Universities Superannuation Scheme

Report and Accounts

for the year ended 31 March 2019

We are the principal pension scheme for universities and other higher education institutions in the UK.

The Annual Report and Accounts of the trustee company can be found at **www.uss.co.uk/report-and-accounts**

How USS manages risk is described in detail in the risk supplement at **www.uss.co.uk/report-and-accounts** or **www.uss.co.uk/managing-risk**

The work completed by USS specialist standing committees in 2018/19 can be found in our Governance supplement which is available at **www.uss.co.uk/report-and-accounts**

Front cover: Aberdeen University Library.
Inside cover: The Royal Liver Building, the registered USS office.

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How we create lasting value for all our members and employers.

Governance

The governance framework at USS that supports our decision making and accountability.

Financial statements

Audited financial statements consisting of the fund account, statement of net assets and notes.

Actuarial

An explanation of the actuarial liabilities of the scheme and the funding ratio.

About USS

The scheme

Universities Superannuation Scheme (USS) was established in 1974 as the principal pension scheme for universities and other higher education institutions in the UK.

The trustee

The scheme's trustee is Universities Superannuation Scheme Limited (USSL). It is a corporate trustee which has overall responsibility for scheme management, led by a non-executive board of directors and employing a team of pension professionals in Liverpool and London. The trustee's key responsibility is to ensure that USS pays benefits as they fall due. In order to do so the trustee must ensure that USS:

- is adequately funded
- has an appropriate investment strategy, having regard to the scheme's liabilities, support available from sponsoring employers and profile of its members
- is administered and run in a way which demonstrates an appropriate level of care and skill and value for money for both members and sponsoring employers

Administration

The trustee employs an experienced team of pension administrators who are based in the Liverpool office. This team is supported by Capita, an external pensions administration firm.

Investment management

The trustee delegates implementation of investment strategy to a wholly-owned subsidiary – USS Investment Management Limited (USSIM) – which employs a team of investment management professionals in the London office providing in-house investment management and advisory services.

The scheme provides two types of benefit: defined benefit and defined contribution, and in both cases we invest payroll contributions received from members and their employers to generate funds to pay for benefits in the future:

USS Retirement Income Builder (defined benefit for all members)

£67.4bn

in assets and c.440,000 members

USS Investment Builder (defined contribution)

£0.8bn

in assets and c.85,000 of our total members

The Annual Report and Accounts of the trustee company can be found on our website **www.uss.co.uk**

Chair's introduction

USS plays a key role in supporting the continued success of a sector that is of vital importance to the UK economy.

Valuable pension benefits are central to attracting and retaining the highest calibre of academics and support staff to our higher education sector, which enriches our society as a whole.

So we have a critically important role and we remain resolutely focused on achieving excellent outcomes for members and institutions in the face of very challenging conditions and competing pressures.

"We acknowledge the challenges in levying higher contributions and have worked hard to find ways in which these can be escalated gradually, or made contingent on events."

Under statute and regulation, a funding deficit must be addressed in a timely manner. In effect, this gives the past priority over the future as it involves using a portion of today's contributions to pay for benefits already promised.

Of course, in performing our role we also consider the affordability of continued membership and protecting the enduring value of USS to the HE sector.

It is a very difficult balance to strike in the midst of continuing low interest rates and uncertainty surrounding Brexit, tuition fees and university funding, and the global economy.

These factors make both past benefits and the benefits being earned today more expensive to fund.

While we might reasonably assume that conditions will be better in the future, we also need to weigh in the potential consequences of being overly optimistic in this regard, which could be severe.

We acknowledge the challenges in levying higher contributions and have worked hard to find ways in which these can be escalated gradually, or made contingent on events.

Ultimately, there are no easy answers to the challenges and competing pressures we face, but we are committed to working with our stakeholders to find a way forward that protects all that is good about USS.

Dedicated professionals

In the midst of such uncertainty, members can take comfort in knowing that the scheme's dedicated professionals are working expertly and diligently on their behalf, in partnership with sponsoring employers, to oversee these important matters.

They can have faith in the high standards demanded of, and demonstrated by, the scheme in gaining approval under the new Master Trust regime (see page 34).

They can also take confidence from the performance of our in-house investment team, which has continued to add value in challenging market conditions at substantially lower investment costs than other funds of a similar size and complexity have achieved (see page 19).

Constructive engagement

I would like to thank my colleagues on the Board for their vital work in support of the scheme (see page 32).

Over the past year we have welcomed Will Spinks and Gary Dixon to the Board and I want to thank their predecessors, Professor Dame Glynis Breakwell and Professor Stuart Palmer, respectively, for their significant contributions.

The division of duties that exists between the trustee and its stakeholders is a critical part of the checks and balances of running a mutual, multi-employer scheme like USS.

"We are committed to working with our stakeholders to find a way forward that protects all that is good about USS."

This has been demonstrated in our constructive engagement with the Joint Expert Panel assembled by our stakeholders to review the 2017 valuation, and in our decision to launch a 2018 valuation to explore how the panel's subsequent recommendations might, where possible, be safely adopted.

It is also evident in the level of technical detail we have provided in what we believe has been the most transparent valuation process of any UK pension scheme (for more information see www.uss.co.uk/2018-valuation).

No matter what challenges lie before us, we will continue to work to ensure we deliver on our promise to provide a secure future for our members.

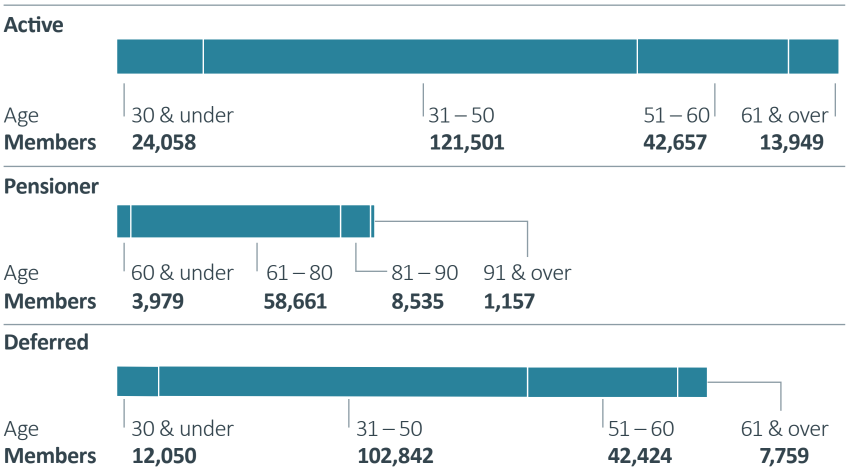
Professor Sir David Eastwood
Chair of the Trustee Board
17 July 2019

Performance overview

Scheme members

439,572
total number of members

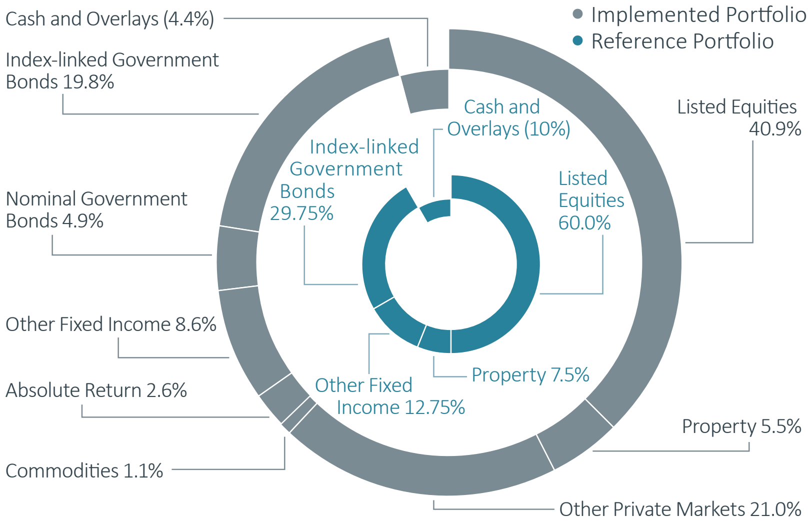
The scheme has 202,165 active members, 165,075 deferred members and 72,332 pensioner members. During the year 33,182 members joined the scheme and 4,106 members retired. For further information see the member services section on page 12.



Asset allocation

£67.4bn
invested in public and private markets

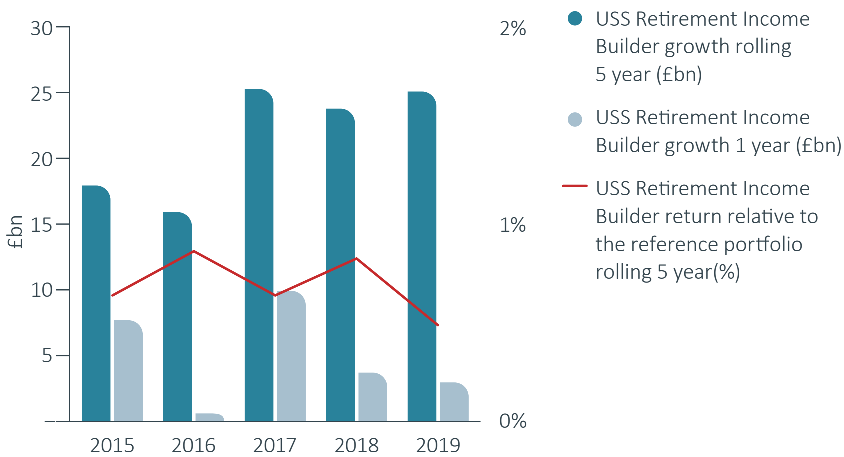
The Implemented Portfolio shows the breakdown of USS Retirement Income Builder assets at 31 March 2019. The Reference Portfolio is a long-term benchmark for the returns and risk of the investment strategy for those assets. For further information, including an explanation of how the asset allocation has developed over time, see Investment Matters on page 19.



Investment growth

£26bn
over 5 years

The USS Retirement Income Builder net investment growth over 5 years to 31 March 2019 is £25.7bn – a return of 10.09% p.a. which is 0.31% p.a. above that of the Reference Portfolio over the period. For further information see the investment matters section on page 20.



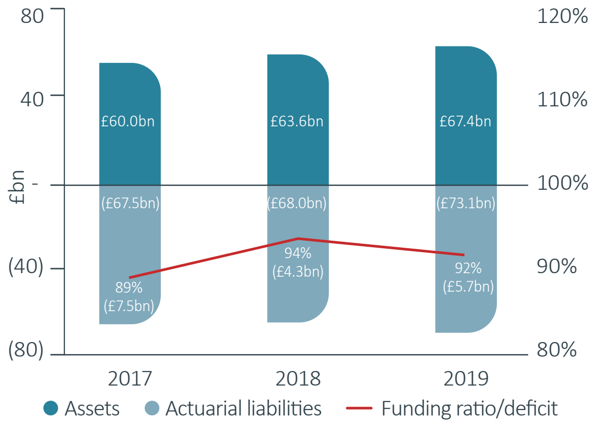
USS Retirement Income Builder financial position

92% funding ratio

The chart shows one method of tracking the financial position of the USS Retirement Income Builder which provides defined benefits to members.

The actuarial liabilities for each year are based on the 2017 valuation updated using our monitoring approach.

Alternative measures of scheme funding can help to illustrate the financial position and are included in the actuarial section on page 82.



Investment management cost

34 basis points

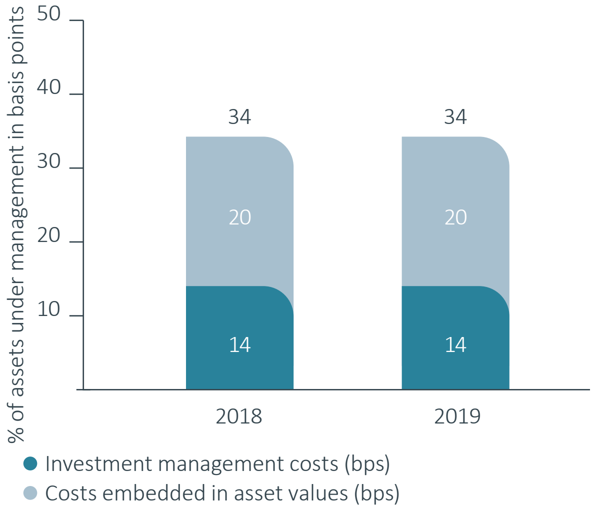
Our total investment management cost[1], inclusive of embedded cost[2], is shown as a proportion of the USS Retirement Income Builder average total assets in basis points[3] (bps). The cost is benchmarked each year by an independent company (CEM Benchmarking) and for 2017 (the most recent analysis) was 12bps (equivalent of c.£71m) lower than the peer average.

Notes

1 Investment management cost is an internal KPI (for further details see footnote on page 68).

2 Embedded cost comprises those external management and performance fees, excluding carried interest, deducted from the scheme asset value, rather than being invoiced as investment management expenses in the Fund Account.

3 Basis points (bps) are a unit of measure for interest rates and other percentages in financial services. One basis point is equal to 0.01%, i.e 1%=100bps.



Pension administration cost

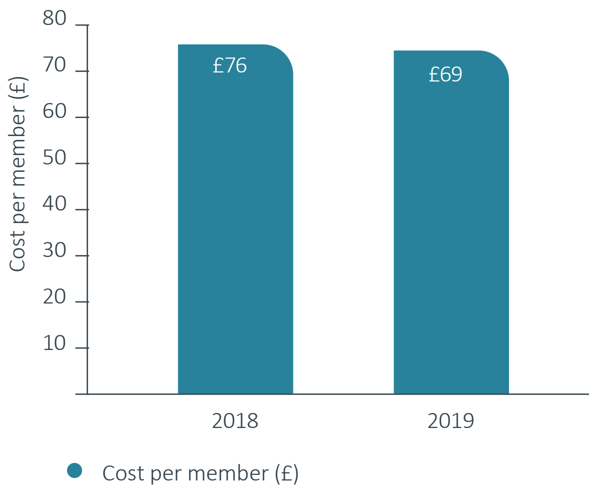
£69 per member

Pension administration cost[1] has been internally calculated as a cost per member for the financial year 2018/19 on a basis intended to be comparable with the external benchmarking performed by CEM Benchmarking (whose most recent USS cost per member was £76 – 2018). We consistently work to identify opportunities to improve our cost-effectiveness while developing our service levels. For further information see the member services section on page 12.

Notes

1 Pension administration cost is an internal KPI (for further details see the footnote on page 68). Note, the 2018/19 KPI shown will be updated following completion of the 2018 CEM benchmarking process.

2 A peer comparison is less meaningful for pension administration cost than for investment management cost, as the majority of the peer group participating in the CEM benchmarking process differ significantly to USS, mainly being single employer or group schemes, many of which are not hybrid schemes, and therefore are not comparable in terms of complexity or cost.



Group Chief Executive Officer's update

Delivering good outcomes for the people we serve is the reason we all come to work at USS.

We do our very best for members and sponsoring employers day in, day out, to provide the right support in the right way; to work to maintain our valuable pension offering; to ensure that the promises made can be kept, and to give the confidence and peace of mind that there is a team of dedicated professionals working diligently on their behalf.

Bill Galvin
Group Chief Executive Officer

The challenges of the 2017 and 2018 valuations have towered over events in the past year, and continue to be our most pressing and important priority.

However, our collective focus on running your scheme in an effective and efficient manner has never faltered. As this report shows, the high standards we demand of ourselves and of our processes have continued to deliver good outcomes and value for money despite significant pressures.

Our in-house investment team continues to add long term value in a way that is significantly cheaper than peer funds of a similar scale and complexity (see page 20).

"It is clear that some members feel we have not handled or communicated the complex issues we are grappling with as well as we might."

Investments in our administrative processes have made us more efficient in the way we manage the increasingly bespoke, and often complex, benefit arrangements the scheme provides – so I am pleased we have maintained very high levels of satisfaction with participating employers and improved in several areas (see page 16).

We became the first hybrid scheme to achieve Master Trust status under the new more stringent regulatory regime following rigorous review of how the scheme is run (more of which below).

We are proud of this result, given the complex, competing demands of the scheme's recent and ongoing valuations.

Tough challenges

While the scheme's recent and ongoing valuations have, entirely understandably, been the focus of much debate and comment, I know the care, thought and diligence we have taken in carrying them out and I am proud of it.

