of generating funds £m	Science £m	Culture & Society £m	Innovations £m	Priority Areas £m	**Total 2018 £m**	Allocation method
Funding administration	-	14.9	1.9	3.3	1.0	**21.1**	Expenditure/Directly attributed
Operations	5.1	12.7	21.0	2.8	4.3	**45.9**	Headcount/Expenditure
Other	0.4	2.6	0.4	0.2	0.2	**3.8**	Expenditure
Governance Costs	0.3	1.6	0.2	0.1	0.1	**2.3**	Expenditure/Directly attributed
	5.8	**31.8**	**23.5**	**6.4**	**5.6**	**73.1**	

Trust	Costs of generating funds £m	Science £m	Culture & Society £m	Innovations £m	Priority Areas £m	**Total 2017 £m**	Allocation method
Funding administration	-	15.1	2.4	4.8	2.6	**24.9**	Expenditure/Directly attributed
Operations	5.1	15.4	20.5	3.7	2.9	**47.6**	Headcount/Expenditure
Other	0.1	1.9	0.2	0.3	0.4	**2.9**	Expenditure
Governance Costs	0.3	1.4	0.2	0.2	0.3	**2.4**	Expenditure/Directly attributed
	5.5	**33.8**	**23.3**	**9.0**	**6.2**	**77.8**	

10. Governance costs

	Group		Trust	
	2018 £m	2017 £m	**2018 £m**	2017 £m
Governors' fees and expenses	**0.9**	0.9	**0.9**	0.9
Auditors' remuneration				
- parent company and consolidation	**0.4**	0.5	**0.4**	0.5
- audits of subsidiary undertakings	**0.2**	0.2	**-**	-
Internal audit	**0.6**	0.6	**0.5**	0.6
Other costs	**0.5**	0.4	**0.5**	0.4
	2.6	2.6	**2.3**	2.4

The internal audit services of £0.6 million (2017: £0.6 million) are those provided by the in-house internal audit team, together with the cost of specialist services provided by PricewaterhouseCoopers LLP.

The figures for auditor's remuneration shown above include irrecoverable VAT of £0.1 million (2017: £0.1 million) and exclude the fees for the audit of the Wellcome Trust and Genome Research Limited Pension Plans of £22,000 (2017: £21,000). In addition the audit of subsidiary undertakings excludes fees of £0.1 million (2017: £0.1 million) excluding VAT to Premier Marinas Limited and Farmcare Limited as these entities are held as part of the investment portfolio. These fees will be taken in to account for the purposes of monitoring the cap on the level of non-audit fees as required by legislation.

In addition to the auditor's remuneration above, total fees of £0.4 million (2017: £0.4 million) excluding VAT were payable to the Group's auditors Deloitte LLP or associated firms for non-audit services. The Audit and Risk Committee and Deloitte LLP are satisfied that these additional fees did not represent a threat to the independence of the external auditors.

	Group		Trust	
Non-audit services split (excluding VAT)	**2018 £m**	2017 £m	**2018 £m**	2017 £m
Bond Issue	**0.1**	-	**0.1**	-
Leadership development programmes	**0.3**	0.4	**0.3**	0.4
	0.4	0.4	**0.4**	0.4

The Leadership development programmes are for external leadership training.

11. Employee information

(a) Employee benefits

	Group		Trust	
	2018 £m	2017 £m	**2018 £m**	2017 £m
Remuneration and salary benefits	**110.3**	102.3	**60.2**	56.5
Social Security costs	**10.1**	9.9	**5.8**	5.4
Pension costs and other benefits	**44.3**	50.8	**20.6**	25.1
	164.7	163.0	**86.6**	87.0

Pension costs and other benefits includes the current service cost of the pension fund which is disclosed in note 11(e)(iii).

(b) Termination payments

	Group		Trust	
	2018 £m	2017 £m	**2018 £m**	2017 £m
Redundancy	**1.3**	1.1	**1.0**	0.7
Other compensation	**0.3**	0.2	**-**	-
	1.6	1.3	**1.0**	0.7

(c) Average numbers of employees who served during the year

These numbers exclude employees of the investment subsidiaries held as part of the investment portfolio.

	Average	
	2018	2017
Trust	**727**	684
Subsidiary undertakings	**1,070**	1,100
Total for the Group	**1,797**	1,784
Analysed by		
Investments	**44**	42
Non-charitable subsidiaries	**-**	25
Direct activities	**1,128**	1,162
Support	**625**	555
Total for the Group	**1,797**	1,784
Analysed by		
Investments	**44**	42
Direct activities	**252**	212
Support	**431**	430
Total for the Trust	**727**	684

(d) Benefits of employees

The number of employees working on charitable activities of the Trust and its subsidiary undertakings whose benefits (salaries, benefits in kind, bonuses and termination payments, but excluding employer pension contributions and employer National Insurance Contributions), fell within the following bands is shown in the table below.

The emoluments of the Director included in the table below totalled £455,761 (2017: £445,220).

As noted in the Remuneration Report on page 42, information relating to the Investment team staff and the staff of the Syncona Partners LLP subsidiary businesses is not included in this table but are shown separately in notes 5(b) and 5(c).

	Group*		Trust*	
	2018	2017	**2018**	2017
£60,000-£69,999	**74**	72	**54**	56
£70,000-£79,999	**43**	44	**30**	30
£80,000-£89,999	**42**	35	**24**	25
£90,000-£99,999	**25**	16	**21**	11
£100,000-£109,999	**15**	16	**13**	10
£110,000-£119,999	**14**	9	**11**	6
£120,000-£129,999	**11**	9	**6**	8
£130,000-£139,999	**4**	4	**2**	4
£140,000-£149,999	**3**	3	**3**	3
£150,000-£159,999	**4**	7	**4**	2
£160,000-£169,999	**1**	2	**-**	2
£170,000-£179,999	**3**	1	**2**	1
£180,000-£189,999	**4**	-	**3**	-
£190,000-£199,999	**-**	1	**-**	1
£240,000-£249,999	**-**	1	**-**	1
£270,000-£279,999	**-**	1	**-**	1
£290,000-£299,999	**-**	1	**-**	-
£300,000-£309,999	**-**	1	**-**	1
£310,000-£319,999	**-**	2	**-**	1
£320,000-£329,999	**1**	1	**1**	1
£330,000-£339,999	**1**	-	**1**	-
£350,000-£359,999	**1**	-	**-**	-
£370,000-£379,999	**-**	1	**-**	1
£390,000-£399,999	**1**	-	**1**	-
£400,000-£409,999	**1**	-	**-**	-
£440,000-£449,999	**-**	1	**-**	1
£450,000-£459,999	**1**	-	**1**	-
	249	228	**177**	166

*Excluding the Investment team.

(d) Benefits of employees (continued)
Further information in respect of employees' and Governors' remuneration is included within the Remuneration Report on pages 42-43.

The tables on the Remuneration Report on pages 42-43, together with the accompanying notes, form part of the audited Financial Statements.

(e) Retirement benefits

(i) Defined contribution Group Personal Pension plan
The Group provides a defined contribution Group Personal Pension plan into which both employee and employer contributions are paid. The employer contributions amounted to £1.7 million (2017: £1.0 million) and are included within Pension costs and other benefits in note 11(a). No amounts were unpaid at the end of the year (2017: £ nil).

(ii) Defined benefit pension plan and Unfunded Unapproved Retirement benefit scheme
The Group sponsors two approved funded defined benefit schemes, the Wellcome Trust Pension Plan and the Genome Research Limited Pension Plan. The day-to-day management of the Plans' investments has been delegated by the Trustees to the investment manager Legal & General Assurance (Pensions Management) Limited. The investment strategy of the Plan, adopted and regularly reviewed in consultation with the Group, is to be 100% in passive equities. In addition certain Wellcome Trust senior employees are members of an Unfunded Unapproved Retirement Benefit scheme ("UURBs").

The FRS102 "Retirement benefits" actuarial valuation of the Wellcome Trust and Genome Research Limited defined benefit pension plans at 30 September 2018 showed a combined deficit of £202.2 million (2017: £247.9 million).

This deficit represents the difference between an assessment of the liabilities of the pension funds and the current value of their underlying assets. The amount of the deficit is subject to considerable variability because it depends on a valuation of assets at the year-end date and a range of actuarial assumptions impacting the liabilities.

FRS102 requires discount rates to be based on corporate bond yields of an appropriate duration, regardless of actual investment strategy and actual investment returns expected. This leads to a difference between the accounting deficit and the funding position under the triennial valuations.

A full actuarial valuation of the Wellcome Trust Pension Plan was carried out at 31 December 2016; the valuation showed that the plan was in the region of 93% funded with a deficit of £17.0 million. An actuarial valuation update was performed for the 31 December 2017; the valuation showed the plan was in the region of 106% funded with a surplus of around £15.0 million.

A full actuarial valuation of the Genome Research Limited Pension Plan was carried out as at 31 December 2015; the valuation showed that the plan was 82% funded with a deficit of £25.0 million. An actuarial valuation update was performed for the 31 December 2017; the valuation showed the plan was in the region of 96% funded with a deficit of around £10.0 million.

In addition to deficit funding contributions identified in triennial valuations, a rolling deficit recovery plan is in place, which aims to remove the deficit in the annual intermediate valuations over a period of five years. During the year, total deficit funding contributions of £7.8 million (2017: £7.0 million) were made into the Genome Research Limited Pension Plan (including £6.2 million (2017: £6.2 million) as required by the schedule of contributions) and £4.6 million into the Wellcome Trust Pension Plan as required by the schedule of contributions during the year. In 2017 £5.5 million was paid in to the Wellcome Trust Pension Plan based on the preliminary triennial valuation as no deficit funding was required based on the previous triennial valuation.

The liability values within the UURBS are calculated at individual member level. The cost of accrual contributes to the charge to the Statement of Financial Activities. As these benefits are unfunded, there is no corresponding asset value. The UURBS liability values represent the present value of providing top-ups to the benefits accrued to date within the approved Wellcome Trust Pension Plan, without restrictions imposed by the approved Plan rules. The assumptions used to value the benefits are as per those stated within the FRS102 disclosures.

The liabilities and the provision for other retirement benefits have been calculated using the following actuarial assumptions:

	2018 % per annum	2017 % per annum	2016 % per annum
Inflation	**3.40%**	3.40%	3.40%
Salary increases	**3.90%**	3.90%	4.15%
Rate of discount	**2.85%**	2.75%	2.35%
Allowance for pension in payment increase of RPI or 5% p.a. if less	**3.25%**	3.25%	3.30%
Allowance for revaluation of deferred pensions of RPI or 5% p.a. if less	**3.40%**	3.40%	3.40%
Allowance for commutation of pension for cash at retirement	**90% of Post A-Day**	90% of Post A-Day	90% of Post A-Day
Rate of increase of healthcare costs	**6.00%**	6.00%	6.00%

(e) Retirement benefits (continued)

The mortality assumptions adopted at 30 September 2018 imply the following life expectancies in years:

	2018	2017
Male retiring at age 60 in 2018	**27.6**	27.7
Female retiring at age 60 in 2018	**28.6**	28.7
Male retiring at age 60 in 2038	**28.7**	28.9
Female retiring at age 60 in 2038	**29.9**	30.0

The mortality assumptions used in the valuation of the defined benefit pension liabilities of both schemes and the provision for other retirement benefits are based on the base mortality table of S2 PxA_L (male) and S2 PxA_L (female) together with an allowance for mortality improvement in line with CMI 2017 projections and a 1.00% per annum minimum long-term rate of improvement.

(iii) Charge to the Statement of Financial Activities – Pension and other retirement benefits

	Pension Fund		Unfunded, unapproved scheme liabilities		Post-retirement medical benefits		Total	
Group	**2018 £m**	2017 £m	**2018 £m**	2017 £m	**2018 £m**	2017 £m	**2018 £m**	2017 £m
Current service cost	**30.0**	38.5	**0.5**	0.7	**-**	-	**30.5**	39.2
Expenses	**0.8**	0.5	**-**	-	**-**	-	**0.8**	0.5
Interest on pension schemes' liabilities	**6.8**	9.1	**0.5**	0.4	**-**	-	**7.3**	9.5
Actuarial (gains)/losses	**(56.0)**	(153.1)	**(0.5)**	(0.9)	**(0.1)**	(0.3)	**(56.6)**	(154.3)
Total charge to the Statement of Financial Activities	**(18.4)**	(105.0)	**0.5**	0.2	**(0.1)**	(0.3)	**(18.0)**	(105.1)

	Pension Fund		Unfunded, unapproved scheme liabilities		Post-retirement medical benefits		Total	
Trust	**2018 £m**	2017 £m	**2018 £m**	2017 £m	**2018 £m**	2017 £m	**2018 £m**	2017 £m
Current service cost	**13.7**	19.0	**0.5**	0.7	**-**	-	**14.2**	19.7
Expenses	**0.5**	0.3	**-**	-	**-**	-	**0.5**	0.3
Interest on pension schemes' liabilities	**3.1**	4.2	**0.5**	0.4	**-**	-	**3.6**	4.6
Actuarial (gains)/losses	**(29.6)**	(74.7)	**(0.5)**	(0.6)	**(0.1)**	(0.3)	**(30.2)**	(75.6)
Total charge to the Statement of Financial Activities	**(12.3)**	(51.2)	**0.5**	0.5	**(0.1)**	(0.3)	**(11.9)**	(51.0)

(iv) Present values of pension schemes' liabilities, fair value of assets and deficit

	Assets		Liabilities		Deficit	
	2018 £m	2017 £m	**2018 £m**	2017 £m	**2018 £m**	2017 £m
Wellcome Trust Pension Plan	**295.0**	260.9	**(383.3)**	(373.8)	**(88.3)**	(112.9)
Genome Research Limited Pension Plan	**231.0**	197.6	**(344.9)**	(332.6)	**(113.9)**	(135.0)
Total pension plans	**526.0**	458.5	**(728.2)**	(706.4)	**(202.2)**	(247.9)
Wellcome Trust unfunded, unapproved scheme liabilities	**-**	-	**(17.8)**	(17.7)	**(17.8)**	(17.7)
Wellcome Trust Post-retirement medical benefits	**-**	-	**(0.9)**	(0.9)	**(0.9)**	(0.9)
Total other retirement benefits	**-**	-	**(18.7)**	(18.6)	**(18.7)**	(18.6)
Total pension liabilities	**526.0**	458.5	**(746.9)**	(725.0)	**(220.9)**	(266.5)

(e) Retirement benefits (continued)

(v) Reconciliation of opening and closing balances of the present value of the pension plans' liabilities as at 30 September

	Group		Trust	
	2018 £m	2017 £m	**2018 £m**	2017 £m
Plans' liabilities at start of year	**706.4**	740.0	**373.8**	384.6
Current service cost	**30.0**	38.5	**13.7**	19.0
Expenses	**0.8**	0.5	**0.5**	0.3
Interest cost	**19.7**	17.8	**10.4**	9.2
Contributions by plans' participants	**-**	0.1	**-**	0.1
Actuarial (gains)/losses	**(21.1)**	(84.3)	**(9.9)**	(35.0)
Benefits paid and death-in-service insurance premiums	**(7.6)**	(6.2)	**(5.2)**	(4.4)
Plans' liabilities at end of year	**728.2**	706.4	**383.3**	373.8

2018 analysis of the sensitivity to the principal assumptions of the value of the plans' liabilities.

Group		
Assumption	**Change in assumption**	**Impact on liabilities**
Discount rate	Increase/decrease of 0.5% p.a.	Decrease/increase by £96.1m (13.2%)
Rate of salary growth	Increase/decrease of 0.5% p.a.	Increase/decrease by £17.5m (2.4%)
Rate of inflation	Increase/decrease of 0.5% p.a.	Increase/decrease by £67m (9.2%)
Probability of death in any year after retirement	Increase/decrease of 10.0% p.a.	Increase/decrease by £18.2m (2.5%)
Long-term rate of mortality improvement	Increase/decrease of 0.25% p.a.	Increase/decrease by £8.7m (1.2%)

Trust		
Assumption	**Change in assumption**	**Impact on liabilities**
Discount rate	Increase/decrease of 0.5% p.a.	Decrease/increase by £50.6m (13.2%)
Rate of salary growth	Increase/decrease of 0.5% p.a.	Increase/decrease by £9.2m (2.4%)
Rate of inflation	Increase/decrease of 0.5% p.a.	Increase/decrease by £35.3m (9.2%)
Probability of death in any year after retirement	Increase/decrease of 10.0% p.a.	Increase/decrease by £9.6m (2.5%)
Long-term rate of mortality improvement	Increase/decrease of 0.25% p.a.	Increase/decrease by £4.6m (1.2%)

2017 analysis of the sensitivity to the principal assumptions of the value of the plans' liabilities.

Group		
Assumption	**Change in assumption**	**Impact on liabilities**
Discount rate	Increase/decrease of 0.5% p.a.	Decrease/increase by £98.2m (13.9%)
Rate of salary growth	Increase/decrease of 0.5% p.a.	Increase/decrease by £17m (2.4%)
Rate of inflation	Increase/decrease of 0.5% p.a.	Increase/decrease by £67.8m (9.6%)
Probability of death in any year after retirement	Increase/decrease of 10.0% p.a.	Increase/decrease by £19.1m (2.7%)
Long-term rate of mortality improvement	Increase/decrease of 0.25% p.a.	Increase/decrease by £9.2m (1.3%)

Trust		
Assumption	**Change in assumption**	**Impact on liabilities**
Discount rate	Increase/decrease of 0.5% p.a.	Decrease/increase by £52m (13.9%)
Rate of salary growth	Increase/decrease of 0.5% p.a.	Increase/decrease by £9m (2.4%)
Rate of inflation	Increase/decrease of 0.5% p.a.	Increase/decrease by £35.9m (9.6%)
Probability of death in any year after retirement	Increase/decrease of 10.0% p.a.	Increase/decrease by £10.1m (2.7%)
Long-term rate of mortality improvement	Increase/decrease of 0.25% p.a.	Increase/decrease by £4.9m (1.3%)

(e) Retirement benefits (continued)

(vi) Reconciliation of opening and closing balances of the fair value of the plans' assets as at 30 September

	Group		Trust	
	2018 £m	2017 £m	**2018 £m**	2017 £m
Fair value of plan assets at start of year	**458.5**	361.2	**260.9**	208.8
Expected return on plan assets	**12.9**	8.7	**7.3**	5.0
Actuarial gains	**34.9**	69.1	**19.7**	39.7
Contributions by the Group employers	**27.3**	25.6	**12.3**	11.7
Contributions by plan participants	**-**	0.1	**-**	0.1
Benefits paid and death-in-service insurance premiums	**(7.6)**	(6.2)	**(5.2)**	(4.4)
Fair value of plan assets at end of year	**526.0**	458.5	**295.0**	260.9

These figures are for the pension schemes and exclude the other retirement benefits which are included in table 11(e)(iv) above.

None of the fair values of the assets shown above include any of the Group's own financial instruments or any property occupied by, or other assets used by, the Group.

(vii) Amounts for the current and previous four years as at 30 September

Group	**2018 £m**	2017 £m	2016 £m	2015 £m	2014 £m
Fair value of plans' assets	**526.0**	458.5	361.2	250.0	248.8
Present value of plans' liabilities	**(728.2)**	(706.4)	(740.0)	(468.0)	(418.5)
Deficit in plans	**(202.2)**	(247.9)	(378.8)	(218.0)	(169.7)
Experience adjustment on plans' assets	**34.9**	69.1	75.8	(23.2)	2.8
Experience adjustment on plans' liabilities	**(1.3)**	(9.4)	(6.8)	1.5	(2.6)
Effects of changes in the demographic and financial assumptions underlying the present value of the plan's liabilities	**22.4**	93.7	(226.1)	(13.8)	(52.7)

Trust	**2018 £m**	2017 £m	2016 £m	2015 £m	2014 £m
Fair value of plans' assets	**295.0**	260.9	208.8	146.7	149.2
Present value of plans' liabilities	**(383.3)**	(373.8)	(384.6)	(262.5)	(238.4)
Deficit in plan	**(88.3)**	(112.9)	(175.8)	(115.8)	(89.2)
Experience adjustment on plans' assets	**19.7**	39.7	44.0	(14.2)	(0.2)
Experience adjustment on plans' liabilities	**(0.8)**	(10.0)	1.5	1.0	(0.7)
Effects of changes in the demographic and financial assumptions underlying the present value of the plan's liabilities	**10.7**	45.0	(104.8)	(6.9)	(27.7)

(viii) Estimate of contributions to be paid to scheme

The best estimate of contributions to be paid by the employer to the Wellcome Trust scheme for the period beginning 1 October 2018 is £12.6 million (2017: £6.3 million), which includes £4.6 million (2017: £4.6 million) of deficit funding.

The best estimate of the contributions to be paid by the employer to the Genome Research Limited scheme for the period beginning 1 October 2018 is £13.6 million (2017: £13.3 million), which includes £6.2 million (2017: £7.8 million) of deficit funding.

12. Remuneration of Governors

Information on Governors' remuneration is included in the Remuneration Report on page 42. Details of the Governors who had appointments during the year with or supervised individuals within organisations which were in receipt of grants are disclosed in note 7.