Nonetheless, it is clear that some members feel that we have not handled or communicated the complex issues we are grappling with as well as we might.

Pensions are a significant component of a secure future and a key part of a good employment package and like many schemes with defined benefits, ours is facing some tough challenges.

Valuations, the periodic formal reviews of the scheme's funding position, are key to ensuring we can anticipate difficulties and navigate our way safely through. A valuation assesses the position of the scheme at a given point in time. It considers interest rates, inflation, global financial markets and higher education funding amongst other variables in order to set the contribution rate required to fund the benefits promised.

In both the 2017 and 2018 valuations, we assessed all of these issues carefully and objectively and took extensive advice to determine that the trustee had sufficient confidence that promises made to our members can be kept.

Throughout this process, we have endeavoured to support members and employers by keeping them informed and setting out the trustee's perspective. The results of the latest member perception survey (see page 12), show we need to do more to improve in this area, so that members understand the approach and position of the trustee and the reasons for it.

After expert analysis and independent review, the trustee has concluded that the cost of making such valuable pension promises to members has increased significantly, driven by on-going low interest rates together with profound economic and political uncertainties.

These conclusions have been challenged. This is an understandable reaction given the value and importance of the promises in question and the nature of the sector we are here to serve.

However, the independent judgement of the trustee is a critical part of the checks and balances of running a mutual pension scheme such as USS.

The trustee's primary legal obligation is to ensure that the benefits promised to members can be paid as they fall due and so to protect the entitlements of members.

We are working diligently to finalise the 2018 valuation in a way that fulfils that obligation but also serves the interests of our members and employers taking into account their views and those of others including the Joint Expert Panel.

https://vimeo.com/321245420

Delivering value

While the cost of fulfilling pension promises has been uppermost in our minds, we remain focused on delivering value for members and employers by managing the cost of administering the scheme.

Our strategic decision to do more direct investing, in-house, continues to deliver value for money in the way it has significantly reduced the fees that would otherwise be paid to external managers.

Within total scheme costs, our administration costs and investment management expenses rose over the last financial year, in part as a result of a pension charge arising from our own membership of the scheme and in part because of increased incentives cost that reflect our strong 5-year investment performance. (This was particularly positive in the period to December which is when we evaluate remuneration each year.)

Further analysis of our remuneration costs and approach and of the other expenses incurred in running the scheme is included on page 37.

"Pensions are a significant component of a secure future and a key part of a good employment package."

Member numbers have continued to increase, reflecting auto-enrolment and the growth of the sector.

As our membership increases, so too does member activity and our investments in technology have allowed us to manage these increases successfully.

The Chief Pensions Officer is at the very heart of these processes, and our progress is a testament to the tireless work of Kevin Smith and his team.

Kevin retired at the end of 2018 and Helen McEwan has since taken up this critical role.

I am delighted we have been able to appoint someone of Helen's calibre and experience to build on the high standard of service that our pensions team already provides.

I'd like to take this opportunity to thank Kevin for his valuable work.

Member experience

Supporting our members throughout their journey to retirement is hugely important to us.

We engage with our members throughout various stages of their journey with valuable updates about their benefits, their options and the value of being part of USS, so they can make the right decisions for retirement. We have focused on improving our conversations with members by providing clear and timely communications in accessible formats to ensure they are informed, empowered and supported at every stage.

We've also listened to member feedback to try to ensure we continue to improve our service.

A great deal of research, hard work and care also went into the production of our Annual Member Statements, which generated a lot of very positive feedback from members and employers alike.

It is great to see how well these new approaches have been received so far (see page 12).

While this is an ongoing journey, it suggests we are at the very least heading in the right direction.

Our digital channels are an increasingly important part of this work, providing members with more immediate access to a range of information about their pension and supporting important decisions.

We plan to relaunch the public website and My USS to provide members with an improved, more intuitive design, greatly enhanced search capabilities and, importantly, access for pensioner members.

Our aim is to deliver increased personalisation, better modellers and improved integration with our 'back office' systems.

Group Chief Executive Officer's update

> *Becoming the first hybrid scheme approved by the Pensions Regulator under the Master Trust regulations reaffirms the care we take in administering the scheme.*

£389m

our in-house management team outperformed its rolling five-year benchmark, adding £389m of value to the fund (net of costs)

Investment performance

How we manage the scheme's investments is at the very heart of what we do. I am pleased to say that, despite challenging and volatile market conditions, the USS Retirement Income Builder, which delivers members' defined benefits, outperformed its rolling five-year benchmark, adding £389m of value to the fund (net of costs). Independent analysis of schemes of a similar size and complexity to USS shows that we have achieved above-average returns compared to our peers, and at a lower cost; some £71m per year cheaper, in fact. The corresponding staff cost of our investment management team managing almost three quarters of the scheme's defined benefit assets in-house is significantly lower than the fees that would otherwise be paid to external managers, (see page 20).

It has reduced our investment costs, measured as a proportion of assets under management, from 47 basis points to 34 basis points over the past five years. One basis point is equal to £7m of fund value, so our investment costs would have been £87m higher per year.

The defined contribution funds available to members through the USS Investment Builder are also performing well in challenging conditions: on an asset weighted basis, the range has outperformed the Reference Portfolio by 0.96% on an annualised basis since inception, with just one fund underperforming its benchmark.

Under the guidance of our Chief Investment Officer, Roger Gray, the investment team has simultaneously outperformed and saved cost, which is to the significant benefit of the scheme.

These outcomes have directly contributed to lower scheme costs for employers and members.

It is a legacy of which Roger can be justifiably proud; we have benefited from his calm, considered and expert guidance, helping steer the scheme's investments through a turbulent period.

Roger has signalled his intention to retire in September 2019 after a decade with USS. In May this year, after a global search for his successor, we confirmed the appointment of Simon Pilcher as the new Chief Executive Officer of USS Investment Management.

We are now focused on achieving a seamless transition when Roger eventually hands over his responsibilities.

Rigorous regulation

Amid an already urgent and complex set of challenges we have also seen increasing rigour in the regulatory environment in which we operate and this has been a key priority of the executive team and of the Trustee Board in the year (see page 34).

In our investment business, this increased rigour takes the form of the Financial Conduct Authority's new Senior Managers and Certification Regime that comes into effect from December 2019. Focusing on the accountability of senior managers, and the clarity of their responsibilities, we will fall under the FCA's 'enhanced regime' due to the scale of the assets we manage.

Meanwhile, becoming the first hybrid scheme approved by the Pensions Regulator under the Master Trust regulations reaffirms the care we take in administering the scheme, of the quality of our systems, processes and controls, and of the Trustee Board and its committees in providing critical oversight of scheme management.

Our impact

We use our scale and expertise to deliver a secure future for our members, support for universities, and act as a force for positive change in the UK and broader environment

Delivering a high-quality, cost-effective pension to help our members get the most out of their lives ahead	Our hybrid structure provides members with security and flexibility in retirement in a way that also delivers value for money. Our cost-effective, in-house investment management expertise and the high service levels of our pension's team are critical to our ability to deliver high-quality, bespoke pensions. Through the delivery of a valuable, secure pension, we play a key role in attracting and retaining world-class talent in the UK higher education sector.
A responsible steward using our position to effect positive change	We believe the way a company is governed and how it manages environmental and social factors impacts its long-term success and in turn its attractiveness as a business in which to invest. As a long-term, active, and responsible major institutional investor with one of the largest Responsible Investment teams in the UK's pensions sector, we use our influence to encourage positive change in the companies in which we invest.
A global investor with a strong heritage of commitment to the UK	We invest globally to generate value and strong investment returns. Particularly within our long-term private market investments, we have a history of investing in the UK economy (2019: 55% of our £17bn assets). Our long-term investment supports the success and sustainability of UK companies such as Thames Water and Heathrow Airport: both vitally important infrastructure assets. We share members' interests in securing a prosperous economy to support our world-class higher education sector.

The application itself required an exhaustive description and assessment not just of our systems and controls, but of business plans, governance models, continuity arrangements and much, much more. For us, this was a particularly extensive process as several features of our hybrid DB/DC product and governance arrangements are markedly different from those exhibited by a 'typical' commercial Master Trust (almost all of whom only offer DC benefits).

That we were able to demonstrate the high standards already in place in a relatively short space of time shows that we have an effectively managed multi-employer scheme.

We are greatly assisted in this by members of our Institutions Advisory Panels and Employer Consultation Working Group, as well as Nominated Consultation Contacts. I would like to take this opportunity to thank them for their support, valuable insights, and constructive feedback over the past 12 months. Such forums are vital if we are to continue to improve the way we work together.

A duty of care

My colleagues and I are trusted to protect our members' promised pensions every step of the way to, and through, their retirement.

This provides an invaluable sense of purpose.

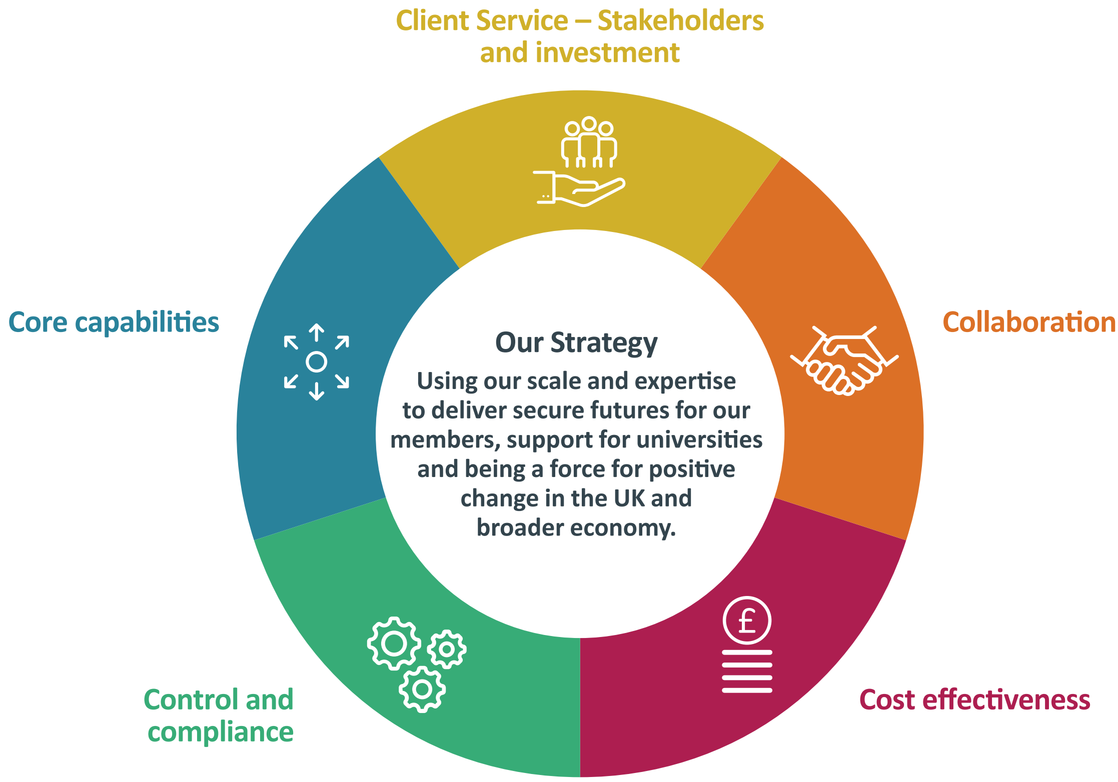
The care we take in administering the scheme is evident in the pages of this report, in the diligent way we have tried to respond to the events of the past year, and in the way we have continued to deliver good outcomes in very challenging circumstances.

We will continue to work creatively and constructively with our stakeholders to ensure members' pensions and the future of the scheme remain secure for the benefit of our members and the UK higher education sector.

Bill Galvin
Group Chief Executive Officer

Strategic themes

Our strategy is supported by our five strategic themes; these are explained below



Core capabilities
Our core capabilities are the building blocks for successful development and delivery of services to our employers and members. Core capabilities are delivered through people, technology and processes.

Client service – Stakeholders and investment
We use our core capabilities to deliver for our two client groups, employers and members. This encompasses managing investments and all service touchpoints.

Collaboration
A culture with teamwork and collaborative ways of working at the heart of the business enables us to optimise our performance across all elements of the scheme.

Control and compliance
We manage risk by ensuring a culture and framework of control and compliance is in place across the business, accompanied by a learning culture to drive continuous control improvements.

Cost effectiveness
We strive to develop and deliver targeted employer and member outcomes in the most cost-effective manner we can, as value for money is a central consideration.

Key performance indicators

Further information regarding how risk management links to USS performance management measures and how it is aligned with our 5 strategic themes, can be found on page 26.

Strategic theme	Key Performance Indicators	2018/19 result	2018/19 target	2017/18 result	2017/18 target	Measure definition
	Employer positive relationship	80%	70%	80%	62%	Based on November 2018 employer survey findings. The percentage of employer respondents in the respective perceptions surveys responding either 'good' or 'very good' when asked the question 'Taking everything into account, how would you rate your overall relationship with USS?'
	Member positive relationship	31%	50%	38%	70%	Based on the 2018 member perceptions survey, the percentage of respondents reporting 'good' or 'very good', when asked about their overall relationship with USS.
	Investment outperformance (1 year)	-1.25%	0.55%	1.44%	0.55%	Comparison of actual one-year performance for year to 31 March relative to the performance of the Reference Portfolio (net of costs).
	Investment outperformance (rolling 5 year)	0.31%	0.54%	0.78%	0.52%	Comparison of actual five-year performance to 31 March relative to the performance of the Reference Portfolio (net of costs).
	Employee engagement	81%	80%	82%	80%	Based on 2019 employee survey results. The percentage of USS employees who agree and strongly agree with relevant survey statements.
	Pension administration cost per member	£69	£72	£76	£71	The pension administration cost per member calculated for the financial year on a CEM benchmarking basis[1].
	Investment management cost	34bps	33bps	34bps	38bps	Investment management cost in basis points (bps) as a proportion of average assets under management[1].
	% of internal audit findings remediated	94%	100%	100%	100%	Percentage of significant audit findings remediated within the agreed timeframe.
	% of material breaches remediated	100%	100%	100%	100%	Percentage of material breaches remediated within the agreed timeframe.
	My USS registrations	80,212	77,440	70,404	n/a	Number of active members registered on My USS. This KPI had no target in 2017/18.
	Annual Member Statement[2]	99%	n/a	96%	n/a	The percentage of active members who received an Annual Member Statement. This KPI had no target for 2017/18 or for 2018/19.

Notes

1 These cost KPIs are calculated on a management accounting basis which differs to the calculation and breakout of scheme overheads included in the Fund Account. The management basis allocates central administrative costs to investment management and pension administration activity and includes pension deficit recovery charges as they become payable rather than based on provision movements following finalisation of the scheme valuation. The investment management cost KPI is stated as a proportion of USS Retirement Income Builder assets under management which aligns more closely to the costs included than do total scheme assets.

2 Not all active members receive Annual Member Statements due to personal circumstances or multiple periods of employment. Information on their benefits is available to these members from USS on request.

Member services

Our members rightly expect the best from us and we are committed to continuously improving the experience they receive at every touchpoint. Improvements to the service we offer and the relationship our members have with us remain a daily focus and are reflected in much of the feedback we receive.

33,182

members joined the scheme in 2018/19 (new members and re-joiners)

4,106

members retired in 2018/19 (active and deferred members)

Providing USS members with a positive experience – from joining the scheme through to taking their pension – drives our priorities. We continue to invest in our digital capability, communications and administration to expand and improve the standards of our service.

Some member service highlights for 2018/19 were:

- launching a large-scale pilot communicating directly with 55,000 members for the first time;
- providing members with a new annual statement with a combined view of all their benefits, available online; and
- giving all members flexible access to their USS Investment Builder savings pre-retirement.

We continue working to improve the service we offer to members and the relationship they have with USS. Our overall service rating, as assessed independently by CEM Benchmarking, improved from 67/100 in 2017 to 70/100 in 2018 and compared positively to a selection of other UK pension schemes (average 61/100).

This reflects targeted improvements made, including expansion of access to the My USS member portal and stronger service standards for responding to member enquiries.