13. Taxation

Group	2018 £m	2017 £m
(a) Current Tax		
UK Corporation Tax on profits for the year	**2.7**	13.8
Effect of Gift Aid distribution	**(0.1)**	(0.4)
Reversal of prior year charge	**(13.3)**	(0.6)
Total current tax	**(10.7)**	12.8
(b) Deferred Tax		
Origination and reversal of timing differences	**64.5**	32.9
Effect of change in UK tax rate	**(1.6)**	-0.9
Total deferred tax	**62.9**	32.0
Taxation	**52.2**	44.8

Group	2018 £m	2017 £m
(c) Reconciliation of Tax Charge		
Profit/(loss) on ordinary activities before taxation on subsidiaries subject to taxation	**336.1**	189.1
Profit/(loss) before tax multiplied by average rate of corporation tax of 19% (2017: 19.5%)	**63.9**	36.9
Effects of:		
Income not subject to tax	**(9.3)**	(1.0)
Expenses not deductible for tax purposes	**4.0**	(8.6)
Gift aid donation paid	**(13.4)**	-
Tax on income attributable to unquoted investments	**2.5**	
Temporary differences:		
Difference in timing of recognition of gains and income	**-**	12.7
Difference in timing of recognition of gains and income (revaluation reserve movement)	**-**	(1.4)
Difference in timing of recognition of taxable profit from underlying investments	**-**	0.5
Difference in timing of recognition of profit share from unit trust	**-**	(1.8)
Unused tax losses carried forward	**-**	7.4
Utilisation of tax losses brought forward	**-**	(0.2)
Unrealised gain on fair value movement	**-**	1.3
Current year Gift Aid	**(0.2)**	(0.4)
Gift Aid payment unable to be provided in prior year	**-**	(0.6)
Chargeable gains/(losses)	**6.2**	-
Adjust opening deferred tax to average rate 19%	**(1.5)**	-
Deferred tax not recognised	**0.5**	-
Allocations from underlying transparent investments	**(0.5)**	-
Taxation	**52.2**	44.8

The UK headline corporation tax rate for the period was 19% following the reduction in the rate to 19% with effect from 1 April 2017. Section 46 Finance Act 2016 enacted a further rate reduction to 17% with effect from 1 April 2020.

For the purposes of reporting under FRS102 the investment subsidiaries must provide for deferred tax on temporary timing differences.

The estimated cost of irrecoverable Value added tax suffered by the Group in the year was £17.8 million (2017: £12.4 million).

14. Tangible fixed assets

(a) Group

	Freehold land and buildings £m	Long leasehold land and buildings £m	Other plant, equipment, fixtures and fittings £m	Assets in course of construction £m	**Total £m**
Cost as at 1 October 2017	467.6	1.5	251.8	8.4	729.3
Additions	4.3	-	10.1	5.1	19.5
Transfers	5.4	-	2.0	(7.4)	-
Disposals	(1.3)	-	(8.9)	-	(10.2)
Cost as at 30 September 2018	**476.0**	**1.5**	**255.0**	**6.1**	**738.6**
Accumulated depreciation as at 1 October 2017	112.1	1.5	180.7	-	294.3
Charge for the year	8.8	-	14.0	-	22.8
Transfers	-	-	-	-	-
Disposals	(0.4)	-	(8.7)	-	(9.1)
Accumulated depreciation as at 30 September 2018	**120.5**	**1.5**	**186.0**	**-**	**308.0**
Net Book Value as at 30 September 2018	**355.5**	**-**	**69.0**	**6.1**	**430.6**
Net Book Value as at 30 September 2017	355.5	-	71.1	8.4	435.0

(b) Trust

	Freehold land and buildings £m	Long leasehold land and buildings £m	Other plant, equipment, fixtures and fittings £m	Assets in course of construction £m	**Total £m**
Cost as at 1 October 2017	233.6	1.5	121.6	0.8	357.5
Additions	-	-	0.6	4.0	4.6
Transfers	-	-	0.8	(0.8)	-
Disposals	(0.9)	-	(1.4)	-	(2.3)
Cost as at 30 September 2018	**232.7**	**1.5**	**121.6**	**4.0**	**359.8**
Accumulated depreciation as at 1 October 2017	60.1	1.5	65.0	-	126.6
Charge for the year	3.8	-	6.8	-	10.6
Transfers	-	-	-	-	-
Disposals	(0.3)	-	(1.2)	-	(1.5)
Accumulated depreciation as at 30 September 2018	**63.6**	**1.5**	**70.6**	**-**	**135.7**
Net Book Value as at 30 September 2018	**169.1**	**-**	**51.0**	**4.0**	**224.1**
Net Book Value as at 30 September 2017	173.5	-	56.6	0.8	230.9

Heritage assets

No heritage assets have been capitalised in the current financial year and the Trust did not capitalise any assets in previous years.

Nature of the assets

The Trust has several collections of heritage assets comprising substantial core collections of visual items and material objects, printed and published rare materials, archives, and manuscripts, which are retained and developed in accordance with museum, archive and library best practice. It also holds support collections of objects, artworks, printed, published and digital materials, which are in current use for exhibition, reference, research or other similar purposes. Both core and support collections are held in support of one of the Trust's main objectives of advancing and promoting knowledge and education.

The core collection includes Sir Henry Wellcome's Museum Collection of mainly three-dimensional objects. The most significant part of this collection has been on long-term loan to the Science Museum since 1976 with smaller elements on long-term loan at other institutions. Most of the remaining core and support collection is held at the premises in Euston Road but there are also off-site storage facilities situated in London and Cheshire.

Policy for acquisition

Materials selected for acquisition must be in service of Wellcome Collection's overall mission to challenge the way we think and feel about health by exploring the connections between science, medicine, life and art. They must also comply with our published collections development policy, including with regard to ethical and legal considerations.

Conservation and Collections Care

The Trust recognises its responsibility to conserve and care for the core collections, to ensure that their documentation, storage, location control, treatment and use all adheres to appropriate national and international guidelines, accreditation standards and code of ethics.

We are bound by the Code of Conduct and Professional Standards from the Institute of Conservation, Museums Association and the British Standards relating to 'Conservation of Cultural Heritage' and 'Conservation and care of archive and library collections'. We use the Publicly Available Specifications (PAS) 197:2009 'Code of practice for cultural collections management' and 198:2012 'Managing environmental conditions for cultural collections' to ensure the collections are stored and displayed in a safe, secure and sustainable way in line with best practice without compromising their physical, historical or structural integrity.

The Trust continually develops repository and management systems for digital materials and monitors the digital environment for risk factors such as software or hardware obsolescence and the impact of new technologies.

Disposal

The Trust operates a rolling programme of collections review across its core and support collections. Material may be removed from the collections for the reasons as set out in our published collections development policy. We only take the decision to dispose of material from our core collections following careful consideration of the public benefit and seeking both expert advice and the views of stakeholders, such as donors, researchers, local and source communities. The Trust follows disposal procedures in accordance with the standards set out by the Collections Trust, The National Archives and Chartered Institute of Library and Information Professionals.

Security and insurance

In order to assure security and safety of the collections, various procedures are in place including: registration of users; request of proof of identity prior to access; explanation of handling of materials; video surveillance; limits to amounts of closed access material in reading room; checking of returned material and security tagging; material risk assessments for fire, flood and theft; compliance with appropriate British Standards; fire precaution, fire detection and extinguishing systems; flood warning and egress of water systems; intruder alarms; locking up and opening procedures; monitoring of storage areas; maintenance checklist; and procedures for evacuation of premises.

As part of the Trust's Business Continuity Plan, the Library has a disaster and salvage plan in place. The Library also has a contract with Harwell which provides support for the majority of the disaster and salvage issues that may arise. The Library materials are insured against damage or loss due to fire, flood, or terrorist activity at named locations, unnamed locations and while in transit. The collections are not insured for full replacement value as it is not possible to quantify this and the nature of the items held means that they are often irreplaceable.

15. Investments

(a) Quoted investments, Unquoted investments and Investment properties

Group	Fair value 1 October 2017 £m	Purchases £m	Sales proceeds £m	Total gains/ (losses) £m	**Fair value 30 September 2018 £m**
Total quoted investments	13,147.8	3,650.9	(2,951.1)	1,072.1	**14,919.7**
Total unquoted investments	9,611.4	1,866.3	(2,016.3)	1,527.2	**10,988.6**
Total investment properties	1,390.5	6.2	(23.8)	(20.6)	**1,352.3**
Total	24,149.7	5,523.4	(4,991.2)	2,578.7	**27,260.6**

Trust	Fair value 1 October 2017 £m	Purchases £m	Sales proceeds £m	Total gains/ (losses) £m	**Fair value 30 September 2018 £m**
Total quoted investments	12,505.7	3,167.9	(2,951.1)	858.7	**13,581.2**
Total unquoted investments	8,551.8	1,789.6	(1,993.2)	1,368.3	**9,716.5**
Total investment properties	1,229.3	6.2	(21.6)	(15.8)	**1,198.1**
Total	22,286.8	4,963.7	(4,965.9)	2,211.2	**24,495.8**

*Included in quoted investment purchases is £483.0 million relating to the transfer of Syncona Limited which is detailed in Note 15(d).

The significance of and the exposure associated with the investment assets are discussed in the Review of Investment Activities section of the Trustee's Report.

During the year, the maximum aggregate fair value of quoted investment securities on loan was £730.7 million (2017: £829.8 million) and the Group held £754.1 million (2017: £856.0 million) as collateral in respect of these securities. The income receivable due to securities lending activities is disclosed in note 3. No loaned securities were recalled but not obtained during the year and therefore no collateral was retained.

Included in quoted investments is the fair value of the investment in Syncona Limited which is discussed in note 15(d).

The unquoted investment balance shown above includes investments in associates and joint ventures held at fair value of £770.7 million (2017: £571.5 million). As their value to the Group is through fair value rather than as a medium through which the Group carries out business, the Trustee considers this the most appropriate accounting policy. This is a departure from the SORP, which requires that all such investments are accounted for using the equity method of accounting. In a further departure from the SORP, the impact of accounting for such investments on an equity accounting basis has not been quantified. Due to the number of investments made, often over a number of years, the cost to our associates and joint ventures of providing the required additional historic reporting is considered to be disproportionate to the value that would be added by the disclosure.

As noted in the Review of Investment Activities on page 18, during the year, Wellcome Trust issued £750.0 million 2.517% Guaranteed Bonds due 2118 ('2118 bonds'). The liability is included in note 17. As part of the consideration of the issuance of the Bonds it was decided that the Trust would start to plan for the upcoming maturity of its 4.75% Guaranteed Bonds due May 2021 ('2021 bonds'). As such, prior to the 2118 bonds issue, the Trust placed a sum of £275.0 million, being the principal amount of the 2021 bonds, into a segregated account with the custodian, to be held for the purposes of repaying the principal amount of such 2021 bonds at their scheduled maturity in 2021. This sum has been invested prudently under specific conservative constraints and in line with the risk management and investment strategy. The segregated assets amounting to £276.1 million are included in quoted investments above.

During the year the Group had the following transactions with associates, joint ventures or subsidiaries held as part of the investment portfolio and not consolidated, which are related party entities:

- purchases in the form of equity and debt of £145.4 million (2017: £50.3 million); and
- received sales proceeds of £8.0 million (2017: £144.8 million).

Investment properties in the Group and the Trust have been valued at market value generally in accordance with the Appraisal and Valuation Manual of the Royal Institution of Chartered Surveyors. The valuations were carried out by Gerald Eve, Jones Lang Lasalle, Brown & Co and CB Richard Ellis.

b) Derivative financial instruments

	Group		Trust	
	2018 £m	2017 £m	**2018 £m**	2017 £m
Derivative financial instrument asset positions	**45.6**	178.6	**45.6**	178.6

Derivative financial instrument liabilities for the Group and Trust are included within creditors, disclosed in note 17.