The overall relationship with members declined in 2018 with 31% of members reporting a positive relationship with the scheme (2017: 38%). We have analysed these results, and clearly the impact of the scheme valuation and views of our handling of that process are strong drivers of the outcome. The largest group of members (46%) have a neutral view of the scheme, and less than a quarter (23%) hold a negative view. Feedback from members, both through the annual surveys and other consultations, is informing our priorities as we work hard to ensure members value and trust USS and the service we provide.

Key performance indicators are reviewed each year and set to monitor our delivery of annual and long term business objectives. Our performance in the most important aspects of the member experience is measured by those KPIs, which include the overall relationship, digital experience, and rating of our communications. In 2019/20 we will also focus on:

- enhancing the My USS portal and website, to improve members' ability to access and manage their pension digitally;
- providing clear, timely and targeted communications to members, directly wherever possible; and
- providing enhanced support to members making decisions about their retirement.

Member Experience

USS supports members with their retirement plans over many years, and then throughout the years they receive their benefits. We have been looking at the key parts of our members' journeys to ensure that we develop a member experience that is:

- Personal – finding information relevant to their needs and simple
- Accessible – it is easy to do what they want
- Valued – they trust that USS cares about them and their goals
- Reassuring – they are confident about their retirement with USS

We are identifying where we can improve, whether it be small changes that make things easier for members or more strategic enhancements, such as our development of My USS and USS Investment Builder. We are also launching a Voice of the Member Panel to ensure that the scheme bases developments on member perspectives and feedback.

Communicating with members

We continue to improve the way we communicate with members. In September 2018 we launched a large-scale pilot to send information directly to 55,000 members, as opposed to via their employers. Results from the first six months of the pilot indicate that this approach delivered much more effective engagement, with an increase in average email open rates (up 11%), and email click rates (up 87%), compared with the control group who received emails via their employer. In 2019 we will explore how to expand direct communications to a wider group of members.

Our efforts to improve communications with members have had a measurable positive impact, with 45% (2017: 39%) of members rating the overall quality of our communications as good or very good.

We issued Annual Member Statements (AMS) to 96% of members by September 2018 and 99% in total. Information was available by request for the small residual group of members with particularly complex circumstances. 85% of members recalled receiving their statement and 85% of those found it useful. We have also engaged with our pensioner members, issuing a Summary Funding Statement and our In Touch newsletter. 88% of In Touch survey respondents found it relevant and 92% found it easy to understand.

This year we also told members about changes to the scheme due to happen in 2019/20, including the removal of the match and planned increases in member contribution rates. We communicated with members through emails, My USS alerts and by post to explain the implications for them, their options and the ongoing value of the USS pension. Member awareness of the changes was high. In response to feedback from members, we made information on the 2017 and 2018 scheme valuations available in a variety of ways, including by post and email, regular website updates, videos and our first interactive member webinar.

Digital service

One of our key strategic objectives is making the member experience digital. 64% of members tell us that they prefer us to contact them direct via email compared with 13% who prefer communications via their employer.

Use of the My USS member portal continues to grow, with more than 100,000 members (active, deferred and pensioners) registered and an average of around 8,000 individual members logging on to the portal each month. Use of our digital tools also rose, with 31,000 members using our USS Benefits Illustrator Modeller during 2018/19. We have delivered several enhancements during the year, including providing members with a combined view across their USS Retirement Income Builder and Investment Builder benefits, and making their AMS viewable online.

76%

of members are aware of the removal of the match from April 2019

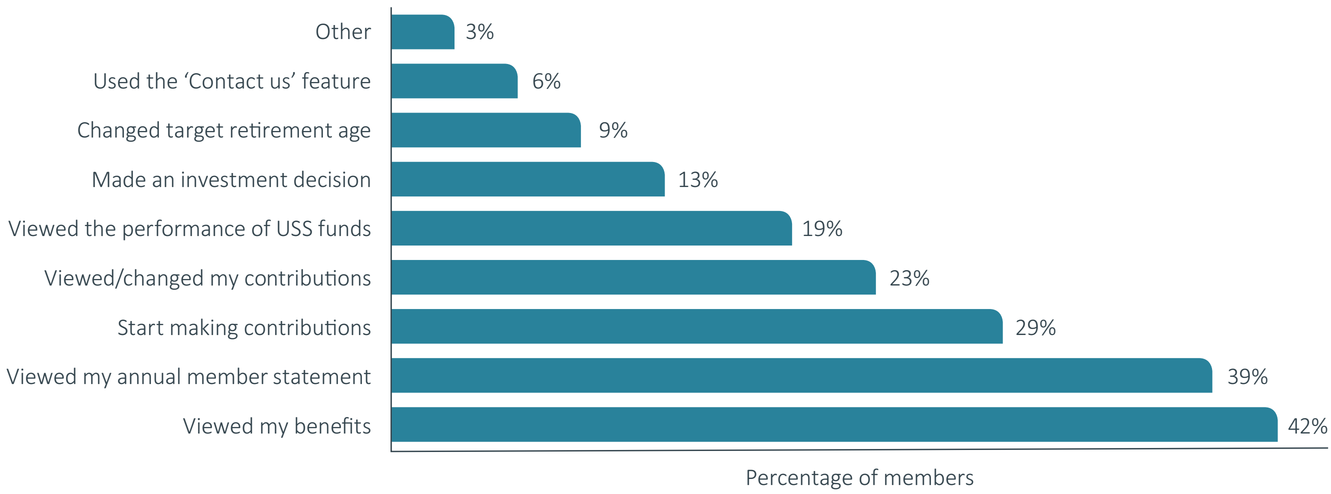
87%

of members are aware of planned increases to member contributions in 2019/20

55,000

members received information directly as part of a large scale pilot launched this year

Active Member use of My USS – 2018



Member services

More than 4,000
members made investment decisions in 2018

202,165
Active members

165,075
Deferred members

72,332
Pensioner members

We will deliver a series of enhancements to the uss.co.uk website and My USS during 2019/20 and into 2020/21.

These include:

- improving performance, navigation and user experience;
- reviewing all content for readability;
- optimising for mobile and tablet users;
- increasing ability to integrate with web apps and other software; and
- providing access to pensioner members.

After the initial launch, we intend to continue developing new digital services in line with member demand.

Member service

Members can be assured that when they contact us, their requests or queries will be dealt with in a timely and accurate manner. In 2018/19 we achieved reduced turnaround times on key member services such as retirements and transfers in. Our member service desk received around 18,000 calls, 7,000 emails and 2,000 web enquiries. Performance is monitored regularly and key indicators for call answering, speed of response and quality of information given are all being achieved. Our member service and satisfaction is measured via USS key performance indicators, for more information see page 11.

"Always on hand with a good customer service. USS staff have a good knowledge of procedures. High standards are always practiced."

We have enhanced the flexibility of USS Investment Builder benefits by introducing the ability for all members, including those who are deferred, to take cash lump sums pre-retirement. Members may need additional support to make decisions about retirement and use of their USS pension. In 2019/20 we will finalise plans to provide members with clearer information, personalised guidance, and the ability to access regulated financial advice, for roll out in 2020/21.

"Never underestimate how little someone knows about financial terminology and how pensions actually work."

Member choices

At the end of March 2019, there were 44,000 members making additional contributions to the scheme. According to our engagement and action survey, 52% of those members intend to continue making additional contributions even with the removal of the match.

More than 66,000 (86%) of our active members with Investment Builder savings invest wholly in the 'do it for me' default or ethical lifestyle fund, while 1,800 (2%) invest wholly in 'let me do it' funds and 9,000 (12%) have chosen a combination of the two. In total, 6,000 members have chosen to invest in one of our ethical fund options.

Further details about USS members, including their demographics and behaviour, can be found in the USS: Focus on Members publication, which is available on our website uss.co.uk.

Pensions increases

USS pensions are generally increased in line with increases in official pensions as defined in the Pensions (Increase) Act 1971, although from 1 October 2011, changes to the scheme rules introduced limits on such increases in respect of rights that accrue after that date. Increases to official pensions are based on the rate of inflation for the 12 months to September, measured using the Consumer Prices Index (CPI). For the year to September 2018, the rate of CPI was 2.4%, and therefore the increase applied to USS pensions in payment and deferment was 2.4%, effective from April 2019.

Membership numbers

USS provides a snapshot of members at a specific and consistent date each year. The date chosen is the financial year end and the table below shows the active membership of the scheme at the beginning and end of the year along with changes during the year:

Active Members	University institutions	Non-university institutions	Total
Membership at 1 April 2018 as reported	191,951	6,701	198,652
Change in active members[1]	(4,298)	(137)	(4,435)
Membership at 1 April 2018 as restated	187,653	6,564	194,217
New members	28,367	1,152	29,519
Re-joiners	3,596	67	3,663
Sub-total	219,616	7,783	227,399
Leavers and exits during the year			
– Retirements	(2,405)	(67)	(2,472)
– Retirements through incapacity	(67)	(6)	(73)
– Deaths in service	(86)	(4)	(90)
– Refunds	(580)	(69)	(649)
– Deferrals	(16,674)	(791)	(17,465)
– Retrospective withdrawal	(4,297)	(188)	(4,485)
Sub-total	(24,109)	(1,125)	(25,234)
Total active members at 31 March 2019	**195,507**	**6,658**	**202,165**

The number of pensioner members, along with an analysis of the movements in the year, is provided in the table below:

Pensioner Members	University institutions	Non-university institutions	Total
Membership at 1 April 2018 as reported	66,581	2,612	69,193
Change in pensioner members[2]	437	17	454
In payment at the start of the year	67,018	2,629	69,647
New pensioners in year resulting from:			
– Retirement of active members	2,472	73	2,545
– Retirement of deferred members	1,457	104	1,561
Sub-total	70,947	2,806	73,753
Rejoiners	(119)	(2)	(121)
Deaths in retirement	(1,275)	(25)	(1,300)
In payment at 31 March 2019	**69,553**	**2,779**	**72,332**

Notes

1 These figures reflect adjustments for member processes with an effective date prior to this date but which were completed after the date.

2 In addition to the pensioner numbers above are 12,372 pensions in payment at 31 March 2019 which are paid in respect of the service of another person (for example a surviving spouse or dependant). During the year, the trustee company was notified of approximately 4,485 employees of participating employers who were eligible to join the scheme but elected not to do so, which equates to 12%. This represents an increase of 144 from approximately 4,341. In addition to members included in the tables above, the scheme has 165,075 deferred members not yet receiving a pension, giving the total number of members at 31 March 2019 of 439,572. Included in the above are 77,500 active members in the USS Investment Builder as at 31 March 2019.

Employer services

By understanding our employers' specific needs and highlighting the opportunities available, we are able to generate greater engagement and understanding around pensions. This, in turn, helps employers to attract, recruit and retain staff.

80%
of employers rated their overall relationship with USS as 'good' or 'very good'

74%
of employers rated our ability to resolve their issues or questions as 'good' or 'very good'

72%
of employers rated the overall quality of support provided by USS as 'good' or 'very good'

Employer engagement

Teams at USS work closely with employers to deliver an efficient, timely and high-quality service to our members. We seek feedback from employers through the daily contact we have with scheme administrators, through our engagement and relationship management teams, and through more formal channels, such as the Institutions' Advisory Panel (IAP) and the annual Institutions' Meeting. We also collaborate with employer focus groups and IAP sub-groups on specific initiatives to ensure the views of the employer are represented and their needs are fully understood and catered for.

Employer perceptions

Each year USS surveys employers to determine a relationship satisfaction rating. The main objective of the employer perceptions survey is to gain a better understanding of employers' views of their interactions and overall relationship with USS. The metrics are closely monitored to ensure they remain appropriate and drive the right actions to improve employer experience with the scheme. In 2018, 80% of employers rated their overall relationship with USS as 'good' or 'very good', which is consistent with our rating for 2017. The proportion of employers rating their overall relationship with USS as 'very good' has increased by 7% this year to 24%.

Employer education and support

It is vital that employers can easily access the support they require from USS to assist them in discharging their administrative obligations in an accurate and timely manner.
In partnership with the IAP training sub-group, six training courses were developed for employers to help ensure their USS learning and development requirements were met.

During 2018/19, 21 training sessions were held for around 250 delegates. Without exception, responders to the post training survey stated that the goals of the course had been met and that they would recommend the course to a colleague.

In addition to the formal training programme, our dedicated engagement and relationship management teams continue to provide day-to-day support to employers in key areas of processing, including specific guidance and support covering changes to systems and processes required to accommodate the forthcoming 2019/20 changes to the scheme.

The benefits of this investment in support can be seen with over 97% of employers consistently achieving or exceeding their processing targets in key areas, such as the processing of contributions. This has also contributed to a significant increase in employer rating of the overall quality of support provided by USS, with 72% rating this as 'good' or 'very good' in 2018 (2017: 60%).

Employer focus

We implemented a suite of employer focused tools during 2018/19, including a Client Relationship Management (CRM) system, a client feedback tracker and a quarterly management information report covering USS and employer performance in key areas of processing. The use of new technology has contributed to an increase in the number of employers who rated our ability to resolve their issues or questions as 'good' or 'very good'. This increased from 64% in 2017 to 74% in 2018.

Employer communications

Employers want timely, targeted and streamlined communications. We issue an update communication to all employers on a monthly basis and provide additional communications on specific topics as required. This has included several communications relating to the scheme changes happening in 2019/20, including the increase in member and employer contribution rates.

We continually review and assess the way in which we communicate with employers.

In collaboration with the employer focus groups, we made changes to the look, feel and content of a number of our key employer communications and the employer website during the year. Employers' rating of our overall performance in our communications with them increased to 69% from 61% in the prior year.

In 2019/20 we will:

- continue to support employers in key areas of processing through targeted education and selective engagements;
- focus on our employer insight capabilities to generate a greater understanding of employer needs and priorities;
- further develop and enhance our communications with a particular focus on their effectiveness;
- roll out the next phase of our employer training programme;
- be clear on our expectations of employers and assist them in managing their participation in order that the scheme operates effectively with obligations being overseen;
- engage with employers in relation to plans to move to a more direct and digitised service for members.

GMP equalisation

In autumn 2018, the High Court handed down an important judgement concerning equalisation for the effect of guaranteed minimum pensions (GMPs) in the Lloyds Banking case. The High Court ruled that trustees of pension schemes providing a certain type of defined pension benefit known as a GMP, are under a duty to adjust scheme benefits so that the total benefits received by male and female members with equivalent age, service and earnings histories are equal.

The ruling only applies to GMPs accrued between 17 May 1990 and 5 April 1997. It affects the USS and other schemes that were contracted out of the state second pension during that time.

Schemes tended to "contract out" of the state second pension in order to make national insurance contribution savings, both for employers and for members. GMP pension benefits were designed to replace the state pension benefits that members of "contracted out" schemes would otherwise have received. The judge in the Lloyds Banking case found that more than one method of adjustment of members' benefits is permissible.

Typically, ongoing schemes are equalising benefits on certain crystallisation events, such as a transfer to another scheme or where payment of a trivial commutation or ill health lump sum is necessary, rather than equalising all benefits at once.

USS follows this trend and top-up payments might therefore be due once the Trustee determines the applicable method of equalisation. In addition, the scheme rules have been amended so that if a member requests to transfer their unequalised benefits out of USS, a second payment can be made if that member's entitlement increases as a result of any equalisation adjustment made in due course.

For further details see Note 18 of the financial statements on page 79.

Our people approach

We depend on the expertise, commitment and integrity of our people, so it is vital that we offer all those who work with us the opportunity to progress and grow within the organisation. Attracting and retaining the best talent helps us to deliver the quality of service, outstanding support, and value for money our stakeholders expect from us. Our mission is to create and maintain a positively engaged and motivated workforce.

> *As the newly appointed Chief People Officer, I have been impressed with the active focus on the broad people agenda in USS and the commitment and conscientiousness of its employees.*
>
> ***Kevin Purcell***
> *Chief People Officer*

Management capability

Investing in our people remains a priority and this year we held a series of training modules for our management teams focusing on leadership, goal setting and building and empowering a team.

Talent cycle

We are committed to providing the right conditions for our people to thrive so they can deliver the best possible service to our members. We have embedded our talent management and succession planning at the mid-management levels and plan to expand this to include senior positions to ensure we have strong successors for these vital roles.

Our succession planning approach has already proved valuable, with several senior appointments made from our existing team over the past year.

Resourcing

Hiring the best talent to deliver the best service for our members and sponsors is a strategic imperative. Our investment in our resourcing model has resulted in an increase in the number of successful direct appointments, reducing our reliance on recruitment agencies and therefore saving on recruitment costs.

USS employee engagement

Despite a challenging backdrop over the past year, our employee engagement scores have remained largely stable and continue to be in line with our benchmark; this is a strong result for USS.

We believe our focus on developing our people, and our management teams in particular, has contributed to the overall results.

Participation in the engagement survey continues to be strong, with 86% of employees taking the time to complete the survey and provide their commentary. We see engagement as a key indicator of our ability to provide a high-quality service to members and are pleased to see that 89% of our employees stated that they understood how their roles contributed to the overall success of USS.

Diversity and Inclusion

We launched our Diversity and Inclusion strategy in 2018/19. Developed in conjunction with our employees, it is focused on promoting diversity and inclusion across the business. In April 2019, we published the Gender Pay results for the previous year which shows improvement in some areas but illustrates more progress is needed.

See www.uss.co.uk/gender-pay-gap.

There is no quick fix and we remain focused on identifying the right actions to achieve lasting change. Accordingly, our Diversity and Inclusion agenda includes a focus on gender across all elements of the HR cycle, such as recruiting, performance management, career development, promotion and remuneration.

People Priorities

- Management capability
- High potential talent development
- Hiring the best capability is a strategic imperative
- Maintain high levels of employee engagement
- Diversity and Inclusion

Investment matters

Delivering superior risk-adjusted returns, responsibly and cost-effectively – a look back over 10 years at USS by Roger Gray, Chief Investment Officer, who retires later this year

Becoming Chief Investment Officer at USS offered a unique opportunity to extend my experience while serving the UK higher education sector, as our results directly impact the cost of providing high-quality pension benefits to the scheme's members.

I arrived at USS in September 2009 in the wake of the global financial crisis following 26 years working up to CIO at NM Rothschild, and on to UBS and Hermes (then owned by the BT Pension Scheme). The DB fund had £26bn of assets, with a strategic allocation of 72% in listed equities, 8% in private equity and infrastructure funds and 10% each in UK property and in government bonds. A medium term plan was in place to increase 'alternatives' (assets other than listed equities, debt and property) to 20% and reduce listed equities to 60%.

The mission was to deliver superior long-term risk-adjusted returns after costs and that pursuit was to be defined by three themes: progressive and considered diversification of the scheme's investment programme; development of the supporting investment, operational and control capabilities; as well as structural and governance improvements.

Complementing these broad themes, we have also paid continuous attention to our conduct as responsible investors: spanning diligence, transparency, effective oversight and stewardship, in line with our fiduciary duties.

We have substantially broadened and deepened our investment domain, talent pool and controls. The 'London Investment Office' had 65 staff when I joined, compared with 150 today in USS Investment Management Ltd (USSIM). USSIM was formally launched in 2012, with a dedicated board reinforcing our governance arrangements.

We now have 43 staff engaged in private market investing and asset management and 25 staff across specialist disciplines spanning investment strategy, emerging markets and a broader range of fixed income investments. To deliver the extended investment programme, investment team growth has been more than matched by increases in our support and control functions, such as Operations, Legal, Compliance, IT and Performance and Investment Risk.

At the start of 2015 we introduced the Reference Portfolio framework. This acts as a benchmark for performance and asset-liability risk and frames a highly delegated implementation model, with details covered over the following pages. The DC funds were introduced in 2016 with both default and self-select strategies, to support hybrid pension benefits.

Over the years, many of our strategies have been well-rewarded, particularly our expanded private markets investment capabilities. We navigated the Euro-zone crisis well, though Brexit has been more problematic for our positioning. In the nature of investing, short-term performance is variable. I am proud that, at all calendar and financial year ends since my 5th anniversary, 5-year rolling DB fund returns have exceeded benchmark and have done so on average by more than our outperformance target.

The asset allocation supporting the Retirement Income Builder has been progressively diversified, with an estimated reduction by over 25% in its estimated asset-liability risk. The scheme's investment returns over the period since I joined have still modestly exceeded the original equities-focused asset allocation.

The DC offering was two-and-a-half years old in March 2019 and has outperformed the related asset-weighted market benchmark by 0.96% annualised.

Of course, not everything worked out as expected or desired. The DB scheme's funding position has been materially impacted by gilt yields falling to historical lows; our cumulative outperformance relative to a hypothetical gilts proxy for the scheme's DB liabilities has been lower than expected.

Looking forward, performance patterns will change with the next turn of events. USS will continue to seek the best long-term investment strategies, to meet the scheme's objectives, and to support these with committed teams, both internal and external.

I have been honoured and challenged in equal measure by the responsibility for the USS investment programme over the past decade. As I look to hand over at the end of September, I am confident that USS will continue to deploy a considered, forward-looking approach to achieving its goals and that USSIM, its investment management subsidiary, is well-placed to address future challenges.

Roger Gray
Chief Investment Officer

Investment matters

About the USS Retirement Income Builder

The board sets a Reference Portfolio for the Retirement Income Builder. This is an allocation across mainstream asset classes, (global equities, UK property, government, corporate and emerging market bonds) consistent with the scheme's risk appetite and expected, over the long-term, to deliver returns significantly in excess of a liability proxy constructed with UK gilts. The Reference Portfolio could hypothetically be implemented without substantial internal resources, at moderate cost, largely via passive management. Its returns can also be measured via readily available performance benchmarks. This makes it a suitable longer-term benchmark for the returns and risk of the strategy implemented by USS Investment Management.

USS Investment Management Ltd (USSIM), a wholly owned subsidiary of the trustee, is mandated by the scheme to implement its investment programme and does so across a broader range of public and private assets. At present, USSIM manages nearly three quarters of these assets directly and uses external managers and funds for the balance. USSIM is tasked with outperforming the Reference Portfolio, currently, by 0.54% or more per year on an annualised basis, net of costs, over rolling five-year periods with asset-liability risk similar or lower than the Reference Portfolio.

The table above sets out the approximate distribution of the scheme's assets (Implemented Portfolio) as at 31 March 2019 and compares it with the Reference Portfolio. As shown in the table, the Implemented Portfolio displays a more diversified asset mix with less concentrated exposure to mainstream equity assets and a sizeable allocation to private market investments, which are expected to reward patient investors with greater governance rights and an illiquidity premium when held over long investment horizons.

USS Retirement Income Builder asset distribution

	Implemented Portfolio %	Reference Portfolio %	Difference %
Listed Equities	40.92	60.00	(19.08)
Property	5.51	7.50	(1.99)
Other Private Markets	21.04	0.00	21.04
Commodities	1.14	0.00	1.14
Absolute Return	2.64	0.00	2.64
Nominal Government Bonds	4.85	0.00	4.85
Index Linked Bonds	19.84	29.75	(9.91)
Other Fixed Income	8.55	12.75	(4.20)
Cash and Overlays	(4.49)	(10.00)	5.51

Renewable energy and clean technology
L1 Renewables

In 2015, USS purchased a loan book from the Co-operative Bank, which provided finance for 34 UK-based wind farms in regions ranging from the far North of Scotland to the South Coast of Cornwall.

In 2017, we added a large new portfolio of project finance loans in the renewable energy sector and created the L1 Renewables platform we own today.

L1, 100% owned by USS, owns interests in a diverse range of renewable energy technologies including energy from water, onshore wind and energy efficient street lighting.

In total, L1 now manages a portfolio worth in excess of £400m which supports both developed projects and those still in construction.

The scheme's wind farms provide enough energy to light around 400,000 homes. At the same time, L1 supplies power to around 160,000 energy efficient streetlights across five local authorities.

We have invested in renewable energy and clean technology since 2000 and have engaged extensively with policymakers on the climate change agenda.

Performance of the USS Retirement Income Builder

In the 2018/19 financial year, the global macro environment became increasingly clouded by doubts about the sustainability of one of the longest periods of economic expansion recorded, albeit at moderate growth rates.

Against this backdrop, sovereign bond yields declined in the latter part of the financial year. This was particularly true in the United Kingdom where yields on 30-year index-linked bonds, having averaged around -1.50% since the Brexit referendum in 2016 (and -0.25% in the preceding 5 years), fell to an historical low of -1.99% during March 2019 and ended the financial year at -1.80%.

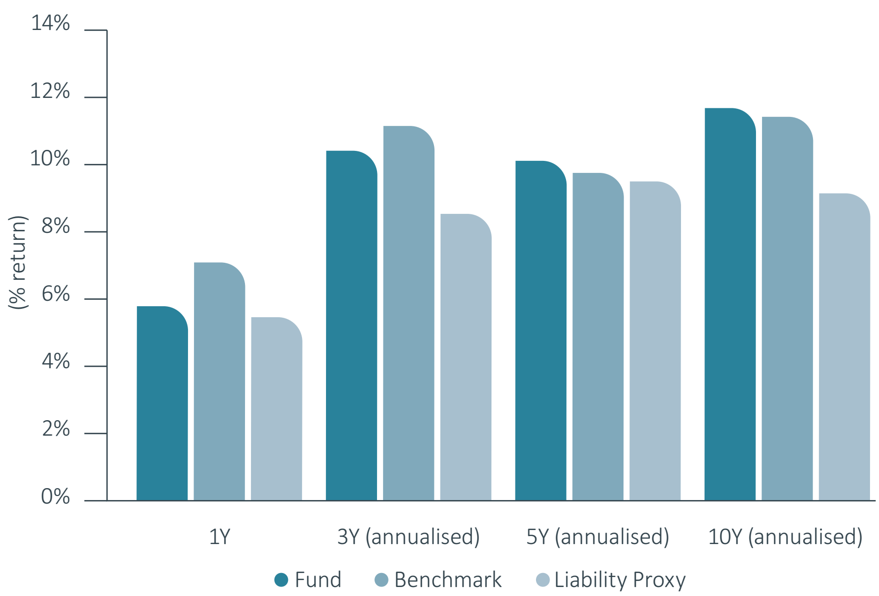
With asset markets recovering sharply in the final quarter of the year to 31 March 2019, the fund produced a positive return of 5.74% net of costs, marginally above the Liability Proxy but below the Reference Portfolio return. Underperformance arose entirely in this final quarter, driven by our underweight allocation to the US equity market (which rebounded sharply after a weak conclusion to 2018) and to UK index-linked gilts (which gained in March 2019 amid heightened Brexit related uncertainty).

While short-term relative performance can be highly variable, over longer horizons such as the scheme's 5-year rolling objective the fund has consistently outperformed the Reference Portfolio. In this, private markets have made a strong contribution in recent years. Over the last 5 years the fund has returned 10.09% per year net of all costs, which is 0.31% per year above the Reference Portfolio.

This outperformance has also been achieved with a smoother path (i.e. lower return volatility) than that of the Reference Portfolio.

Looking ahead, we expect the drivers of short-term underperformance to reverse in a period of normalisation given relatively high US equity valuations and UK real yields discounting an overly pessimistic outlook for the UK economy in the long-term. We also believe emerging market debt assets, which are held in greater proportion in the Implemented Portfolio relative to the Reference Portfolio, can provide solid long-term returns as a result of high yields and real exchange appreciation prospects. Finally, the fund's substantial capabilities in private markets will allow USSIM to access differentiated sources of returns for the scheme.

USS Retirement Income Builder Performance



About the USS Investment Builder

The DC element of the scheme offers two lifestyle options: USS Default Lifestyle Option and USS Ethical Lifestyle Option. It also offers a range of 10 self-select options for members who would prefer to be actively involved in making investment decisions. These options include: multi-asset, developed market equities, emerging market equities, bonds, cash, ethical and Sharia funds.

DC Default Strategy

In the default strategy, members' pension savings are invested in a mix of investment types which will evolve over time in a life-style fashion as members approach retirement. Members with more than 10 years from normal retirement age and invested in the USS Default Lifestyle Option are fully allocated to the USS Growth Fund.

The USS Growth Fund invests in an equity-rich asset mix diversified to help reduce investment risk and deliver attractive risk-adjusted returns. Growth investments offer the opportunity for the higher return on a member's pension savings, but also imply a higher level of risk, so the USS Default Lifestyle Option invests in these types of investments at a time when there are many years left for members' savings to recover from possible losses.

The majority of the DC assets were invested in the USS Growth Fund (£413m) as at 31 March 2019.

However, as members get closer to retirement, USS increases protection for their assets by moving progressively into the USS Moderate Growth Fund and then into the USS Cautious Growth Fund, which are designed to deliver a smoother return path.

Investment matters

Performance of the USS Investment Builder

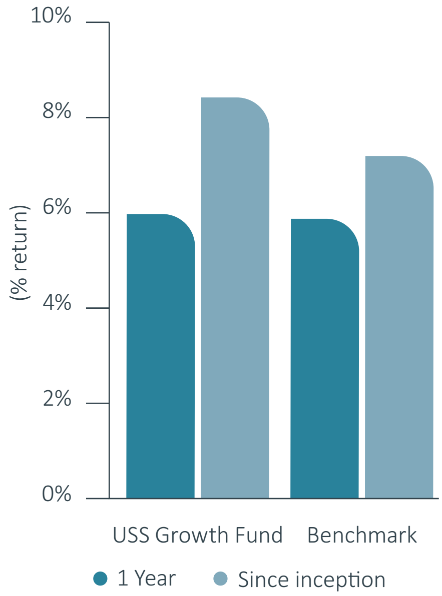
In the default funds, the USS Growth Fund has delivered positive absolute performance and exceeded its benchmark marginally over the last 12 months and by c.1.23% p.a. since inception. In the year it benefited from strong performance in its property allocation among others.

Both the USS Moderate Growth Fund and USS Cautious Growth Fund also delivered positive absolute performance and outperformed their respective benchmarks.

In the self-select funds, on an asset-weighted basis, the USS Investment Builder range has outperformed the Reference Portfolio by 0.96% on an annualised basis since inception, with just the UK Equity Fund underperforming its benchmark.

Over the year to 31 March, with the exception of the UK Equity Fund and the Bond Fund, the USS Investment Builder funds each outperformed their benchmark.

USS Growth Fund Performance



USS Investment Builder Performance

	1 Year %	Benchmark %
Growth Fund	5.98	5.88
Moderate Growth Fund	5.36	5.25
Cautious Growth Fund	4.66	4.47
Cash Fund	0.66	0.51
Global Equity Fund	11.72	10.99
Emerging Markets Equity Fund	(0.19)	(0.81)
UK Equity Fund	5.45	6.24
Ethical Equity Fund	13.80	12.62
Bond Fund	4.05	4.20
Sharia Fund	18.64	18.59
Ethical Growth Fund	10.29	9.76
Ethical Moderate Growth Fund	8.32	8.07
Ethical Cautious Growth Fund	6.83	6.79
Ethical Cash Fund	0.59	0.51

Taking the lead

Working with Shell

As an example of our work in action, USS joined more than 200 global investors in the Climate Action 100+ group. This is a five-year collaborative project, aligned with the Paris Agreement, to engage the world's largest greenhouse gas emitting companies on climate action.

As part of the CA 100+ initiative, and led by the Church of England Pension Fund and Dutch asset manager Robeco, USS, Dutch pension scheme, APG and the Environment Agency Pension Fund engaged with Royal Dutch Shell on the critical issue of carbon emissions reduction targets.

This engagement included meeting with senior representatives of the company and the outcomes of the engagement were ground-breaking: the company committed to reducing its carbon emissions by 50% by 2050.

The critical point was this also covered Royal Dutch Shell's 'Scope 3' emissions, i.e. those associated with the end use of its products (oil and gas) rather than the more conventional Scope 1 and 2 emissions which focus on the company's operational emissions. The targets were given additional weight by being tied to executive remuneration.

By taking a lead and demonstrating what can be done, other companies in the oil and gas sector (and other sectors) are now under pressure to articulate their approach to achieving the Paris Agreement (including Scope 3 emissions).