The Group's use of derivative financial instruments comprises:

Forward currency contracts and currency options
Forward currency contracts and currency options are used to hedge investment assets denominated in foreign currency into Pounds Sterling and as part of the investment strategy to have a globally diversified currency exposure.

Financial futures, options and warrants
The use of futures, options and warrants constitutes part of the Trust's portfolio management including: a substitution for investing in physical assets, a part of the Trust's long-term investment return strategy entered into with the expectation of realising gains, and adjusting asset exposures within the parameters set in the Trust's investment policy.

(c) Investment cash and certificates of deposit and other investment assets

	Group		Trust	
	2018 £m	2017 £m	**2018 £m**	2017 £m
Investment cash and certificates of deposit	**1,156.4**	946.7	**1,156.4**	946.6
Cash collateral held	**55.8**	347.8	**55.8**	347.8
Accrued income from investments	**14.6**	22.1	**11.3**	18.9
Income receivable	**20.7**	13.7	**16.4**	11.3
Proceeds receivable on sale of investments	**104.0**	16.2	**104.0**	16.2
Other investment debtors	**9.4**	45.6	**8.4**	45.0
Other investments assets	**204.5**	445.4	**195.9**	439.2

(d) Mixed motive investments

Group	Fair value balance as at 1 October 2017 £m	Purchases £m	Sales Proceeds £m	Transfers £m	Total gains/ (losses) £m	**Fair value balance as at 30 September 2018 £m**
Investment in Syncona Limited	457.2	-	-	(483.0)	25.8	**-**

In December 2016, the group acquired a 37% interest in BACIT Limited which was subsequently named Syncona Limited. This investment was considered to be an associate as defined under the Basis of Consolidation on page 65.

At 30 September 2017, the investment was considered to be a mixed motive investment. This investment was held at fair value. This is in accordance with FRS 102 9.9B(a), but is a departure from the SORP which requires that all such investments are accounted for using the equity method of accounting. The treatment adopted was considered to be appropriate as this is how the investment was measured by management for decision making, reporting and performance assessment to ensure that the overall yield on Syncona is acceptable. The unrealised gain on this investment at 30 September 2017 was £137.9 million.

With effect from 1 May 2018 the accountability for managing the investment was transferred to the Investment Division Executive and it is now considered as part of the Investment Portfolio and there is no need to accept a lower return from this asset. As reported in its 2018 Annual Report, it has made substantial commercial progress which is reflected in the increased Net Asset Value:

- One company in its portfolio, Blue Earth Diagnostics, is now revenue and profit generating
- Three other companies in its portfolio have progressed beyond the pre-clinical development stage
- Syncona has appointed a Head of Fund investment to focus on liquidity and downside protection.

Syncona has substantially achieved the charitable aims for which it was established as it has developed a portfolio of companies within the Life Sciences which will be developed as commercially viable independently managed businesses. The key driver behind Wellcome's continued investment is the financial return that could be obtained from the investment and not the continued focus on meeting of our charitable aims.

The gain shown above of £25.8 million represents the increase in fair value from 1 October 2017 to the date of transfer, 1 May 2018. The fair value at 1 May 2018 is included under Purchases of quoted investments in note 15(a) above.

(e) Programme related investments

Group	Book value 1 October 2017 £m	Purchases £m	Disposals £m	Net write-downs £m	Unrealised Gains	**Book value 30 September 2018 £m**
Loans – other	0.9	6.6	(11.2)	13.3	4.6	**14.2**
Loans	0.9	6.6	(11.2)	13.3	4.6	**14.2**
Equities – The Francis Crick Institute	-	-	-	-	-	**-**
Equities – Diamond Light Source	-	1.9	-	(1.9)	-	**-**
Equities – MSD-Wellcome Trust Hilleman Laboratories	-	2.9	-	(2.9)	-	**-**
Equities – other	5.5	7.6	(6.1)	(5.3)	1.6	**3.3**
Equities	5.5	12.4	(6.1)	(10.1)	1.6	**3.3**
Revenue share - other	-	15.6	-	(15.6)		**-**
Revenue share	-	15.6	-	(15.6)	-	**-**
Total	6.4	34.6	(17.3)	(12.4)	6.2	**17.5**

The Francis Crick Institute Limited
Equities represent shares received in return for the Trust's funding of the programme management costs. Under the terms of the legal agreement, the Trust and the Original Founders will lease the land and building for 55 years to The Francis Crick Institute Limited at nil rental, and upon expiry of the lease the Trust and the other Original Founders would expect to agree to renew this lease on the same terms. On this basis, the Trust does not expect to receive any financial return from this programme related investment and it has been fully written down and included within Science direct expenditure.

Diamond Light Source Limited
Equities also include a 14% equity interest in Diamond Light Source Limited, a company established to construct and operate a synchrotron in Oxfordshire. Under the shareholding agreement, there is no intrinsic value in the equity and the cost has therefore been fully written down and included within Science direct expenditure.

MSD-Wellcome Trust Hilleman Laboratories
Equities include a 50% equity interest in SCS Pharma Research and Development Private Limited (known as MSD-Wellcome Trust Hilleman Laboratories), a company established in India to develop affordable vaccines to prevent diseases that commonly affect low and middle-income countries. Under the shareholding agreement, there is no intrinsic value in the equity and the cost has therefore been fully written down and reflected within Innovations direct expenditure.

Other
As part of its Innovations activities, the Trust has provided funding to 83 (2017: 77) often early-stage companies to carry out biomedical research projects with potential to deliver health benefits. Together, these programme related investments form a portfolio managed separately from the Trust's other investments. These investments are held primarily to further the charitable aims of the Trust rather than to provide a financial return. They are held at fair value, if this can be measured reliably; or if fair value cannot be measured reliably, at cost less impairment. The net write-down of £7.6 million (2017: £16.5 million) is to reflect the Trust's policy of writing off the cost of the investment in these often early-stage companies as it is not anticipated that this cost will be recovered. At each year end, a review of the programme related investment portfolio is performed, to assess if any individual assets have value. Where the assets have value, any impairment on such assets is reversed and additional fair value uplift is recognised in unrealised gains, both within charitable activities. During 2018 the impairment reversed was £12.0 million (2017: £3.1 million) and fair value uplift was £6.2 million (2017: £nil). Any income received or gains realised are included in other income and amounted to £11.3 million (2017: £2.3 million).

(f) Realised and unrealised gains/(losses) on investments

		Group		Trust	
	Note	**2018 £m**	2017 £m	**2018 £m**	2017 £m
Quoted investments	15(a)	**1,072.1**	1,921.2	**858.7**	1,922.8
Unquoted investments	15(a)	**1,527.2**	712.9	**1,368.3**	680.9
Investment properties	15(a)	**(20.6)**	(1.5)	**(15.8)**	3.0
Derivative financial instruments					
Currency overlay		**(6.7)**	(17.5)	**(6.7)**	(17.5)
Other derivative financial instruments		**34.4**	196.0	**34.2**	196.1
Shares in subsidiary undertakings		**-**	-	**237.0**	167.7
Short term investments		**(10.8)**	-	**(10.8)**	-
Foreign exchange losses on monetary assets		**(2.5)**	(7.3)	**(4.2)**	(17.9)
Foreign exchange losses on bond liability		**(3.8)**	(6.3)	**(3.8)**	(6.3)
		2,589.3	2,797.5	**2,456.9**	2,928.8

(g) Reconciliation to Trustee's Report

The presentation of investment balances in notes 15 and 17 is in accordance with the statutory asset and liability classifications. However, the investment portfolio is reported by investment strategy for management purposes and for the Trustee's Report. The distinct classes of assets used and reported on within the Trustee's Report are: public equity; private equity; hedge funds; property and infrastructure; and cash.

This note reconciles the net investment asset fair value at the balance sheet date as presented within the Trustee's Report to the presentation within the Financial Statements. The market value of each asset class presented in the Trustee's Report is equal to the net investment assets and liabilities, held within portfolios with that applicable investment strategy.

The assets and liabilities presented in the Consolidated Balance Sheet and notes reconcile to Figure 6 in the Trustee's Report as follows:

	Note	**2018 £m**	2017 £m
Quoted investments	15(a)	**14,919.7**	13,147.8
Unquoted investments	15(a)	**10,988.6**	9,611.4
Investment property	15(a)	**1,352.3**	1,390.5
Derivative financial instrument asset positions	15(b)	**45.6**	178.6
Investment cash and certificates of deposit	15(c)	**1,156.4**	946.7
Other investment assets	15(c)	**204.5**	445.4
Derivative financial instrument liabilities	17	**(37.2)**	(100.9)
Amount payable on acquisition of investments	17	**(10.8)**	(5.0)
Cash collateral creditor	17	**(55.8)**	(347.8)
Deferred income from investments	17	**(4.0)**	(4.6)
Other investment liabilities	17	**(20.0)**	(29.1)
Total Investment Assets		**28,539.3**	25,233.0
Bond liabilities at amortised cost falling due within one year	17	**(30.4)**	(18.3)
Bond liabilities at amortised cost falling due between one and five years	17	**(273.7)**	(273.3)
Bond liabilities at amortised cost falling due after five years	17	**(2,033.8)**	(1,284.1)
Total interest bearing liabilities		**(2,337.9)**	(1,575.7)
Adjusted for			
Restatement of bond liabilities to fair value		**(315.9)**	(464.8)
Other investments not in asset allocation		**(5.9)**	(4.5)
Total assets net of Bond liabilities per Figure 6		**25,879.6**	23,188.0

(g) Reconciliation to Trustee's Report (continued)

	Note	2018 £m	2017 £m
Total assets net of Bond liabilities per figure 6		**25,879.6**	23,188.0
Add back investment liabilities:			
Derivative financial instrument liabilities	17	**37.2**	100.9
Amount payable on acquisition of investments	17	**10.8**	5.0
Cash collateral creditor	17	**55.8**	347.8
Deferred income from investments	17	**4.0**	4.6
Other investment liabilities	17	**20.0**	29.1
Bond liabilities at amortised cost falling due within one year	17	**30.4**	18.3
Bond liabilities at amortised cost falling due between one and five years	17	**273.7**	273.3
Bond liabilities at amortised cost falling due after five years	17	**2,033.8**	1,284.1
Mixed motive investments		**-**	457.2
Programme related investments	15(e)	**17.5**	6.4
Adjusted for:			
Restatement of bond liabilities to fair value		**315.9**	464.8
Other investments not in asset allocation		**5.9**	4.5
Investment assets as presented in the Financial Review		**28,684.6**	26,184.0

Other investments not in asset allocation relate to unquoted investments held by Genome Research Limited.