Responsible Investment

In addition to conducting careful financial due diligence prior to making investments, USS believes that the way a business manages environmental, ethical, social and governance (ESG) issues is critical to how it will perform over the long-term and the sustainability of the value it will create for us. We do not restrict our RI activities to public equities, as other asset classes such as private equity, credit, property and infrastructure are equally impacted, particularly as our extended holding periods for many of these assets increase our exposure to long-term risks. USS engages with regulators and policy makers to support the proper functioning of markets and, where necessary, improve market standards, for example, around the protection of minority shareholders.

USS recognised many years ago that integrating ESG issues and engaging with its investments could reduce risk and potentially improve returns. We published our first Responsible Investment policy in 1999. Since then, the Responsible Investment team has been at the forefront of many global initiatives to enhance both the reporting and company standards for ESG.

Climate change is gaining increasing prominence as an issue of concern. USS was among the first pension funds globally to recognise the potential implications of climate change for long-term investors. In 2001, we published an industry leading discussion paper: Climate Change: a Risk Management Challenge for Institutional Investors. Later that year we co-founded the Institutional Investors Group on Climate Change (IIGCC), which continues to provide a forum for European institutional investors to engage collectively with policymakers and companies on the long-term risks and opportunities associated with climate change.

USS encourages the companies in which it invests to analyse climate change risks, both in terms of their carbon emissions and how they are adapting to a changing climate, to develop mitigation plans, and to disclose this information to investors.

We also expect all our investment managers to include the assessment of these risks, where material, in their investment decisions.

In 2017, the Task Force on Climate related Financial Disclosures (TCFD) published its recommendations for improved transparency by companies and their investors with respect to how they were managing climate change risks and opportunities. The TCFD's recommendations apply to asset owners like USS and we fully supported this initiative. The USS disclosures in line with the TCFD recommendations can be found on the USS website: www.uss.co.uk/responsible-investment

Collaborating with investment partners

Thames Water

USS became an investor in Thames Water in 2017, after a thorough due diligence process. We bought a 10.94% ownership stake in the UK's largest water business, supplying 15m customers across London and the Thames Valley. Our investment case envisaged that, in time, Thames Water could become a top performer in its market. This would take time given the major upgrade programme for its ageing pipework. Apart from the opportunity to sit on the board of the holding company, as with Heathrow, we saw strong alignment between ourselves and our view on the direction of the company, with the other shareholders.

Since our investment, we, together with the other shareholders, have worked constructively on the board of Thames Water. This has already yielded many positive developments, including strengthening of the company's corporate governance, aligning remuneration with strong business targets and enabling the business to reinvest profits in its future.

For example, we have installed over 26,000 acoustic loggers to help tackle leakage across the network, which is a key issue for the business and its customers. As board members we are actively involved in fulfilling our fiduciary duties regarding the strategic direction of the business and major investment decisions.

Investment matters

Strategy in action

Commitment to the UK

USS bought a 10% share in Heathrow Airport Holdings Limited in two transactions in 2013 and 2014.

We wanted to invest in one of the world's busiest airports, which is of critical importance to the British economy and also as an international airline hub.

Being such a key part of the fabric of the UK, we could see how owning a share of the business would make sense for USS. Heathrow has benefited from a world-class reputation as well as a strong group of aligned, long-term investors.

This was all before the UK Government gave the green light for a third runway to expand the airport's capacity which has become constrained in recent years.

We place significant emphasis on our duties as a responsible investor and through our influence in the boardroom, we actively engage with the company to ensure that it maintains its sector leading focus on sustainability and carbon neutrality.

Since USS made its investment, Heathrow has continued its transformation into one of the best airports in the world, being named 'Best Airport in Western Europe' in the 2018 Skytrax World Airport Awards, as well as Terminal 2 being named as the 'World's Best Passenger Terminal'. The awards were based on 13.73 million airport survey questionnaires.

In 2018, the Government's Environmental Audit Committee found USS to be one of the 'more engaged' of the UK's biggest 25 pension funds on the issue of climate risk

Voting

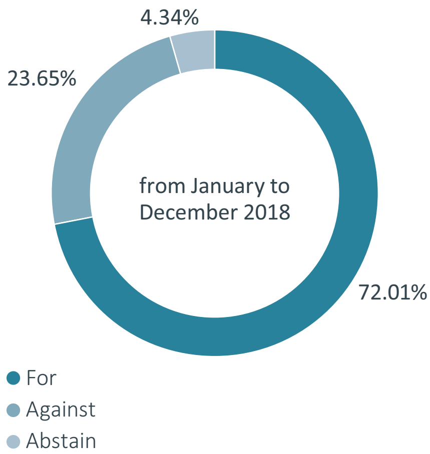
Exercising our voting rights is one of the cornerstones of our stewardship activities. When we vote we take into consideration outcomes from our engagement meetings, our portfolio managers' perspectives, proxy research and discussions with our peers.

USS has a concentrated active portfolio of companies, which allows us to spend more time researching and engaging with them on a variety of issues. When it comes to voting, we can then vote with purpose. Indeed, we typically vote against at least one resolution the majority of the time – usually on issues such as executive remuneration or board member independence.

We review our voting policy annually and publish it on our website along with our voting record. From the 2019 AGM season, USS will vote against or abstain on the Chairman and/or members of the nomination committee, if there is no woman on the Board and the company has not disclosed a timeframe for appointment.

The chart below shows how we voted in 2018:

USS Global Votes



Risk management

Our primary purpose as trustee is to deliver securely the pension promises made to our members

Our primary duty is to ensure that the benefits promised to members are delivered in full on a timely basis. In conducting our business, we must manage a wide range of risks that could impede the execution of this duty. For the USS Retirement Income Builder this means ensuring there are sufficient funds available to provide members with retirement income, in accordance with employers' commitments. For the USS Investment Builder this means ensuring that an appropriate range of investment fund options is available, along with an effective investment process, to enable members to manage their investment selections in line with their risk appetite.

Risk framework

We operate a three lines of defence approach to risk management (see below), which is embedded in the organisation through the operation of our risk management framework. We have a comprehensive framework for managing risks, including a dedicated Group Risk team along with risk governance arrangements, policies and processes. The aim of the framework is to ensure that risks are effectively identified, monitored, reported and managed across the business.

The Group Risk team is independent of USS front line businesses and its head, the Chief Risk Officer, reports directly to the Group Chief Executive Officer.

Risks are identified on an ongoing basis, as part of business as usual and business change activities. Consideration is also given to emerging risks. Risks are measured regularly using prospective and retrospective indicators, which are reviewed by the first and second lines of defence before being reported to the relevant risk governance and oversight committees. Risks are managed using mitigation actions which include controls, as well as actions to transfer or avoid risk. Risk monitoring and reporting is implemented through several tools including 'risk registers', 'event logs' and 'assurance maps'. The latter have been developed collaboratively by each of the three lines of defence, to monitor the state of the control environment in relation to key business processes. Additionally, risks are monitored through the delivery of a risk-based assurance programme undertaken by the Compliance and Internal Audit functions.

Risk appetite

Taking on too much or too little risk could result in a failure to deliver our strategic objectives. At the core of our approach to risk management is our risk appetite. Our risk appetite statements articulate the types and levels of risk that we are prepared to accept; they set risk-taking boundaries and enable consistent risk-aware decision making.

Risk governance

As the ultimate owner of all risks, the Trustee Board has overall responsibility for risk management across the group. It sets risk appetite and satisfies itself that the risk framework has been implemented effectively. It delegates responsibility for implementation of the framework to executive management which ensures that responsibilities for risk management are clear, consistently applied, and in accordance with the three lines of defence model. Risk management is overseen by executive and non-executive risk committees which ensure that risk management processes are effective and that risk is appropriately assessed against appetite.

The USS three lines of defence risk management approach

1st line of defence	2nd line of defence	3rd line of defence
USS business units	**USS functions of group risk, legal, compliance and financial control**	**USS internal audit function**
• risk ownership • risk management • operation of control	• risk oversight • challenge to first line • maintenance of the risk framework	• independent review • risk assurance • challenge to first and second line

Principal risks

We maintain a comprehensive register of the risks that we face. These can arise from internal or external factors and can adversely impact the scheme's funding, investments, operations and reputation.

We have identified the scheme's principal risks and uncertainties based on their potential to threaten the ability of the trustee to deliver its strategic objectives. The tables below set out those principal risks, their potential impact and the mitigation in place.

Risk	Description	Impact	Control/Mitigation
Defined Benefit (DB) Funding Risk	A deterioration in the financial health of the USS Retirement Income Builder (DB) section driven by a significant increase in the scheme deficit and/or a significant deterioration in the ability of employers to make contributions to fund the benefits promised to members.	This may lead to the requirement to substantially increase contributions, amend investment strategy and/or reduce future benefits.	• Implementation of a comprehensive Financial Management Plan (FMP) as part of each actuarial valuation, incorporating the acknowledged strength of the employers' covenant, the appropriate contribution rate and investment strategy • A dedicated funding strategy and actuarial team focused on funding of the USS Retirement Income Builder • Regular monitoring of the funding level, employers' covenant strength, contribution adequacy and liability in the context of the USS Financial Management Plan • Regular analysis of the sources of changes in both the liability and the deficit and of the impact of this on the required employer contribution rate
Stakeholder Risk	Failure to engage effectively with our stakeholders as a result of ineffective governance or relationship management.	This may lead to an impaired ability to correctly understand and effectively respond to the changing needs of employers and members. Employers, or their representative bodies, may no longer view USS as the primary service provider for retirement benefits, or members may no longer want to use USS for their retirement provision.	• Regular meetings are held with employers, member representatives and employer representatives, including both Universities UK and UCU • Meeting agendas cover issues of most interest to stakeholders, including valuation, funding, contributions, product development and investment performance • Annual member and employer surveys as well as publication of regular updates for members and institutions, along with blogs, articles and videos on relevant topics of interest to Universities UK, UCU, individual employers and members
Service risk	Pension service delivery fails to meet requisite quality or timeliness standards, as a result of the failure to manage or execute operational processes effectively.	This may lead to poor or incorrect outcomes for our members or beneficiaries with the potential for increased costs and reputational damage.	• Robust operational controls and defined service standards • Review and reporting of performance across all administration teams • Comprehensive workload forecasting • Quality control checking • Regular training of all service staff

Our five strategic themes which can be identified in Strategy, KPIs and risk categories

For further information see page 10

- Client service
- Controls and compliance
- Cost effectiveness
- Collaboration
- Core capabilities

Risk	Description	Impact	Control/Mitigation
Supplier risk	The risk that a supplier fails to perform a business-critical contracted service. This could arise as a result of an operational failure by a supplier or in the event of a supplier insolvency.	This could result in a failure to perform business-critical activities on a timely basis or a failure to obtain value for money for the scheme.	• Dedicated procurement function with responsibility (together with the Group General Counsel) for controlling the onboarding of suppliers and ongoing monitoring of key suppliers' performance and through the annual supplier review process, with appropriate remedial actions and ultimately replacement of non-performing suppliers and pursuit of USS entitlements should value for money not be received • Appropriate relationship management structures are in place with key suppliers, supported by service-level agreements, management information provision and incident escalation and resolution protocols
Investment performance risk	A prolonged period of inadequate investment performance, or a sharp fall in the value of investments in either element of the scheme. This may be due to (i) selection of an inappropriate reference portfolio, (ii) under-performance of the implemented portfolio relative to the reference portfolio and/or (iii) unfavourable economic conditions or political developments.	A significant increase in the deficit of the USS Retirement Income Builder. This may lead to the requirement to increase contributions, amend investment strategy and/or reduce future benefits. Lower growth in the size of members' USS Investment Builder funds. This may lead to lower than expected values being available to members on retirement.	• A documented, structured and effective investment process, run by experienced investment professionals, incorporating robust controls and diligent oversight • USS Retirement Income Builder: the investment portfolio is diversified across a range of asset classes and risk factors. It is managed relative to a long-term reference portfolio designed to fulfil the goals of the USS FMP • USS Investment Builder: the Self-Select Fund range has been chosen to provide members with an appropriate range of risk and return expectations. The default Lifestyle strategy progressively reduces investment risk exposure over the 10 years prior to expected retirement, to provide greater certainty around outcomes
People risk	Failure to attract and retain sufficient people with the necessary skillsets in the right roles, or to develop appropriate management structures and business culture.	This may lead to an inability to provide the necessary resources to achieve successful delivery of the scheme's strategic priorities, leading to poor investment performance, increased incidence of operational error and failure, and ultimately result in reputational damage with key stakeholders.	• Focused recruitment processes • Talent management and succession planning • Clear objective setting for all staff linked to the USS strategic priorities • Regular staff performance and remuneration reviews with reference to appropriate external benchmarks • Training and development programmes • Regular employee satisfaction reviews • Diversity and Inclusion forum to address diversity challenges through inclusive practices

Principal risks

Risk	Description	Impact	Control/Mitigation
Regulatory risk	The product and service offering is impacted adversely by changes to pension and/or investment policy, legislation or regulation. The trustee fails to adopt and apply effective oversight of its legal and regulatory compliance arrangements.	Potential for change to impact the scheme's product and service offering, give rise to additional costs and lead to operational complexity. Failure to respond to such changes in an appropriate and timely manner could lead to fines, compensation costs and censure, as well as damage to stakeholder relationships and reputation.	• Dedicated professionals focused on assessing existing and emerging regulatory initiatives • Legal and regulatory change is monitored by the USS legal team and reviewed quarterly to ensure that relevant updates are captured and flagged to business areas • Structured change management methodology for the implementation of necessary changes • Ongoing compliance training, advisory and monitoring activity tailored for the relevant business divisions
Brexit risk	Disorderly exit of the UK from the European Union, causing prolonged disruption in financial markets and inability to attract and retain skilled staff	Economic disruption could result in deterioration of the value of the scheme's assets, adversely impacting our funding position. Additionally, European nationals may be discouraged from, or unable to continue, working for USS and future potential new hires may be deterred from joining. There may also be a negative impact on higher education institutions, which may lead to a deterioration of the employers' covenant.	• Establishment of a cross-functional Brexit Working Group, with representation from across the business • Comprehensive planning and review of investment and non-investment risks based on the scenario of maximum disruption • Identification of all affected EU national employees and provision of advice on obtaining the required documentation in order to retain UK rights to work • Quantification of the potential impact on the employers' covenant, and the knock-on effect on DB valuation and contribution rates
Data risk	Failure to protect the confidentiality, integrity or availability of critical data (including personal and commercially sensitive data) held by the scheme or its suppliers, or failure to prevent unauthorised access to USS data.	Breach of applicable data protection legislation, potential for regulatory censure or fine, damage to stakeholder relationship and reputation. Potential for monetary loss and remediation costs.	• A dedicated information security team whose head serves as the USS Data Protection Officer • Implementation of an appropriate information security and data protection framework and processes • Implementation of appropriate cyber risk controls • Delivery of regular education and awareness training to employees • Ongoing maintenance of the international information security accreditation, ISO 27001 • Achievement of Government-backed Cyber Essentials Plus accreditation • Implementation of processes designed to maintain compliance with GDPR (the EU's General Data Protection Regulations)

Further information regarding how USS manages risk can be found in the risk supplement on our website at **www.uss.co.uk/report-and-accounts**

Governance

The governance framework at USS that supports decision making and accountability.

Photo: King’s College, Cambridge

Governance

Strong governance is essential for the effective management of the scheme and for optimising performance.

Universities Superannuation Scheme Limited (USSL), is the trustee company of the scheme. The trustee company is led by a board comprised entirely of non-executive directors. The Trustee Board's role is to provide overall leadership, strategy and oversight of the scheme, the trustee company and USSIM in co-operation with its board of directors. The Trustee Board is primarily responsible for exercising objective and independent judgment, in compliance with regulatory requirements, so as to safeguard the sustainability of the scheme.

Given the vital importance of good governance, steps have been taken to ensure that the directors of the trustee company collectively have the expertise, skills and competencies that are appropriate and proportionate to the oversight and governance of the scheme, the trustee company and the evolving regulatory environment within which the scheme operates. You can read about the skills and expertise of the board members on pages 31-33.

The Trustee Board has delegated responsibility for day-to-day management of the scheme to the group executive committee, subject to ongoing Trustee Board oversight. The board is also supported by five specialist standing committees:

- Governance and Nominations Committee;
- Audit Committee;
- Remuneration Committee;
- Investment Committee; and
- Policy Committee.

The Trustee Board and committee structure is set out at the bottom of the page.

There are two other key committees:

- Joint Negotiating Committee (JNC);
- Advisory Committee.

The JNC and Advisory Committee are both formed under the scheme's rules and whilst entirely separate to, and distinct from, the Trustee Board, they play an important part in the governance of the scheme.

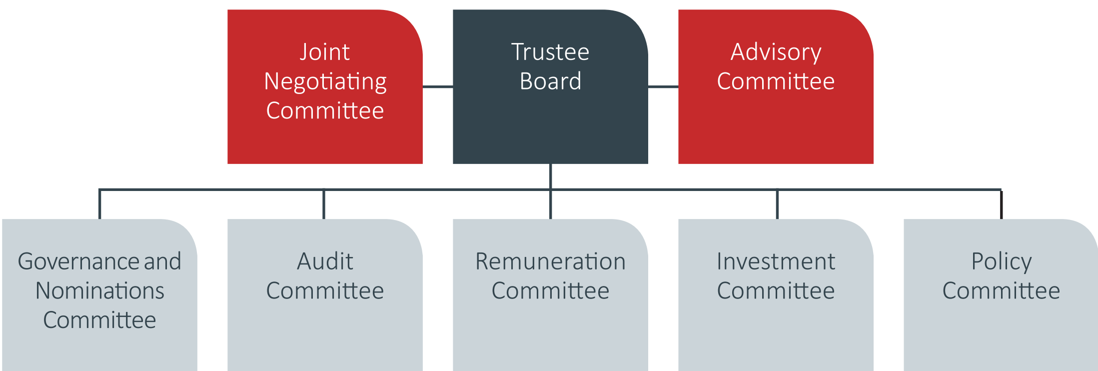
The JNC comprises representatives for the scheme's stakeholders, Universities UK and UCU.

During the year, the JNC has played a key role in relation to both the 2017 and 2018 valuations. The role of the JNC in relation to the valuation is entirely distinct from that of the trustee company. Whilst the trustee has responsibility to undertake the valuation in accordance with all legal and regulatory requirements, the JNC's role is restricted to considering whether any benefit changes should be made and negotiating how any contribution changes should be shared between members and/or employers.

The Advisory Committee's primary role is to fulfil the member dispute resolution function for the scheme.

More information about the activities and membership of the Trustee Board, its committees, the JNC and the Advisory Committee is set out on the following pages and in the Governance Report provided on the USS website at www.uss.co.uk/report-and-accounts.

Trustee Board and committee structure



Trustee Board composition

The Trustee Board consists of 12 non-executive directors comprising:

- four directors appointed by Universities UK;
- three directors appointed by the University and College Union (UCU), (at least one of whom must be a pensioner member); and
- five independent directors.

The composition and diversity of experience of the directors promotes an effective and balanced Trustee Board and helps to ensure the directors collectively have all the key competencies and knowledge required. This includes competencies in, and knowledge of, pensions, investments, strategic management, the higher education sector, and scheme member views.

The Board works with Universities UK and UCU to ensure that the board includes directors with a good understanding of the views of both members and employers. In addition, the Board is focused on improving the diversity of its board members.

As maintaining and improving key competencies, knowledge and diversity of the Trustee Board is vitally important, this year we enhanced our processes in relation to director appointments, reappointments, removals, comprehensive appraisals and succession planning. In addition, no director (including those appointed by Universities UK and UCU) may now be appointed or removed from the Trustee Board without the board's consent, a change prompted by the USS application to become authorised as a Master Trust. This safeguard has been put in place to help ensure that Trustee Board members have the necessary balance of skills, knowledge and competencies and that individually meet high standards of honesty, integrity, fitness and propriety. These changes also assist with our evidencing compliance with the Master Trust regulations. More information in relation to changes is included on pages 36 and 52.

Some key highlights in relation to the strength and depth of expertise of the Trustee Board are shown below and further details of each director appear on the following pages.

Division of responsibility between the Trustee Board and Executive

As explained earlier in this report, the Trustee Board has delegated day to day management of the group to the Group Executive Committee. While the Trustee Board has responsibility for the strategic direction of the group and makes key decisions (for example, it is required to approve the group's business plan, significant supplier contracts, the strategic aim and objectives of the scheme and the scheme's investment policy), a number of decisions about the commercial activities of the scheme are made by the Group Executive Committee (for example, it decides the scheme's strategic approach to delivering the required levels of service to employers and members and takes certain decisions in relation to the scheme's recruitment and retention strategy).

Board competency and accreditations

Strengths	Depth of experience
Board competencies	6 directors are or have been trustees of other pension schemes
	6 directors have extensive pensions industry expertise
	5 directors hold or have held senior governance, management, leadership or council roles in academia
	5 directors have held senior executive roles in significant financial services organisations
	6 directors have audit, accounting or financial management experience
	7 directors have extensive HR and/or remuneration experience
Board qualifications and experience	4 directors are or have been authorised by the FCA
	2 directors are Fellows of the ICAEW
	3 directors have MBAs
	1 director has an award in trusteeship from the PMI
	1 director is a Fellow of the Institute and Faculty of Actuaries
	2 directors hold PhDs (1 in Statistics and another in Finance)

Members of the Trustee Board

Professor Sir David Eastwood G I

- Universities UK appointee
- Chair of the Trustee Board
- Appointed as a director January 2007, Chair since 2015

Sir David became Vice-Chancellor of the University of Birmingham in April 2009. Former posts include Chief Executive of the Higher Education Funding Council for England (HEFCE), Vice-Chancellor of the University of East Anglia (UEA) and Chief Executive of the Arts and Humanities Research Board.

Dr Kevin Carter I P

- Independent appointee
- Senior Independent Director and Deputy Chair
- A director of USSIM
- Appointed September 2012

Kevin is Chair of Murray International Trust PLC and of JPMorgan American Investment Trust PLC, and a non-executive director of Aspect Capital Limited and Newton Investment Management Ltd. He is a trustee Director of the BBC Pension Trust Limited, and Chair of its Investment Committee.

Mr Gary Dixon

- Universities UK appointee
- Appointed April 2019

Gary trained as a Chartered Accountant with PwC after graduating in 1987 from the University of Leicester in Physics with Astrophysics. In 1994 he joined the banking and pensions focused financial services group, Pointon York, where he was subsequently appointed Group CFO. He is a Fellow of the ICAEW and holds an MBA from Warwick Business School. He is Treasurer and Lay Member of Council at the University of Leicester.

Ms Kirsten English G A

- Independent appointee
- Appointed May 2014

Kirsten has over 25 years experience in FinTech and Financial Service institutions. She has held roles as CEO, General Manager and Non-Executive Director across FTSE 25, FTSE 350 and private equity backed business.

Mr Dave Guppy

- UCU appointee
- Appointed September 2017

Dave was appointed in October 2017. Now retired, he worked in the computing service at University College London from 1979 to 2009. Prior to that he worked in similar roles at the London Hospital Medical College, a software cooperative and IBM.

Professor Jane Hutton A

- UCU appointee
- Appointed November 2015

Jane was appointed in November 2015. She studied at the Universities of Edinburgh, Cambridge and London; her PhD is from Imperial College. She has been a professor of statistics at the University of Warwick since 2004. As detailed on page 36, on 21 June 2019 Professor Hutton was suspended from the board.

Detailed biographies of each board member appear on the USS website at **www.uss.co.uk/people/the-board**

Key to Committee membership

- ● Chair
- Ⓐ Audit Committee
- Ⓖ Governance and Nominations Committee
- Ⓘ Investment Committee
- Ⓟ Policy Committee
- Ⓡ Remuneration Committee

Professor Sir Anton Muscatelli
Ⓘ

- Universities UK appointee
- Appointed April 2015

Sir Anton became Principal and Vice-Chancellor of the University of Glasgow on 1 October 2009. He studied at the University of Glasgow, where he graduated with an MA in Political Economy and with a PhD in Economics. Sir Anton is Chair of the Russell Group.

Dr Steve Wharton
Ⓖ Ⓟ Ⓡ

- UCU appointee
- Appointed September 2016

Steve is a Senior Lecturer in French and Communication at the University of Bath. The last national President of AUT and first (joint) President of UCU, he served as a member of the USS Advisory Committee for three years. In 2012, the French government made him Chevalier dans l'Ordre des Palmes Académiques for services to French culture.

Mr Ian Maybury
Ⓟ Ⓐ Ⓖ Ⓘ

- Independent appointee
- Appointed November 2013

Ian joined Schroders in 2012 as the Head of Solution Management and has previously worked for Redington, Citigroup and Royal London Insurance in various actuarial and management roles. He is a Trustee Director of the John Lewis Pension Scheme and the Mineworkers Pension Scheme and Chair of Trustees at the RNIB Retirement Benefits Scheme.

Mr Will Spinks
Ⓟ Ⓡ

- Universities UK appointee
- Appointed September 2018

Will has worked in higher education since 2007, initially as the first Chief Operating Officer at Loughborough University and subsequently as the Registrar, Secretary, Chief Operating Officer and Associate Vice President at the University of Manchester.

Mr Rene Poisson
Ⓡ Ⓟ

- Independent appointee
- Appointed November 2012

Rene became a Director of USS in November 2012 having retired after a 30 year career with JP Morgan latterly as Managing Director and Senior Credit Officer for Europe, Middle East and Africa. He is Chair of the JP Morgan UK Pension Plan and a member of its Investment Sub-Committee and a Director of the Standard Life Master Trust.

Mr Michael Merton
Ⓐ Ⓡ

- Independent appointee
- Appointed February 2014

Michael is a Director and chair of the Audit Committee of BlackRock Energy and Resources Income Trust plc. He previously had a thirty year career at Rio Tinto, and was chair of the J Sainsbury Pension Scheme and a director at Cape plc.

Trustee Board key activities 2018/19

2018/19 has been a very busy year for the scheme and consequently for the Trustee Board. During the year, the scheme successfully applied to become a Master Trust and closed the 2017 valuation. The Trustee Board played a pivotal role in both activities. More information is set out below.

Topic	Activity
Regulatory	• Oversaw and approved the scheme's application to the Pensions Regulator for authorisation as a Master Trust • Reviewed and approved key documentation required in relation to the scheme's Master Trust application, including the scheme's continuity strategy, DC business plan and changes to the process around appointment of directors to enable compliance with Master Trust legislation • Oversaw executive engagement with the Pensions Regulator
2017 valuation	• Concluded the 2017 valuation of the scheme, and as part of the valuation supported employers in undertaking a formal consultation with members and their representatives and formally consulted with Universities UK on behalf of employers in relation to the schedule of contributions and recovery plan • Oversaw the scheme's readiness to administer the contribution changes arising from the 2017 valuation
2018 valuation	• Initiated a 2018 valuation • Undertook a formal consultation exercise with Universities UK in relation to the technical provisions for the 2018 valuation
Pensions Operations	• Oversaw pensions administration during the year and improvements in key service levels and turnaround times • Oversaw engagement with members and employers, including a pilot of direct to member communications • Oversaw progress in relation to increasing member flexibilities, including the development of pre and post retirement uncrystallised pension fund lump sums (UFPLS) offerings
Strategy	• Reviewed, considered and oversaw key strategic initiatives, including in relation to the scheme's digital strategy, proposed future enhancements to the support provided to members in relation to their pension planning • Considered the impact on the USS business of the evolving regulatory landscape (including the Financial Conduct Authority's, Senior Managers and Certification Regime (SMCR) and Master Trust legislation)
Investment	• Oversaw the completion of a review by the Investment Committee of the DC fund range and default investment option for members, following an assessment of member requirements by the Policy Committee • Approved a revised DB Reference Portfolio • Oversaw succession planning for the Chief Investment Officer
Financial reporting and controls	• Approved the financial statements for the scheme and the trustee company for the year ended 31 March 2018 on recommendation from the Audit Committee • Reviewed the scheme three year plan and approved the annual plan and budget
Risk management and internal controls	• Regularly reviewed the enterprise risk report encompassing all key risks impacting upon the delivery of the scheme's strategic objectives • Oversaw the scheme's preparedness for Brexit • Considered the adequacy of the scheme's internal-control and risk management-framework, based on assurance provided by the Audit Committee on each of the three lines of defence • Approved a revised risk governance policy

Topic	Activity
Performance and general oversight	• Approved a range of key performance indicators, measures and targets against which performance across the group could be monitored and assessed • Reviewed performance reports from all key business areas on a quarterly basis • Received and discussed reports from all standing Trustee Board committees which had met in the reporting period • Discussed and reviewed performance of a key supplier and oversaw review and remediation of historic control issues in supplier management
Corporate governance	• Reviewed the group corporate governance framework and the terms of reference for the Trustee Board's standing committees • Approved a new policy in relation to director appointment, removal, evaluation and training to support and improve diversity and governance standards • Adopted a revised board code of conduct • Reviewed and approved two appointments and two reappointments to the Trustee Board • Evaluated the board's effectiveness and adopted proposals for increasing board efficiency
Leadership	• Discussed the outcomes of the USS employee engagement survey and the Group Executive Committee's proposed response to that survey • Received updates on initiatives being undertaken by the executive to increase diversity and inclusion
Stakeholders	• Engaged directly with Universities UK, UCU and the Joint Expert Panel and oversaw the executive's engagement with each of them • Received and discussed the outcomes of the member and employer perceptions surveys • Oversaw member and employer communications and consultation activity in the year, and the approach to corporate affairs more generally

Our primary purpose as trustee is to deliver securely the pension promises made to our members

The USS Policy Committee meets to:

- provide oversight of policy related issues;
- oversee the scheme rule amendment process; and
- provide support to the Trustee Board in relation to administration of the scheme and implementation of those rules that relate to policy issues.

Governance

Trustee Board meeting and committee attendance

In carrying out the activities outlined on the previous two pages, the Trustee Board met 14 times during the year. An overview of attendance at meetings of the Trustee Board and its standing committees is provided below:

	Trustee Board	Investment Committee	Policy Committee	Audit Committee	Remuneration Committee	Governance and Nominations Committee
Meetings held in the year	14	7	4	6	5	12
Trustee board members						
Professor Dame Glynis Breakwell[1]	5	–	2	–	–	–
Dr Kevin Carter	14	7	4	–	–	–
Mr Gary Dixon[2]	–	–	–	–	–	–
Professor Sir David Eastwood	14	4	–	–	–	11
Ms Kirsten English	14	–	–	6	–	12
Mr Dave Guppy	14	–	–	–	–	–
Professor Jane Hutton[3]	14	–	–	6	–	–
Mr Ian Maybury[4]	13	7	4	5	–	11
Mr Michael Merton	13	–	–	6	2	–
Professor Sir Anton Muscatelli	12	6	–	–	–	–
Professor Stuart Palmer[5]	13	–	3	–	5	–
Mr Rene Poisson	13	–	4	–	5	–
Mr Will Spinks[6]	8	–	–	–	3	–
Dr Steve Wharton[7]	14	–	4	–	5	11
Committee members						
Ms Sarah Bates	–	7	–	–	–	–
Mr Gordon Coull[8]	–	–	–	3	–	–
Mr Mark Fawcett[9]	–	6	–	–	–	–
Mrs Virginia Holmes	–	7	–	–	–	–
Mr Tony Owens	–	–	–	6	–	–

Notes

1 Professor Breakwell retired from the Trustee Board on 31 August 2018. She attended all of the Policy Committee meetings held in the year up to the date of her retirement but was unable to attend the last Trustee Board and Remuneration Committee meetings immediately prior to her retirement date.
2 Mr Dixon joined the Trustee Board on 1 April 2019 and consequently did not attend any meetings during the financial year.
3 On 21 June 2019, Professor Hutton was suspended from her position as a director pending the outcome of an independent investigation. Mr Dave Guppy is acting as an alternate UCU Director during Professor Hutton's suspension.
4 Mr Maybury was appointed to the Policy Committee with effect from 1 May 2018.
5 Professor Palmer retired from the Trustee Board on 31 March 2019. He was unable to attend the last scheduled Policy Committee meeting prior to his retirement.
6 Mr Spinks was appointed to the Trustee Board on 1 September 2018 and has attended all Trustee Board meetings in the period following his appointment. He joined the Remuneration Committee on 23 January 2019 and has attended all Remuneration Committee meetings since then.
7 Dr Wharton was appointed to each of the Policy and Remuneration Committees with effect from 1 May 2018.
8 Mr Coull retired from the Audit Committee on 31 July 2018.
9 One of the Investment Committee meetings spanned two days. Although Mr Fawcett was unable to attend on the first day, his attendance at the meeting is incorporated.