16. Debtors

	Group		Trust	
	2018 £m	2017 £m	2018 £m	2017 £m
Amounts owed by subsidiary undertakings	**-**	-	**2.2**	6.4
Other debtors	**18.5**	28.1	**2.9**	4.1
Prepayments	**8.8**	8.6	**3.5**	3.1
	27.3	36.7	**8.6**	13.6

17. Creditors

		Group		Trust	
	Note	**2018 £m**	2017 £m	**2018 £m**	2017 £m
Falling due within one year					
Amounts owed to subsidiary undertakings		**-**	-	**914.2**	975.5
Grant liabilities	8	**480.0**	571.5	**481.4**	574.3
Bond liabilities		**30.4**	18.3	**21.2**	9.0
Amount payable on acquisition of investments		**10.8**	5.0	**10.8**	5.0
Cash collateral creditor		**55.8**	347.8	**55.8**	347.8
Deferred income from investments		**4.0**	4.6	**3.6**	4.6
Derivative financial instrument liabilities		**37.2**	100.9	**37.2**	100.9
Other investment liabilities		**20.0**	29.1	**19.2**	19.0
Trade creditors		**13.5**	15.5	**7.3**	7.2
Other creditors		**39.5**	41.4	**37.2**	39.0
Accruals and deferred income		**25.2**	34.4	**11.8**	10.0
Corporation tax		**2.5**	13.3	**-**	-
Total falling due within one year		**718.9**	1,181.8	**1,599.7**	2,092.3
Falling due between one and five years					
Grant liabilities	8	**1,290.7**	1,451.4	**1,290.7**	1,451.4
Other creditors		**2.8**	2.8	**-**	-
Lease premium creditor		**3.0**	1.9	**-**	-
Bond liabilities		**273.7**	273.3	**-**	-
		1,570.2	1,729.4	**1,290.7**	1,451.4
Falling due after five years					
Grant liabilities	8	**239.3**	219.1	**239.3**	219.1
Lease premium creditor		**16.1**	15.3	**-**	-
Bond liabilities		**2,033.8**	1,284.1	**1,492.1**	742.8
		2,289.2	1,518.5	**1,731.4**	961.9
Total falling due after one year		**3,859.4**	3,247.9	**3,022.1**	2,413.3

During the year, Wellcome Trust issued £750 million 2.517% Guaranteed Bonds due 2118 included within bond liabilities above. Further details are included in note 3 and 15(a).

Grant commitments are split pro rata according to the terms of the grant at the point of award. All liabilities are unsecured.

18. Provisions for liabilities and charges

Group	Deferred tax £m	Employment related provisions £m	Other provisions £m	**Total £m**
As at 1 October 2017	65.8	48.9	4.3	119.0
Charge for the year	62.7	14.4	0.6	77.7
Utilised in year	-	(5.1)	-	(5.1)
Foreign exchange revaluations	0.3	-	-	0.3
As at 30 September 2018	**128.8**	**58.2**	**4.9**	**191.9**

Trust	Employment related provisions £m	Other provisions £m	**Total £m**
As at 1 October 2017	48.9	4.3	53.3
Charge for the year	11.1	0.6	11.7
Utilised in year	(5.1)	-	(5.1)
As at 30 September 2018	**54.9**	**4.9**	**59.8**

The employment-related provisions relate primarily to long-term incentive plans for certain employees in the Investment Division (see note 5(a)).

19. Commitments and contingent liabilities

(a) Investments

The Trust has entered into commitments to invest in private equity and property funds. At the balance sheet date, outstanding commitments amounted to £2,502.8 million (2017: £2,383.9 million). The Trust models its expected cash flows based on the year of the original commitment and historic trends. The Trust expects to invest £611.2 million (25%) of its outstanding commitments in one year, £1,057.0 million (42%) in between one and five years and £834.6 million (33%) after five years.

(b) Programme related investments

Programme related convertible loans and equity funding have been made over a series of years, of which £11.8 million (2017: £19.4 million) remains yet to be drawn down and is contingent upon specific milestones being achieved.

The Trust has committed to fund 14% of the third construction phase of the Diamond Light Source Limited synchrotron project. The outstanding commitment as at 30 September 2018 was £0.1 million (2017: £0.6 million).

During the year, the Trust incurred £3.0 million (2017: £3.8 million) in expenditure relating to an entity in India, MSD-Wellcome Trust Hilleman Laboratories. The outstanding commitment as at 30 September 2018 was £23.8 million (2017: £26.1 million).

(c) Grant funding activities

In prior years, the Innovations division has made Seeding Drug Discovery grants of £173.0 million, of which £166.7 million has been included in grant expenditure in current and prior financial years. The remaining £6.3 million is contingent upon specific funding-related milestones being met and has therefore not been included within grant liabilities.

To date the Trust has incurred £53.3 million for expenditure relating to Wellcome Trust-DBT India Alliance. Subject to Trustee approval, the Trust will contribute up to £26.7 million over the next five years.

During the year, Wellcome incurred £5.6 million in expenditure relating to a partnership between Wellcome, the UK Medical Research Council, the UK Department for International Development and the UK Department of Health to fund clinical trials in low and middle-income countries. Subject to review and approval of appropriate applications, Wellcome will contribute up to a further £15.0 million over the next three years.

Wellcome has incurred £1.4 million in expenditure relating to a joint initiative between Wellcome, the UK Department for International Development, the Economic and Social Research Council and the UK Medical Research Council to fund health systems research in low and middle-income countries. Subject to review and approval of appropriate applications, Wellcome will contribute up to £8.0 million over the next three years.

During the year the Trust has incurred £4.2 million in expenditure relating to a partnership with the Department for Business, Energy & Industrial Strategy, to support science centres across the UK. Subject to review and approval of appropriate applications, the Trust will contribute up to a further £1.6 million over the next year.

During the year Wellcome entered into a joint initiative with the British Heart Foundation, Cancer Research UK, Scottish Ministers acting through their Chief Scientist Office of the Scottish Government Health and Social Care Directorates, Engineering and Physical Sciences Research Council, Medical Research Council, Natural Environment Research Council, Department of Health and Social Care acting through its National Institute for Health Research, Health and Social Care Research and Development Division, Welsh Government, Public health Agency and The Health Foundation to fund research into population-level strategies that will prevent non-communicable diseases and reduce inequalities in health. Wellcome will contribute up to £7.5 million over the next five years.

2017/18 was the second year of an initial £44.9 million of Institutional Strategic Support Funding. Subject to review and approval of progress, the Trust may contribute up to £29.9 million for years 4 and 5 of these awards in future years.

During the prior year, the Trust entered into a partnership with the US Government's Biomedical Advanced Research and Development Authority (BARDA) and Boston University to create the Combating Antibiotic Resistant Bacteria Biopharmaceutical Accelerator (CARB-X) to support preclinical product development of new antibiotics. £2.3 million was awarded during the year and subject to review and approval of appropriate applications; the Trust will contribute up to £87.7 million over the next three years.

During the year, the Trust has incurred £3.7 million in expenditure relating to a joint initiative between Wellcome and the UK Department for International Development to fund research in epidemic preparedness and response. Subject to review and approval of appropriate applications, Wellcome will contribute up to £8.8 million over the next three years.

To date the Trust has incurred £1.9 million for expenditure relating to the latest phase of Research for Health in Humanitarian Crises programme. Subject to approval, the Trust will contribute up to £2.1 million next year.

20. Movement in Charity Funds

Group	Balance as at 1 October 2017 £m	Income £m	Expenditure £m	Net investment gains £m	Balance as at 30 September 2018 £m
Restricted Funds	26.2	19.8	(13.8)	-	**32.2**
Unrestricted Funds	21,850.8	465.0	(763.0)	2,615.1	**24,167.9**
Total Charity Funds	21,877.0	484.8	(776.8)	2,615.1	**24,200.1**

Group	Balance as at 1 October 2016 £m	Income £m	Expenditure £m	Net investment gains £m	Balance as at 30 September 2017 £m
Restricted Funds	13.3	33.5	(20.6)	-	**26.2**
Unrestricted Funds	19,548.3	391.8	(1,149.5)	3,060.2	**21,850.8**
Total Charity Funds	19,561.6	425.3	(1,170.1)	3,060.2	**21,877.0**

All restricted funds arise in Genome Research Limited.

21. Disposal of Subsidiary

Sale of subsidiary undertaking

Net assets disposed of and the related sales proceeds were as follows:

	2018 £m	2017 £m
Fixed assets	-	14.2
Investments	-	5.2
Other assets	-	16.9
Finance cash	-	40.5
Current Liabilities	-	(11.3)
Net assets	-	**65.5**
Non-controlling interest	-	(13.4)
	-	**52.1**
Gain on sale	-	124.8
Sale proceeds	-	**176.9**
Satisfied by:		
Issue of shares	-	176.9

On 19 December 2016, the Group sold its 100% interest in the Syncona Partners LLP to BACIT Limited receiving 134,883,720 shares in BACIT Limited as consideration. At the same point the Group purchased an additional 108,577,965 shares in BACIT Limited at market value. Following the transaction, the Group holds a 37% share in BACIT Limited. This investment was initially included as a Mixed Motive Investment at fair value and subsequently reclassified as a Quoted Investment, refer to note 15 (d). On 19 December 2016 BACIT Limited was renamed Syncona Limited.

There were no subsidiaries sold in 2018.

22. Group undertakings

a) Summary of activities of significant subsidiary undertakings

Company	% Holding	Registered Number	Country of incorporation	Legal relationship
Genome Research Limited	100%	2742969	England	The Wellcome Trust Limited and Wellcome Trust Nominees Limited are equal members
Gower Place Investments Limited	• Ordinary shares – 100% • Class A preference shares – 0% • Class B preference shares – 100%	08594660	England	The Wellcome Trust Limited is the shareholder
North London Ventures Limited	• Ordinary shares – 100% • Class A preference shares – 0% • Class B preference shares – 100%	08226374	England	The Wellcome Trust Limited is the shareholder
Wellcome Trust Finance plc	100%	5857955	England	The Wellcome Trust Limited is the sole shareholder
Wellcome Trust Investments 2 Unlimited	100%	6576220	England	The Wellcome Trust Limited is the sole shareholder
Wellcome Trust Investment Limited Partnership	100%	LP011456	England	The Wellcome Trust Limited is the limited partner and Wellcome Trust GP Limited is the general partner

These significant subsidiaries are considered to be:

- non-charitable investment holding subsidiary undertakings formed to hold investments and freehold property on behalf of the Trust where the net asset value is in excess of £200 million – refer to note 22(b)(i);
- a non-charitable investment holding subsidiary undertaking. In 2017 this held a mixed motive investment – refer to note 22(b)(ii);
- a non-charitable financing subsidiary undertaking formed to issue listed debt to finance Group activities – refer to note 22(b)(iii); and
- charitable subsidiary undertakings formed to pursue charitable objects closely allied to those of the Trust – refer to note 22(b)(iv).

All subsidiaries are registered at 215 Euston Road, London, NW1 2BE.

The table below details the subsidiaries that are held as part of the investment portfolio. They are not included in the consolidation and therefore do not appear in the analysis in note 22(b).

Company	% Holding	Registered Number	Country of incorporation	Legal relationship
Farmcare Trading Limited	100% (indirect through Gower Place Investments Limited)	09152445	England	The Wellcome Trust Limited is the indirect shareholder through Gower Place Investments Limited
Premier Marinas Holdings Limited	100% (indirect through Gower Place Investments Limited)	05524490	England	The Wellcome Trust Limited is the indirect shareholder through Gower Place Investments Limited

a) Summary of activities of significant subsidiary undertakings (continued)

The Trust has taken advantage of an exemption from audit available under 479A to 479C of the Companies Act 2006 for the following subsidiaries which are all registered in England:

Wellcome Trust Investments 1 Unlimited

Wellcome Trust Investments 2 Unlimited

Wellcome Trust Investments 3 Unlimited

The Wellcome Trust Limited has provided the appropriate guarantee for all liabilities of these entities.