Further information regarding the work completed by USS specialist standing committees in 2018/19 can be found in our Governance supplement which is available online on our website at **www.uss.co.uk/report-and-accounts**

Remuneration and expenses

We are committed to providing a high quality pensions and investment service to employers and members, and to delivering value for money.

Delivering value for members and employers

We have a responsibility to ensure that scheme funds expended running the scheme are deployed in an efficient manner. As laid out on page 10, cost effectiveness is one of our 5 key themes and, similar to the other themes, we monitor our performance through KPIs some of which are laid out on page 11.

We control our expenditure through budgetary and transaction based controls with monthly results reporting and a quarterly forecast process. These are monitored by both executive management and the Trustee Board.

Below we lay out the scheme overheads for the year ended 31 March 2019. (Further details of scheme overheads are included in note 7 of the financial statements which are shown from page 57 onwards). Scheme overheads increased by £24m/19% year on year. All but £7m/6% of this arises from two factors:

- Pension costs include a provision charge of £15m relating to the USSL group's share of deficit recovery contributions payable to the scheme following finalisation of the 2017 valuation.
- Employee incentives increased by £4m as a result of increased in-house investment resources and improved investment performance in the calendar year 2018 over the prior year. Scheme performance up to the calendar year end forms the basis for calculation of performance related incentives for the year. Over the next pages we lay out the philosophy and approach that underpins our remuneration decisions.

Scheme Overheads	2019 £m	2018 £m	Change %
Wages & Salaries	**31**	29	7
Employee incentives[2]	**21**	17	24
Pension costs	**19**	4	375
Social security & other[2]	**12**	11	9
Recruitment, training & welfare	**3**	3	0
Total people related expense	**86**	64	34
Invoiced investment management expenses	**40**	37	8
Professional fees – non investment	**9**	9	0
IT expenses	**6**	7	(14)
Premises & other costs incl PPF	**10**	10	0
Total non people expenses	**65**	63	3
Total scheme overheads[1]	**151**	127	19

Remuneration philosophy

Our remuneration framework is designed to ensure the scheme has access to the right mix of skills and expertise to deliver our long-term priorities and value for money for members. We hire expert people, who can deliver cumulative, long-term results, and we pay them at market rates commensurate with the skills and experience they bring to the scheme. A cornerstone of the remuneration and incentive policy is to pay for performance, which means to reward contribution that is aligned to the needs of employers and members in a cost-effective manner. Investment managers represent the largest proportion of the compensation paid, in particular representing 93% of the variable incentive paid in the year. Our compensation approach includes the following key elements:

- base salary, which is benchmarked annually (either in its own right or as part of total remuneration). Base salary is designed to attract and retain high-performing individuals.
- annual incentives, aimed at motivating and rewarding top performance, aligned to USS values. In the investment management function, where incentives exceed a £50,000 threshold, payment is partially deferred for three years. For investment managers, the annual incentive includes an element that is linked to scheme performance, calculated on a rolling five-year basis.
- long-term incentive plans (LTIPs), available to a limited population, designed to incentivise delivery of scheme performance over the long-term and to encourage retention of key personnel.
- all employees are eligible to join the USS pension scheme which aligns the employee's own personal objectives with the purpose of the scheme itself.
- Trustee Board directors and other non-executives receive only the agreed fee level for their services.

Notes

1 The KPIs noted above and shown on page 11 do not move in line with scheme overheads in the fund account as pension deficit charges are included in the KPIs when payable each year and not when a provision is made in the fund account following finalisation of the scheme valuation.

2 Employee incentives exclude social security costs in both years (including those which form part of the LTIP provision charge). All such costs are included in social security and other.

Remuneration and expenses

Benchmarking of base salary and/or total compensation

Given the importance of attracting and retaining high-calibre employees in a competitive market, we offer fair and competitive salaries in comparison with our peers. Salaries reflect the experience, responsibility and contribution of the individual and of their role within USS. Annual benchmarking is performed on salaries. This minimises the disruption caused by employee turnover and minimises any potential negative impact on employee engagement. At the same time, salary benchmarking is vital to ensure we deliver value for money to employers and members. Two external benchmarking agencies are used: one for investment management and support services; and one aimed at pensions services roles and their support functions.

Incentive payments

There are three types of incentive payment:

	Annual incentive	Investment LTIP[1]	Group LTIP[1]
Main features and objectives	• To drive strategic change and individual delivery of the business plan • To recognise and reward individual contributions to USS priorities • Individual contribution is calibrated annually	• Restricted to a minority of roles in the USSIM subsidiary • Value at vesting depends on scheme or, where applicable, private markets investment performance • Promotes performance and retention of key personnel	• Restricted to those not in receipt of an Investment LTIP • Enables the recruitment of the executives necessary to deliver strategy • Promotes performance and retention of key personnel
Performance conditions	For investment managers: • Scheme performance[2] over five years and mandate performance (where applicable) over five years • Qualitative measures aligned to USS values and delivery of strategic objectives For other employees: • Qualitative elements aligned to longer-term strategic goals and behavioural competencies	• Scheme performance over multiple years • Specific investment performance measures[2] for USSIM Private Markets employees over multiple years • Retention element included	• All qualitative – not linked to scheme performance • Reflects achievement of personal objectives • Promotes objectivity of senior management within the second and third lines of defence
Service conditions	• Must be in employment and not serving notice at date of award • For deferrals, must be in employment and not serving notice at the date of payment	• Must be in employment and not serving notice at date of award and through to vesting although 'good leaver' provisions may apply • LTIPs vest in tranches, the earliest being three years and the latest being five years after award	• Must be in employment and not serving notice at date of award and through to vesting although `good leaver' provisions may apply • LTIPs vest after either three, four or five years
Deferred element	• Incentives above threshold are deferred for three years as follows: – 30% over £50,000; – 40% over £200,000; and – 50% over £400,000 Where the deferred element is calculated as less than £5,000, this is paid immediately	• As a long-term plan, the payment is deferred until conditions have vested	• As a long-term plan, the payment is deferred until conditions have vested

Notes

1 Long-term investment plans.

2 Consistent with previous years, scheme performance is assessed over a calendar year period in order to allow payments to be aligned with the financial year.

Remuneration in 2018/19

We remain committed to openly reporting the total remuneration of the Trustee Board directors, key management personnel and highly paid employees (who are typically the investment managers). For the last group of employees, the remuneration disclosure goes beyond what legislation requires and reflects our commitment to transparency. The table below shows total remuneration (base salary plus incentives plus non-pension benefits) of 'high earners' (employees earning >£100,000), including key management personnel on two bases as explained further below. Approximately 85% of high earners are investment management professionals. The annual and long term incentive amounts included below reflect that USS exceeded its investment performance targets on a rolling five year basis in the compensation reference period of the calendar year 2018. Rolling five year performance for the calendar year 2018 was 0.83% above benchmark against the target of 0.53%.

For the year-ended 31 March, showing numbers of individuals in bands of £50,000	Expense charged to fund account		Amounts paid	
	2019	**2018**	**2019**	**2018**
£100,001 to £150,000	**41**	47	**41**	48
£150,001 to £200,000	**26**	25	**30**	29
£200,001 to £250,000	**15**	16	**18**	18
£250,001 to £300,000	**13**	11	**11**	8
£300,001 to £350,000	**3**	4	**4**	5
£350,001 to £400,000	**6**	2	**5**	3
£400,001 to £450,000	**6**	8	**4**	4
£450,001 to £500,000	**3**	1	**2**	3
£500,001 to £550,000	**4**	4	**–**	2
£550,001 to £600,000	**3**	2	**4**	2
£600,001 to £650,000	**2**	2	**4**	–
£650,001 to £700,000	**3**	–	**2**	3
£700,001 to £750,000	**–**	2	**–**	–
£750,001 to £800,000	**1**	2	**1**	1
£800,001 to £850,000	**–**	–	**1**	–
£850,001 to £900,000	**1**	–	**–**	–
£900,001 to £950,000	**1**	–	**1**	–
£950,001 to £1,000,000	**1**	–	**1**	–
£1,000,001 to £1,050,000	**–**	1	**–**	–
£1,050,001 to £1,100,000	**–**	1	**–**	1
£1,100,001 to £1,150,000	**–**	–	**–**	1
£1,600,000 to £1,650,000	**–**	–	**1**	–
£1,700,001 to £1,750,000	**–**	–	**1**	–
£1,750,001 to £1,800,000	**2**	–	–	–
Total	**131**	128	**131**	128

On a basis consistent with the prior year, the table above includes the remuneration expense charged to the fund account in respect of base salary, annual and long-term incentives and non-pension benefits. Additionally the table includes remuneration on a paid basis (cash amounts paid and the monetary value of non-pension benefits received in the financial year). The 'expense charged' disclosures include a significant proportion of the annual incentives which are deferred for between three and five years. The disclosures also include an LTIP expense which comprises an allocation by individual of amounts relating to changes in the estimated present value of all unmatured LTIP plans including those awarded in prior years. Estimates of future scheme performance and eligible staff turnover are used in the calculation and are reviewed each year. As a result of the above the expense disclosures do not represent amounts paid or payable to staff in the year.

Remuneration and expenses

The 'amounts paid' disclosures include payments in respect of deferred incentive amounts from previous years and prior year LTIP plans paid out in the year. The direct costs associated with employing a team of highly skilled investment professionals in a very competitive financial services market are much lower than the embedded fees that would otherwise be charged by external managers.

This is one of the reasons our investment costs compare so favourably to our global peers (independently assessed by CEM Benchmarking as £71m lower than our peer group average in 2017). Investment costs as a proportion of assets under management ('AUM') are one of our KPIs (see page 11). On page 5 we show graphically the movement of that cost ratio over time.

The table below shows the total combined non-pension remuneration of the high earners shown on the previous page, and key management personnel. It reconciles amounts earned during the financial year to amounts paid (including taxable benefits received) during the year.

	For the year-ended 31 March 2019 £m			
Remuneration	**High earners**	**Group Executive (A)**	**Trustee Board (B)**	**Total key management personnel (A+B)**
Total base salary and non-pension benefits	18.8	1.7	0.6	2.3
Annual incentive	14.2	1.4	–	1.4
LTIP expense[1]	5.7	1.4	–	1.4
Total compensation earned	**38.7**	**4.5**	**0.6**	**5.1**
Less:				
Annual incentives earned in the year deferred until 2021	(3.0)	(0.3)	–	(0.3)
LTIP expense[1]	(5.7)	(1.4)	–	(1.4)
Add:				
Annual incentives from 2015 paid in the year	2.7	0.4	–	0.4
LTIP paid	3.8	0.3	–	0.3
Total compensation paid	**36.5**	**3.5**	**0.6**	**4.1**

Notes
1 The LTIP expense is calculated as described in the notes on the previous page.

LTIP awards

A notional amount is awarded in respect of LTIPs and amounts eventually payable depend on the performance and service conditions explained earlier in this report.

Forty-five investment LTIP awards were made in the current year with a notional value of £6.5m, of which one related to key management personnel with a notional value of £0.9m. Thirteen group LTIPs were awarded in the year with a notional value of £1.1m.

The Trustee Board director fees are shown below with the comparison to 2017/18. Their emoluments are included within the analysis table above.

Total emoluments of the directors of the Trustee company:	2019	2018
For the year-ended 31 March, in £000's		
Fees (non-executive directors)	**587**	627
Employer National Insurance contributions	**84**	162
Expenses reimbursed	**75**	73
Total	**746**	862

Directors are remunerated on a basis which is approved by the Joint Negotiating Committee and is in accordance with the contribution which they make to the work of the trustee company and their legal responsibilities.

The Remuneration Committee report provides a summary of the oversight and governance of the compensation awards and can be found in the Governance Report on our website at www.uss.co.uk/report-and-accounts

	2019	2018
The number of directors who are members of the USS Retirement Income Builder as at 31 March (100% of those eligible)	**7**	7

Chair's defined contribution statement

The purpose of this statement is to explain how the trustee ensures that the scheme is governed and managed to the standard required by legislation and expected by the Pensions Regulator (TPR).

The USS Investment Builder, the defined contribution (DC) element of the Universities Superannuation Scheme (the scheme), was introduced in October 2016.

This is the third annual statement from the chair of the trustee (Universities Superannuation Scheme Limited) regarding the governance of the USS Investment Builder and the scheme's money purchase AVC arrangement with the Prudential Assurance Company Limited in accordance with Regulation 23 of the Occupational Pension Schemes (Scheme Administration) Regulations 1996 (the Administration Regulations) (as amended from time to time).

The content of this statement is structured around the following areas:

1. Investment design: the default investment approach and other investment options available to members.

2. Fund performance and governance: management of investment options to ensure investment performance is at appropriate levels compared to risks, benchmarks and charges and that the fund selection remains appropriate.

3. Administration: demonstrating how core financial transactions are processed promptly and accurately.

4. Costs and charges: how costs and charges, including transaction costs, are calculated (and communicated to members).

5. Value for money: how scheme running costs are managed, monitored and recorded.

6. Trustee knowledge and understanding: how the Trustee Board ensures that it has the skills and competencies required for the role it performs and how the requirements regarding non-affiliation of trustee directors are met.

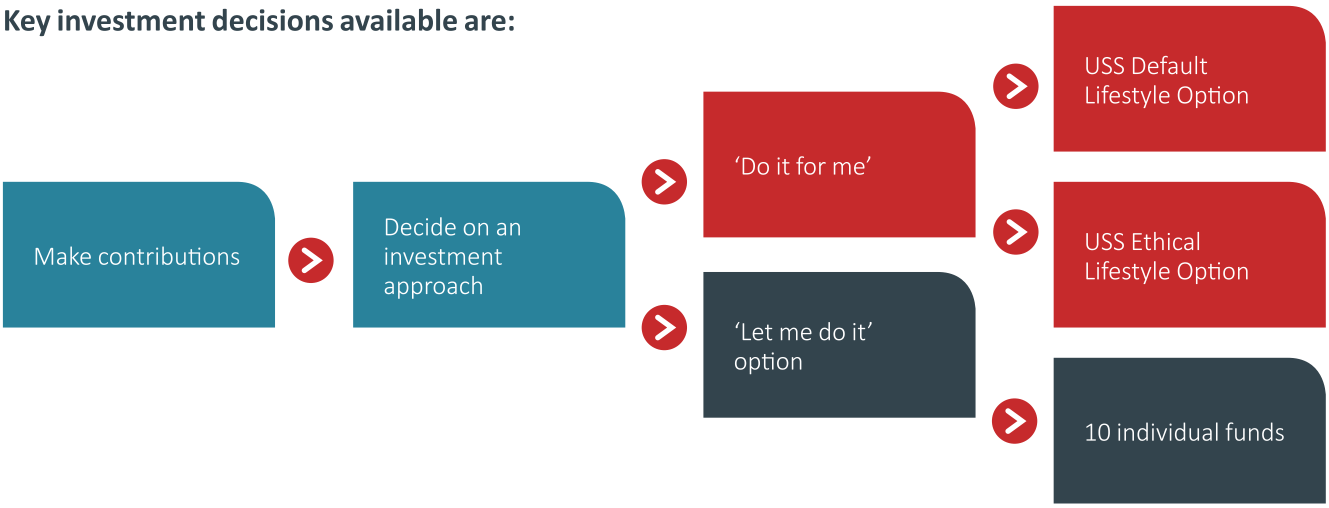
7. Member, communication, engagement and representation: how the scheme engages with members (and member representatives) and encourages member feedback to improve member experience.

1.Investment design

The USS Investment Builder provides members with a choice of whether to use the default investment approach designed by the trustee, or to actively manage their investments themselves through a choice of lifestyle options or by selecting from a range of individual funds directly. Members have funds in the USS Investment Builder if they have earnings above the salary threshold (£57,217 for the 2018/19 financial year), made additional contributions, or recently transferred funds into the scheme.

The options offer a range of different types of investment with different levels of risk and prospective return to cater for a range of investment objectives and beliefs.