The Trust has taken advantage of an exemption from audit available under Regulation 7 of the Partnership (Accounts) Regulations 2008 for the following partnerships:

Wellcome Trust Investment Limited Partnership – registered in England.

Wellcome Trust Scottish Limited Partnership – registered in Scotland.

(b) Summary financial information

The expenditure figures below include the impact of gift aid distributions and tax.

(i) Non-charitable investment holding subsidiary undertakings

	Wellcome Trust Investment Limited Partnership		Gower Place Investments Limited		Wellcome Trust Investments 2 Unlimited	
	2018 £m	2017 £m	**2018 £m**	2017 £m	**2018 £m**	2017 £m
Turnover	**17.6**	17.9	**-**	-	**-**	0.8
Expenditure	**(11.6)**	(12.1)	**(3.8)**	(3.4)	**(3.1)**	1.5
Gains/(losses) on investments	**7.5**	5.6	**(4.4)**	(23.0)	**37.7**	(12.8)
Total profit	**13.5**	11.4	**(8.2)**	(26.4)	**34.6**	(10.5)
Investment assets	**657.1**	647.4	**578.0**	569.3	**319.9**	290.2
Current assets	**65.3**	61.6	**0.5**	0.5	**44.7**	40.3
Total assets	**722.4**	709.0	**578.5**	569.8	**364.6**	330.5
Liabilities	**(247.7)**	(247.6)	**(10.6)**	(6.8)	**(23.1)**	(19.5)
Net assets	**474.7**	461.4	**567.9**	563.0	**341.5**	311.0

The functional currency of Wellcome Trust Investments 2 Unlimited is the US Dollar because the majority of the Company's transactions are denominated in US Dollars.

(b) Summary financial information (continued)

(ii) Non-charitable investment holding subsidiary undertaking

	North London Ventures Limited	
	2018 £m	2017 £m
Turnover	**5.6**	5.6
Expenditure	**(99.2)**	(40.3)
Gains/(losses) on investments	**231.8**	207.2
Total profit	**138.2**	172.5
Investment assets	**689.0**	457.2
Current assets	**17.2**	80.5
Total assets	**706.2**	537.7
Liabilities	**(70.7)**	(40.4)
Net assets	**635.5**	497.3

(iii) Non-charitable investment financing subsidiary undertaking

	Wellcome Trust Finance plc	
	2018 £m	2017 £m
Turnover	**39.2**	42.6
Expenditure	**(39.2)**	(42.6)
Total profit	**-**	-
Assets	**962.2**	961.5
Liabilities	**(824.7)**	(824.0)
Net assets	**137.5**	137.5

(iv) Charitable subsidiary undertaking

	Genome Research Limited	
	2018 £m	2017 £m
Income	**146.2**	137.9
Expenditure	**(147.3)**	(143.6)
Actuarial gains/(losses) on defined benefit pension scheme	**26.4**	78.7
Net movements in funds	**25.3**	73.0
Total assets	**212.8**	213.8
Liabilities	**(43.4)**	(48.6)
Defined benefit pension scheme deficit	**(113.9)**	(135.0)
Net assets	**55.5**	30.2

All restricted funds arise in Genome Research Limited.

23. Consolidated cash flow

(a) Investment income received

	2018 £m	2017 £m
Dividends and interest	**402.4**	348.0
Rental income	**37.0**	37.4
Other income	**-**	0.9
(Increase)/decrease in income receivable from investments	**(7.1)**	2.3
Decrease/(increase) in accrued income from investments	**7.5**	(3.9)
(Increase)/decrease in deferred income from investments	**(0.6)**	1.5
Investment income received	**439.2**	386.2

(b) Servicing of finance

	2018 £m	2017 £m
Interest payable	**(71.9)**	(59.7)
Foreign exchange losses on revaluation of interest bearing liabilities	**(3.8)**	(6.3)
Increase in interest bearing liabilities	**762.2**	7.6
Cash inflow/(outflow) for servicing of finance	**686.5**	(58.4)

(c) Reconciliation of investment sales and purchases

	2018 £m	2017 £m
Proceeds on sale of quoted investments	**2,951.1**	3,275.8
Proceeds on sale of unquoted investments	**2,016.3**	1,512.5
Proceeds on sale of investment property	**23.80**	22.8
(Increase)/decrease in proceeds receivable on sale of investments	**(87.8)**	92.2
Proceeds on transfer of Mixed Motive Investments	**483.0**	-
Proceeds on sale of Programme Related Investments	**17.3**	3.1
Proceeds from sales of investments	**5,403.7**	4,906.4
Purchases of quoted investments	**3,650.9**	3,154.8
Purchases of unquoted investments	**1,866.3**	1,071.1
Purchases of investment property	**6.2**	6.8
(Increase)/decrease in amounts payable on acquisition of investments	**(5.8)**	15.9
Purchase of Mixed Motive Investments	**-**	142.5
Purchase of Programme Related Investments	**34.6**	26.0
Purchases of investments	**5,552.2**	4,417.1
Gain on derivative financial instruments	**27.7**	178.5
Decrease/(increase) in derivative financial asset positions	**133.0**	(30.6)
Decrease in derivative financial liabilities	**(63.7)**	(98.4)
Net cash inflow upon settlement of derivative financial instruments	**97.0**	49.5

(d) Statement of net debt

	At 1 October 2017 £m	Cash flow £m	Effective interest & Foreign Exchange £m	**At 30 September 2018 £m**
Cash in hand and at bank	15.7	8.0	-	**23.7**
Debt due after one year				
- bond liabilities	(1,557.4)	(745.0)	(5.1)	**(2,307.5)**
Debt due within one year				
- bond liabilities	(18.3)	58.4	(70.5)	**(30.4)**
Liquid resources:				
- investment cash and certificates of deposit	946.6	209.8	-	**1,156.4**
Net debt	(613.4)	(468.8)	(75.6)	**(1,157.8)**

In accordance with FRS 102 7.18, an entity shall exclude from the statement of cash flows investing and financing transactions that do not require the use of cash or cash equivalents.

The exclusion of non-cash transactions from the statement of cash flows is consistent with the objective of a statement of cash flows because these items do not involve cash flows in the current period. These non-cash transactions are included in the table above.

24. Major non-cash transactions

There were no major non-cash transactions in 2018. The disposal of the subsidiary Syncona Partners LLP and receipt of BACIT shares as consideration (refer to note 21) was the only major non-cash transaction in 2017.

25. Financial risk management

In the ordinary course of its activities, the Group actively manages a variety of financial risks including credit risk, liquidity risk and market risk. The Group identifies measures and monitors risk through various control mechanisms as detailed in the following sections, including maximum approved counterparty exposure and diversifying exposures and activities across a variety of instruments, markets and counterparties.

(a) Credit risk

Credit risk is the risk that the Group would incur a financial loss if a counterparty failed to discharge its obligations to the Group.

Credit risk exposure

The Group is subject to credit risk from its financial assets held by appropriate counterparties and the risk is particularly concentrated on its investment cash balances and certificates of deposit due to the significant value of these balances. The following table details the Group's maximum exposure to credit risk as at 30 September:

	2018 £m	2017 £m
Derivative financial instruments assets positions	**45.6**	178.6
Investment cash balances and certificates of deposit	**1,156.4**	946.7
Cash collateral held	**55.8**	347.8
Accrued income from investments	**14.6**	22.1
Income Recievable	**20.7**	13.7
Proceeds receivable on sale of investments	**104.0**	16.2
Other investment debtor balances	**9.4**	45.6
Programme related investment loans	**14.2**	0.9
Other debtors	**18.5**	28.1
Term deposits and cash	**23.7**	15.7
	1,462.9	1,615.4

None of the Group's financial assets subject to credit risk (other than the Programme related investments which are discussed in note 15(e)) are past their due date or were impaired during the year.

Risk management policies and procedures

The objective of managing credit risk is to minimise counterparty default on the Group's financial assets causing financial loss to the Group. The Group aims to mitigate its counterparty credit risk exposure by monitoring the size of its credit exposure to and the creditworthiness of counterparties, including setting appropriate exposure limits and maturities. Counterparties are selected based on their financial ratings, regulatory environments and specific circumstances.

The following details the risk management policies applied to the financial assets exposed to credit risk:

- for interest-bearing securities the credit rating of the issuer is taken into account to minimise the risk to the Group of default. Investments are made across a variety of issuers to reduce concentrations of credit risk;
- transactions involving derivative financial instruments are entered into only with reputable banks, the credit ratings of which are taken into account to minimise credit risk. Derivative financial instrument asset positions exposed to credit risk comprise the Group's forward currency contracts;
- direct cash management mandate is limited to the use of deposits with selected banks (the credit ratings of which are taken into account to minimise credit risk), the purchase of short-dated UK Government securities and the controlled use of AAA rated money market funds; and
- sale and purchases of investments are carried out with a small number of brokers, whose credit quality forms part of the initial and on-going reviews by the investment managers.

At the balance sheet date, in addition to the securities on loan discussed in note 15(a), forward currency contract assets which are secured by cash collateral are discussed in note 15(b). There were no other credit enhancements.

(b) Liquidity risk

Liquidity risk is the risk that the Group will encounter difficulties raising cash to meet its obligations when they fall due.

Liquidity risk exposure

This is a risk to the Group, given the value of the Group's commitments to charitable and investment activities.

Risk management policies and procedures

The Group monitors its exposure to liquidity risk by regularly monitoring the liquidity of its investment portfolio and holding appropriate levels of liquid assets. Cash held within the Group's cash mandate (refer to Cash reported in Figure 6 of the Review of Investment Activities section of the Trustee's report) and the liquidity forecast is reviewed: weekly by investments management; monthly by the Executive Leadership Team; and quarterly by the Investment Committee and Board of Governors.

The following table details the maturity of the Group's undiscounted contractual payments and grant liabilities as at 30 September:

	2018				2017			
Group	Three months or less £m	No more than one year £m	More than one year £m	**Total £m**	Three months or less £m	No more than one year £m	More than one year £m	**Total £m**
Payments falling due within one year								
Bond liabilities	-	77.5	-	**77.5**	-	58.5	-	58.5
Derivative financial instruments liabilities	37.2	-	-	**37.2**	100.9	-	-	100.9
Collateral liability	55.8	-	-	**55.8**	347.8	-	-	347.8
Amount payable on acquisition of investments	10.8	-	-	**10.8**	5.0	-	-	5.0
Other investment liabilities	20.0	-	-	**20.0**	29.1	-	-	29.1
Trade creditors	13.5	-	-	**13.5**	15.5	-	-	15.5
Other creditors	39.5	-	-	**39.5**	41.4	-	-	41.4
Accruals and deferred income	25.2	-	-	**25.2**	34.4	-	-	34.4
Corporation Tax	-	2.5	-	**2.5**	-	13.3	-	13.3
Contractual payments	202.0	80.0	-	**282.0**	574.1	71.8	-	645.9
Grant liability	120.0	360.0	-	**480.0**	142.8	428.5	-	571.3
	322.0	440.0	-	**762.0**	716.9	500.3	-	1,217.2
Payments falling due between one and five years								
Bond liabilities	-	-	558.4	**558.4**	-	-	495.8	495.8
Other creditors	-	-	2.8	**2.8**	-	-	2.8	2.8
Contractual payments	-	-	561.2	**561.2**	-	-	498.6	498.6
Grant liability	-	-	1,511.7	**1,511.7**	-	-	1,613.1	1,613.1
	-	-	2,072.9	**2,072.9**	-	-	2,111.7	2,111.7
Payments falling due after five years								
Bond liabilities	-	-	4,772.4	**4,772.4**	-	-	2,270.4	2,270.4
Contractual payments	-	-	4,772.4	**4,772.4**	-	-	2,270.4	2,270.4
Grant liability	-	-	340.6	**340.6**	-	-	294.6	294.6
	-	-	5,113.0	**5,113.0**	-	-	2,565.0	2,565.0
Total	322.0	440.0	7,185.9	**7,947.9**	716.9	500.3	4,676.7	5,893.9

The grant liability is non-contractual.

(c) Market risk – price, currency and interest rate risks

Market risk is the risk of potential loss the Group may incur as a result of adverse changes to the fair value of the Group's financial instruments. Market risk comprises three types of risks: price risk, currency risk and interest rate risk.

The Group measures returns and monitors portfolio risks in a 50/50 blend of Sterling and US Dollars and monitored Sterling and US Dollar currency exposures. This reflects the globally diversified nature of the Group's assets, liabilities and commitments.

The Group uses a number of investment risk metrics, of which the following are key; the expected ability of the portfolio to generate cash flows growing in real terms; currency exposures; expected likelihood of catastrophic failures of one or more assets held within the portfolio; and the assessed level of inflation protection within the portfolio.

(i) Price risk

Price risk is the risk that the value of an asset or liability will fluctuate due to changes in market price, caused by factors specific to the individual financial instrument or its issuer, or factors affecting all similar financial instruments traded in the market. This is a risk for the Group because its ability to fund research over the long term is dependent on maintaining the purchasing power of the asset base. The Group's expenditure is predominantly discretionary and the Board of Governors monitor cash expenditure, commitments and the endowment performance throughout the year to manage the balance between funding charitable activities and maintaining the purchasing power of the asset base.

Price risk exposure

The maximum asset and liability value exposed to other price risk at 30 September is the value of the traded investment assets and liabilities as detailed in the following table:

	2018 £m	2017 £m
Quoted investments	**14,919.7**	13,147.8
Unquoted investments	**10,988.6**	9,611.4
Investments properties	**1,352.3**	1,390.5
Derivative financial instruments assets positions	**45.6**	178.6
Assets exposed to risk	**27,306.2**	24,328.3
Derivative financial instruments liability positions	**37.2**	100.9
Liabilities exposed to risk	**37.2**	100.9

(ii) Currency risk

Currency risk is the risk that the value of an asset or liability will fluctuate due to changes to foreign currency exchange rates. The currency of the majority of the Group's expenditure and the functional currency of the Group is Sterling. However, the Group has investment assets denominated in currencies other than Sterling and is impacted by fluctuations in foreign currency exchange rates.

The following table details the asset value exposed to currency risk as at 30 September:

Group	**Value as at 30 September 2018 (currency, m)**	**Value as at 30 September 2018 £m**	Value as at 30 September 2017 (currency, m)	Value as at 30 September 2017 £m
Traded investments assets				
US $	$17,039.8	13,067.5	$15,443.4	11,510.8
Euro	€2,912.6	2,594.1	€2,580.5	2,273.9
Other		5,080.8		4,970.6
Other investment debtors balances				
US $	$606.9	465.4	$349.7	260.7
Euro	€28.5	25.3	€16.7	14.7
Other		81.8		158.6
Other investment creditors balances				
US $	($6.9)	(5.3)	($4.5)	(3.4)
Euro	(€400.6)	(355.8)	(€397.5)	(350.3)
Other		(14.2)		(45.8)
Forward currency contracts				
US $	($672.0)	(519.5)	$8.0	1.9
Euro	(€36.1)	(47.4)	(€211.4)	(205.8)
Other		244.4		(257.7)
Total exposed to currency risk		20,617.1		18,328.2

	Impact on gain/(loss) for the financial year 2018 £m	Impact on gain/(loss) for the financial year 2017 £m
10% US Dollar appreciation	**1,300.8**	1,177.0
10% Euro appreciation	**221.6**	173.3

A 10% depreciation in currencies would have an equal but opposite impact.

Risk management policies and procedures
The investment team monitor the Group's exposure to foreign currencies on a daily basis and report to the Investment Committee on at least a quarterly basis.

Foreign currency contracts are used to limit the Group's exposure to future changes in exchange rates which might otherwise adversely affect the value of the portfolio of investments. Where appropriate, they are also used to achieve the portfolio characteristics that assist the Group in meeting its investment objectives.

(iii) Interest rate risk
Interest rate risk arises from the risk that the value of an asset or liability will fluctuate due to changes in interest rates (i.e. for fixed interest rate assets or liabilities) or that future cash flows will fluctuate due to changes in interest rates (i.e. for variable rate assets or liabilities).

Interest rate exposure and sensitivity
The Group holds investment cash and certificates of deposit and overnight term deposits and cash, as detailed on the Balance Sheet. These are floating rate interest bearing assets, the future cash flows from these assets will fluctuate with changes in market interest rates. However, as these are liquid assets with no fixed maturity dates, the fair value would not fluctuate significantly with changes in market interest rates.

During the year the Group invested in government and corporate debt securities as part of planning for the upcoming maturity 2021 bonds (refer Note 15(a)). These are fixed rate interest bearing assets with fixed maturities, the future cash flows from these assets will not fluctuate with changes in market interest rates, however their fair value will.

The interest-bearing liabilities shown below are the bond liabilities which are fixed rate liabilities which are both held at amortised cost. The bond assets value detailed in the table below is the fair value, the bond and variable rate liabilities value detailed in the table below is the book value.

	2018		2017	
	Weighted average interest rate	**Value as at 30 September £m**	Weighted average interest rate	Value as at 30 September £m
Interest-bearing assets				
Maturing between one and five years				
Fixed rate	**1.61%**	**142.7**	n/a	-
Floating rate	**3 month GBP Libor + 22-26bps**	**129.9**	n/a	-
Total interest bearing assets		**272.6**		
Interest-bearing financial liabilities				
Maturing between one and five years				
Fixed rate – bond liabilities	**4.75%**	**(278.2)**	4.75%	(277.8)
Maturing after five years				
Fixed rate – bond liabilities	**3.13%**	**(2,059.8)**	3.49%	(1,297.9)
Total interest-bearing liabilities		**(2,338.0)**		(1,575.7)

Risk management policies and procedures
The Group takes into account the possible effects of a change in interest rates on the fair value and cash flows of the interest-bearing financial assets and liabilities when making investment decisions. The Investment Committee monitors the Group's exposure to interest-bearing assets, the bond liability and the related finance costs regularly.

26. Fair value of financial assets and liabilities

The fair values and book values of the Group's financial assets and liabilities shown on the Balance Sheet are the same with the exception of the bond liabilities which are measured at amortised cost.

The value of the bond liabilities presented in the Trustee's Report (Figure 6 on page 22) £2,653.8 million (2017: £2,040.5 million) is the sum of the fair value of the bond liabilities and the accrued interest on these liabilities.

The following table categorises the fair values of the Group's financial assets and liabilities based on the inputs to the fair value. Categorisation within the hierarchy has been determined on the basis of the lowest level input that is significant to the fair value measurement of the relevant asset as follows:

- Level 1 – valued using quoted prices in active markets for identical assets.
- Level 2 – valued by reference to valuation techniques using observable inputs other than quoted prices included within Level 1.
- Level 3 – valued by reference to valuation techniques (to estimate what the transaction price would have been on the measurement date in an arm's length exchange motivated by normal business considerations) using inputs that are not based on observable market data.

Assets at fair value as at 30 September 2018

	Level 1 £m	Level 2 £m	Level 3 £m	**Total £m**
Quoted Investments	14,757.4	162.3	-	**14,919.7**
Unquoted investments	-	3,250.6	7,738.0	**10,988.6**
Derivative financial instruments asset positions	15.0	30.7	-	**45.7**
Programme related investments	3.3	-	14.2	**17.5**
	14,775.7	3,443.6	7,752.2	**25,971.5**

Assets at fair value as at 30 September 2017

	Level 1 £m	Level 2 £m	Level 3 £m	**Total £m**
Quoted investments	13,027.4	120.4	-	**13,147.8**
Unquoted investments	-	3,124.7	6,486.7	**9,611.4**
Derivative financial instruments asset positions	35.0	143.6	-	**178.6**
Mixed motive investments	457.2	-	-	**457.2**
Programme related investments	-	-	6.4	**6.4**
	13,519.6	3,388.7	6,493.1	**23,401.4**

Liabilities at fair value as at 30 September 2018

	Level 1 £m	Level 2 £m	Level 3 £m	**Total £m**
Derivative financial instruments liabilities	7.9	29.3	-	**37.2**

Liabilities at fair value as at 30 September 2017

	Level 1 £m	Level 2 £m	Level 3 £m	**Total £m**
Derivative financial instruments liabilities	23.5	77.4	-	**100.9**

Unquoted investments include investments in hedge funds, private equity funds, property funds, direct investments and investment operating subsidiaries. For the funds the Group categorises the investments based on the fair value classification of the underlying assets and liabilities of the funds.

Derivative financial instruments comprise:

- equity and commodities index futures and option positions which are exchange traded and valued at current price meet the criteria of Level 1;
- forward currency contracts assets and liabilities which are over the counter derivatives which derive their value from market exchange rates and therefore meet the criteria of Level 2; and
- long options and warrants asset positions which are valued with reference to the underlying, which are unquoted securities, and therefore meet the criteria of Level 3.

For Level 3 investments:

- private equity and property funds are valued at the most recent valuation from the fund manager, which is usually the net asset value of the fund; and
- unquoted direct investments and programme related investments are held at the valuation determined by management, with valuations, when provided by a third party investment manager as a key input subject to appropriate review by management. Further details are provided in note 2 (Significant accounting judgements and key sources of estimation uncertainty).

27. Events after the end of the reporting period

Following the High Court ruling in October 2018 on the equalisation of pension payments for men and women, the Wellcome Trust and Genome Research Limited pension plans will need to assess Guaranteed Minimum Pensions for employees who were contracted out of the State Earnings Related Pension scheme between 1990 and 1997. We are still assessing the financial impact of this ruling with our actuaries, but do not expect it to exceed 2% of our pension liabilities.

Reference and Administrative Details

Board of Governors

Baroness Manningham-Buller, LG, DCB (Chair)

Professor Michael Ferguson, CBE, FRS, FRSE, FMedSci (Deputy Chair from 1 January 2018)

Professor Dame Kay Davies, CBE, FRS, FMedSci (Deputy Chair to 31 December 2017)

Professor Tobias Bonhoeffer, PhD

Mr Alan Brown, FSIP

Sir Damon Buffini, MBA (to 30 September 2018)

Mr William Burns

Professor Bryan Grenfell, OBE, FRS

Professor Dame Anne Johnson, MD, FRCP, FFPH, FRCGP, FMedSci (to 31 December 2018)

Professor Fiona Powrie, FRS FMedSci (from 1 January 2018)

Brief biographies are included on pages 117-118.

Company Secretary

Mr Chris Bird

Executive Leadership Team

Dr Jeremy Farrar, FRS, FMedSci, OBE (Director)

Mr Chris Bird (General Counsel)

Professor Stephen Caddick (Director of Innovation)

Dr Simon Chaplin, FDSRCS (Director of Culture and Society)

Dr Alyson Fox (Director of Grants Management)

Mr Mark Henderson (Director of Communications)

Dr Chonnettia Jones (Director of Insight and Analysis)

Mr Tim Livett (Chief Financial Officer)

Ms Kathy Poole (Director of People from 7 August 2018)

Sir Jim Smith, FRS, FMedSci (Director of Science)

Mr Ted Smith (Director of People and Places to 31 December 2017)

Mr James Thomas (Chief Technology Officer)

Mr Ed Whiting (Director of Policy and Chief of Staff)

Investment Executive

Mr Peter Pereira Gray (Managing Partner and Chief Executive Officer, Investments)

Mr Nicholas Moakes (Chief Investment Officer, Investments)

Mr Danny Truell (Emeritus Partner)

Audit and Risk Committee

Mr William Burns (Chair)

Ms Adèle Anderson

Mr Tim Clark (to 30 April 2018)

Professor Michael Ferguson (from 1 January 2018)

Professor Dame Anne Johnson (to 31 December 2017)

Mr Chris Jones

Remuneration Committee

Baroness Manningham-Buller (Chair)

Mr Alan Brown

Professor Dame Kay Davies (to 31 December 2017)

Professor Michael Ferguson (from 1 January 2018)

Nominations Committee

Baroness Manningham-Buller (Chair)

Sir Damon Buffini (to 30 September 2018)

Professor Dame Kay Davies (to 31 December 2017)

Professor Michael Ferguson (from 1 January 2018)

Professor Bryan Grenfell (from 1 October 2018)

Investment Committee

Mr Alan Brown (Chair)

Sir Damon Buffini (to 30 September 2018)

Professor Dame Kay Davies (to 31 December 2017)

Mr Stefan Dunatov

Dr Jeremy Farrar

Professor Michael Ferguson (from 1 January 2018)

Mrs Sarah Fromson

Mr Naguib Kheraj

Mr Tim Livett

Baroness Manningham-Buller

Mr David Mayhew

Mr Nicholas Moakes

Sir Michael Moritz (to 31 March 2018)

Mr Peter Pereira Gray

Mr Danny Truell

Biographies of the Governors

Baroness Manningham-Buller, LG, DCB
Eliza Manningham-Buller has been Chair of Wellcome since 2015, having served as a Governor since 2008. Wellcome is a global charity which exists to improve health for everyone by helping great ideas to thrive. She leads a Board of Governors drawn from the worlds of science, business and public life.

In 2015, Eliza became the Co-President of Chatham House, Royal Institute of International Affairs. She served on the Council of Imperial College from 2009 and was Chair of Council from 2011 to 2015.

She was appointed an independent, crossbench peer in the House of Lords in 2008, and has been a member of the Privileges and Conduct Committee, the Joint Committee on the National Security Strategy, and the Science and Technology Committee.

Previously, Eliza had a career with MI5 for more than 30 years, including a posting to the British Embassy in Washington. She served as Director General from 2002 to 2007 and before that was Deputy Director General, with responsibility for operations.

Eliza was educated at Benenden School and Lady Margaret Hall, Oxford. She taught for three years before joining MI5 in 1974.

Professor Michael Ferguson, CBE, FRS, FRSE, FMedSci
Mike Ferguson is Regius Professor of Life Sciences and academic lead for Research Strategy in the School of Life Sciences at the University of Dundee. His personal research takes a multidisciplinary approach to understanding the biochemistry of protozoan parasites that cause tropical diseases. He believes in the fundamental importance of working across the biology-chemistry interface and in interdisciplinary research in general.

He is particularly interested in translational research and, together with his colleagues, established the Drug Discovery Unit at the University of Dundee and led the construction of the Discovery Centre (for Translational and Interdisciplinary Research).

He also co-directs a proteomics facility that supports much of the work of his colleagues in the Schools of Life Sciences and Medicine and other organisations. He is also a Board member of Amphista Therapeutics Ltd.

Professor Dame Kay Davies, CBE, FRS, FMedSci
Kay Davies is Dr Lee's Professor of Anatomy and Associate Head, Development, Impact and Equality, Medical Sciences Division, University of Oxford.

Her research interests cover the molecular analysis of neuromuscular and neurological disease, particularly Duchenne muscular dystrophy. She has considerable experience of biotechnology companies as a conduit for translating the results of experimental science into new therapeutics and diagnostics.

Kay is a founding editor of 'Human Molecular Genetics' and a founding fellow of the Academy of Medical Sciences.

She has an active interest in the ethical implications of genetics research and the public understanding of science.

Kay is a Fellow of the Royal Society and a Member of the European Molecular Biology Organization.

Professor Tobias Bonhoeffer
Tobias Bonhoeffer is Director at the Max Planck Institute of Neurobiology and Professor at the Ludwig Maximilians University in Munich. He is one of the world's foremost researchers in systems neuroscience. He studies synaptic plasticity in the brain focusing on learning, memory and how the brain adapts to its environment.

Tobias served for more than 20 years as department head at the Max Planck Institute of Neurobiology and later also as Chair of the Biomedical Section of the Max Planck Society. He has been a member of the scientific advisory boards of numerous leading Institutions, including the Chan Zuckerberg Initiative, the ETH Zurich, the Janelia Farm Research Campus of the Howard Hughes Medical Institute and the Chinese Academy of Sciences.

Tobias is a member of the German National Academy of Sciences, Leopoldina, the Academia Europaea and the European Molecular Biology Organization. He has been awarded the Ernst-Jung Prize for Medicine.

Mr Alan Brown, FSIP
Alan Brown read natural sciences at the University of Cambridge before starting a career in the investment management industry, where he worked for almost 40 years. He has held positions as a chief investment officer for the past 24 years, most recently as an Executive Director at Schroders.

Alan's other responsibilities include Chair of Artemis LLP, Chair of the Board of the Carbon Disclosure Project, and Chair of the Board of the Westway Trust. He is a non-executive director of Pool Reinsurance Company, a scheme established to provide cover for losses arising from terrorism. Previously he was a Director of the Investment Management Association and an alternate member of the Takeover Panel.

Sir Damon Buffini, MBA
Damon Buffini was educated at St John's College, University of Cambridge, where he read law, and at Harvard Business School, where he gained an MBA. He was a founding partner of Permira, a European private equity firm with global reach. He was managing partner from 1999 to 2007 and Chair from 2007 to 2010.

Under his leadership, Permira's funds under management grew from €1.9 billion to over €20 billion and the firm expanded its international network of offices from four to 12. Over the same period, Permira helped to grow and build numerous successful businesses across Europe, including Homebase, Inmarsat and global aviation services group Jet Aviation.

Damon is Chair of the Board at the National Theatre, Chair of the Royal Anniversary Trust, which administers The Queen's Anniversary Prizes for Higher and Further Education, and Senior Independent Director of the European Golf Tour. He is also co-founder of Social Business Trust, an initiative to grow social enterprises by using the knowledge, skills and capital of UK businesses.

Mr William Burns
William "Bill" Burns is Chair of Vestergaard and Molecular Partners, and Vice-Chair of Mesoblast. He also serves as a trustee of the Institute of Cancer Research.

Bill has over 40 years' experience in the pharmaceutical and life sciences industry. He was a senior independent director of Shire Pharmaceuticals until April 2018 and was CEO of the global pharmaceuticals division of Roche Holdings from 2001 to 2009.

He previously chaired the funding committee of the Health Innovation Challenge Fund, a partnership between Wellcome and the Department of Health.

Professor Bryan Grenfell, OBE, FRS
Bryan Grenfell is the Kathryn Briger and Sarah Fenton Professor of Ecology, Evolution and Public Affairs at Princeton University. He is jointly appointed at the Woodrow Wilson School and Department of Ecology and Evolutionary Biology.

With over 30 years' experience researching the population dynamics of infectious diseases, his research focuses on the epidemiology, evolution and vaccination control of infections such as measles and influenza. He has advised the UK government and the World Health Organization on the mathematical modelling and control of a variety of infectious diseases.

He is a Fellow of the Royal Society, the American Academy of Arts and Sciences, and the American Association for the Advancement of Science. He has also been awarded the T H Huxley Medal from Imperial College and the Scientific Medal of the Zoological Society of London.

Professor Dame Anne Johnson, MD, FRCP, FFPH, FRCGP, FMedSci
Anne Johnson is Professor of Infectious Disease Epidemiology, and Chair of the Population Health Domain, and formerly Vice Dean for international relations in the Faculty of Population Health at University College London. She was a co-founder of the university's Institute for Global Health.

After training in medicine at the University of Cambridge and Newcastle University, she specialised in epidemiology and public health and has a clinical research career spanning over 30 years.

Her research interests focus on the epidemiology and prevention of HIV, sexually transmitted infections and other infectious diseases. This includes sexual lifestyle studies, international HIV cohort studies, behavioural intervention studies, and the epidemiological and immunological determinants of seasonal and pandemic influenza transmission.

Anne is a Fellow of the Academy of Medical Sciences and has been awarded the Alwyn Smith Prize by the Faculty of Public Health.

Professor Fiona Powrie FRS, FMedSci
Fiona Powrie is Director of the Kennedy Institute of Rheumatology, University of Oxford. She gained a PhD in immunology from the University of Oxford and then moved to the DNAX Research Institute in Palo Alto. She returned to the University of Oxford in 1996 where she was the Sidney Truelove Professor of Gastroenterology and Head of the Translational Gastroenterology Unit from 2009-2014.

Fiona's research is focused on interactions between the intestinal microbiome and the immune system. She identified the role of regulatory T cells in controlling intestinal inflammation and established the cytokine IL-23 as a therapeutic target in inflammatory bowel disease. She is particularly interested in translating basic research into clinical application. She leads the Oxford Biomedical Research Centre's Gastroenterology and Mucosal Immunology theme and recently established the Accelerated Therapy for Arthritis Programme, a clinical research network designed to increase the testing of novel therapies in the clinic.

She serves on a number of scientific advisory boards including the Lister Institute, the Imagine Institute in Paris and the Evergrande Centre in Boston. She received the Louis Jeantet Prize for Medicine in 2012 and was elected a Fellow of the Royal Society in 2011, EMBO in 2013 and the Academy of Medical Sciences in 2014.

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