Key investment decisions available are:



Default investment approach: USS Default Lifestyle Option

At outset
- Invested in the USS Growth Fund
- To provide greater opportunity to generate investment returns over the longer term

Within 10 years of retirement
Switched progressively into the USS Moderate Growth Fund over the next 5 years to reduce the overall level of risk

Within 5 years of retirement
Start reducing the USS Moderate Growth Fund and switch progressively into the USS Cautious Growth Fund and the USS Cash Fund

At retirement
Invested 50% in the USS Cautious Growth Fund and 50% in the USS Cash Fund

The investment choices fall into two broad categories reflecting the degree of self-management that members wish to undertake:

- 'Do it for me'– a choice between two lifestyle options – the USS Default Lifestyle Option and the USS Ethical Lifestyle Option. Both lifestyle options automatically adjust to reduce risk as the member approaches their target retirement age.
- 'Let me do it' – a choice of 10 individual funds that members can choose to invest in if they wish to customise their approach. These are referred to as the self-select options.

It is also possible for a member to adopt a combination of the two broad categories outlined above.

Members who make no decision about investment approach are invested in the USS Default Lifestyle Option. As at 31 March 2019, 84% of the active membership were fully invested in the USS Default Lifestyle Option with a further 12% choosing a combination of the USS Default Lifestyle Option and self-select funds. The remaining members were wholly invested in either the self-select funds (2%) or the USS Ethical Lifestyle Option (2%).

My USS portal
By logging on to the member portal (My USS), members can change their investment choices within the USS Investment Builder for their existing funds or future contributions at any time, including moving between the 'Do it for me' and 'Let me do it' options, changing the level of contributions and their retirement age.

Default investment approach: USS Default Lifestyle Option
The USS Default Lifestyle Option is designed to reflect the different investment needs of a member during their working life and as they approach their target retirement age. If a member has not set their own target retirement age, it will be set to the scheme's normal pension age (currently age 65).

Design of the USS Default Lifestyle Option
The default option was designed in advance of the USS Investment Builder launch in October 2016, explicitly taking into account the hybrid structure and demographics of the scheme and considering the findings of:

- a large scale survey with members to understand their risk appetite and investment beliefs;
- projections of member benefits and the relative role of DB and DC benefits at retirement;
- focus groups with members to understand their views on DC benefits and their plans for how they might use their funds at retirement; and
- extensive investment strategy modelling to consider different risk and return profiles and asset allocation strategies.

The conclusions from this research and a corresponding set of 'Policy Beliefs' that guide the development of the USS Investment Builder funds are published at www.uss.co.uk/investment-beliefs-and-principles.pdf

A full description of the USS Default Lifestyle Option is included in the USS Default Lifestyle Option Statement of Investment Principles on page 54 to 56 (annexed to and immediately following this DC Chair's Statement).

Prudential money purchase AVCs
In addition to the funds offered in the USS Investment Builder, some scheme assets are invested with Prudential. These assets relate to the money purchase AVC arrangement previously in place. These Prudential funds are closed to new contributions, with the exception of the Prudential With-Profits fund which is due to close from 1 October 2019.

Chair's defined contribution statement

2. Fund performance and governance

The trustee has appointed USS Investment Management Limited (USSIM) as its investment manager. USSIM monitors the monthly performance of each of the investment options offered to members within the USS Investment Builder. It also reviews the performance of any remaining funds held under the Prudential money purchase AVC arrangement on an ongoing basis.

USSIM provides regular investment performance reports to the trustee's Investment Committee which is responsible for the oversight of the performance of the USS Investment Builder. The Investment Committee provides the Trustee Board with a report on its activities and any recommendations arising after each meeting.

Fund review framework

A formal in-depth review of the USS Default Lifestyle Option will be undertaken at least triennially in line with legislation. The first full review of the USS Default Lifestyle Option strategy and performance (since design and inception in October 2016) and the associated USS Default Lifestyle Option Statement of Investment Principles will be carried out in 2019 along with a review of the scheme's main statement of investment principles (SIP).

In addition to compliance with the legislative requirements, a review of the suitability of the USS Investment Builder is undertaken by the trustee's Policy Committee each year. The second annual review was completed in November 2018. It concluded that the USS Default Lifestyle Option and current range of self-select investment options were suitable for the USS Investment Builder membership.

3. Administration

The trustee operates and annually reviews a suite of processes and controls designed to (i) ensure that those who are carrying out scheme administration have the appropriate training and expertise and (ii) enable a continuous and consistent service in the event of a change of administrator personnel or administration provider, including the availability of a scheme manual and business continuity plan that is tested periodically.

Quality assurance is embedded into scheme procedures to ensure that the trustee is confident that the processes and controls in place are robust, and to ensure that core financial transactions are processed promptly and accurately. The trustee recognises that delay and error in these financial transactions can cause losses to members. The financial transactions for the USS Investment Builder arrangement include (but are not limited to):

- receipt, reconciliation and investment of contributions to the scheme;
- transfers of assets relating to members into and out of the scheme;
- transfers of assets relating to members between different investment options within the scheme; and
- payments from the scheme to, or in respect of, members.

More detail on processes and how they operate in practice, in respect of these core financial transactions, is provided below.

Strategic partnerships

The trustee has established strategic partnerships with two external suppliers to deliver different aspects of the USS Investment Builder, namely:

- Capita: provides the pensions administration IT system for the scheme and all DC related back office administration services; and
- Northern Trust: provides the investment platform.

Working with these two partners, the trustee closely monitors end to end financial transactions to ensure prompt and accurate processing. This is achieved by delegation of this function to various dedicated teams which are described in more detail below. Collaboration between the dedicated teams and the external partners is critical and appropriate systems and processes are in place to ensure smooth and timely communication.

Core Transactions

Contributions

The Service Level Agreement between Capita and the trustee requires contributions to be invested by the end of the third working day following receipt or reconciliation to member records where this occurs later. Any delays in reconciliation are investigated to identify thematic issues which require improvement.

Processes and controls are now well established across both employers and USS teams and provide assurance to the trustee that queries and issues are identified and addressed promptly.

A dedicated USS Client Engagement Team works with employers to manage contribution cycles effectively and to monitor validation matters or queries. Where validation matters are not addressed within prescribed timescales, an automatic loss remedy procedure is invoked to ensure members experience no material shortfall caused by these investment delays.

The USS Pensions Operating Committee monitors investment of contributions on a monthly basis. Any significant matters are also reported to the Trustee Board.

Transfers into and out of the scheme
Transfers in and out of the scheme are overseen by the USS Transfers Team. Transferred monies are sent directly to the DC bank account to ensure out of market exposure is limited, the USS Transfers Team work closely with the Capita DC Back Office Team to identify these payments and send for investment within two days of receipt.

Members can transfer out their USS Investment Builder funds to another registered pension scheme at any time, subject to none of their funds being in payment. Members have to initiate a transfer by completion of a form, following which the scheme aims to complete its due diligence procedures and make the transfer within 10 days.

Switching of investments
Switching of investments happens automatically for those members with funds invested in the scheme's lifestyle options and who are within 10 years from their Target Retirement Age (TRA). The switches operate in line with the scheme's glidepath, which stipulate the gradual movement of investments from higher to lower risk funds. Automatic switches are sample checked by Capita and the USS Pension Operations team to ensure they have been completed in accordance with the glidepaths.

Members can also voluntarily switch investments between funds via a web form on the member portal, My USS. Switches are transacted within one day of the member's instruction. Controls are in place to ensure that voluntary switches are executed to the member's instruction and completed within expected timescales.

Payment of pensions and other amounts to members
Pension commencement lump sum (PCLS) and uncrystallised funds pension lump sum (UFPLS) payments are made directly to members' bank accounts from the scheme. Once a payment request has been confirmed, payment of a PCLS is made on the first day following the member's date of retirement. Pension payments are made on the 21st of each month. As UFPLS payments also go through the pension payroll, these payments are also made on the 21st to those members whom we have completed an UFPLS event for within that payroll period.

Quality controls
The trustee routinely considers administration of the scheme on a quarterly basis. In addition, the accurate and prompt processing of financial transactions appears as a standing item on the scheme's risk register which is considered quarterly at Trustee Board. Records of any issues in this area are also kept.

The trustee ensures that core financial transactions are processed promptly and accurately by:

- defining the timescales and associated Service Level Agreements (SLAs) both internally and with the third party service providers (see below);
- requiring regular reporting and assessment against the SLAs;
- designing appropriate and effective controls to mitigate the risk of inaccurate transactions;
- identifying errors or delays that have affected USS Investment Builder investments and rectifying these in conjunction with a loss remedy procedure;
- regular reviews of the effectiveness of the controls and the timeliness of information processing, performance against SLAs and operational risk issues carried out by the USS Pensions Operating Commitee;
- carrying out regular data review exercises to ensure that the data held is complete and accurate;
- leveraging assurance reviews completed by the USS Internal audit team who carry out periodic risk-based audits across key processes and controls; and
- commissioning an external annual audit (performed by Ernst & Young LLP) to provide external assurance that the financial statements are free from material misstatement.

4.Costs and charges
Charges and transaction costs borne by members can have a significant impact on the value of their USS Investment Builder funds. In recognition of this, the approach to, and appropriate level of, member charges was subject to extensive discussion as part of the design of the USS Investment Builder. Costs and charges are benchmarked against a range of other DC providers at least annually.

Typically, the majority of members who are invested in the USS Investment Builder do not incur any direct charges. This is because employers currently meet all administration costs of the scheme. They also subsidise investment management charges (IMCs) up to 0.30% on all funds resulting from normal and additional contributions. For both of the USS lifestyle options and all but one self-select fund (the USS Emerging Markets Equity Fund), this subsidy covers the entirety of the IMC. Funds resulting from transfers into the scheme do not qualify for this IMC subsidy and therefore incur IMCs as set out below.

Chair's defined contribution statement

USS Default Lifestyle Option – notional charges
Whilst employers meet the majority of the costs of the USS Investment Builder on members' behalf, for transparency, estimated notional charges are included below to demonstrate what members would pay if they met the full cost.

The trustee reviews this notional charge on an annual basis and benchmarks it against the wider industry, noting the challenges in direct cost comparisons arising from the scheme's hybrid status and the additional complexity of running such an arrangement. A review of the notional charges was carried out in early 2019 and the trustee decided to revise the way the scheme determines and presents these notional charges to bring them in line with the most common market practice.

The notional charging structure for the USS Default Lifestyle Option is a single notional charge of 0.50% of the member's fund value, including 0.30% for investment management charges and 0.20% in respect of pension administration and other services provided by the scheme.

Self-select options
The trustee has considered the cost and charges of the self-select options, including the USS Ethical Lifestyle Option, and compared these to those for the USS Default Lifestyle Option.

The IMC is based on the member's total fund value for the self-select fund options, and charges range from 0.10% to 0.45%.

One fund, the USS Emerging Markets Equity Fund currently has an IMC of 0.45% which is higher than the maximum available IMC subsidy of 0.30%. Members who select this particular fund are therefore charged the incremental 0.15% on assets arising from contributions (and the full 0.45% on any assets transferred in).

Transaction costs
From 6 April 2018 the Occupational Pension Schemes (Administration and Disclosure) (Amendment) Regulations 2018 introduced new requirements relating to the disclosure and publication of the level of charges and transaction costs by the trustees and managers of a relevant scheme. This section of the DC Chair's Statement reflects these new requirements and the September 2018 DWP guidance in this area which the trustee has taken into account.

Transaction costs are the costs associated with buying and selling units within a fund. There are three components (the first two of which are one-off costs):

- Purchase costs – these are the costs of making new investments into a fund;
- Selling costs – these are the costs of selling out of a fund; and
- Embedded costs – these costs can be explicit and therefore easily identifiable (such as taxes, levies, and broker commissions) or implicit and therefore less readily defined and may include the response of the market to a trade or the timing of a trade (market impact, opportunity cost, and delay costs). There may be times when there is a negative cost (i.e. a gain is shown) due to market impact.

The potential transaction costs for buying and selling funds vary over time and with market conditions. Transaction costs within the USS Investment Builder are minimised as far as possible by netting sales and purchases and using new cash flows for re-balancing funds to target.

The Cost Transparency Initiative (CTI) is an industry body overseeing the introduction of standardised templates for reporting of costs and charges by suppliers of investment services.

The trustee expects to adopt these standardised templates in due course and is in discussions with its investment managers on how they plan to provide this information. In the interim, the trustee has requested all external investment managers to report costs for the USS Investment Builder using the DC workplace pensions template developed by the joint ABI/IA working group for the purpose of providing insurers with transaction costs data in accordance with COBS 19.8.4R.

With the exception of two managers, Prudential and Ashmore, all of the scheme's external investment managers have been able to provide data in this format for the period 1 January 2018 to 31 December 2018, and this data has been used in the tables and illustrations below. (Prudential provided data for the period 1 July 2017 to 30 June 2018 and Ashmore provided data for the period 1 September 2017 to 31 October 2018.)

Only two managers were able to provide historical data for full years prior to 1 January 2018 so it has not been possible to calculate (or include) figures showing the average costs since the inception of the USS Investment Builder. The trustee expects to be able to show average figures in the future in line with TPR guidance as the data builds up year on year.

The tables on the following pages provide the details of the (pre-subsidy) investment management costs and specific transaction costs for both the USS Default Lifestyle Option and the self-select funds (including the USS Ethical Lifestyle Option). As mentioned above, no members pay the 0.20% notional cost of administration services applicable to all of the scheme's funds so this cost has not been included in the tables below.

Sale and purchase costs for the USS DC Funds range up to 0.81% for the USS Default Lifestyle Option and up to 0.75% in the USS Ethical Lifestyle Option. Exact costs will depend on the particular funds members are invested in, whether they are buying or selling and the day on which they deal. The costs apply to the investment of contributions, requests by members to switch between funds or disinvest funds, automatic switching as part of the scheme's lifestyle options and transferring assets in from schemes outside USS. Transaction costs include advisory fees, commissions and stamp duty (stamp duty is applicable on property purchases only, not sales).

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Funds in the USS Default Lifestyle Option

Fund	IMC	Transaction costs and charges: Purchase (max)	Sale (max)	Embedded
USS Growth	0.30%	0.81%	0.26%	0.11%
USS Moderate Growth	0.30%	0.65%	0.24%	0.10%
USS Cautious	0.30%	0.48%	0.21%	0.09%
USS Cash	0.10%	0.00%	0.00%	0.01%

Funds in the USS Ethical Lifestyle Option

Fund	IMC	Purchase (max)	Sale (max)	Embedded
USS Ethical Growth	0.30%	0.75%	0.23%	0.10%
USS Ethical Moderate Growth	0.30%	0.61%	0.23%	0.08%
USS Ethical Cautious	0.30%	0.47%	0.21%	0.05%
USS Ethical Cash	0.10%	0.00%	0.00%	0.00%

Self-select Funds

Fund	IMC	Purchase (max)	Sale (max)	Embedded
USS Growth	0.30%	0.81%	0.26%	0.11%
USS Moderate Growth	0.30%	0.65%	0.24%	0.10%
USS Cautious	0.30%	0.48%	0.21%	0.09%
USS Cash	0.10%	0.00%	0.00%	0.00%
USS Bond	0.10%	0.13%	0.14%	0.07%
USS UK Equity	0.25%	0.58%	0.12%	0.12%
USS Global Equity	0.10%	0.12%	0.07%	0.00%
USS Emerging Markets Equity	0.45%	0.30%	0.34%	0.08%
USS Ethical Equity	0.30%	0.12%	0.06%	0.12%
USS Sharia	0.30%	0.00%	0.00%	0.03%

Funds in an AVC arrangement with Prudential

Fund	IMC	Purchase (max)	Sale (max)	Embedded
With-Profits Cash Accumulation	Up to 1%	Not available	Not available	0.05%
Deposit	N/A	Not available	Not available	Not available
International Equity	0.65%	0.19%	0.19%	0.08%
UK Equity	0.65%	0.64%	0.24%	-0.04%
Index-Linked	0.65%	0.15%	0.15%	0.08%
Discretionary	0.65%	0.49%	0.49%	-0.07%
Fixed Interest	0.65%	0.04%	0.04%	-0.10%
LGIM Ethical Global Equity Index	0.85%	0.11%	0.06%	Not available
UK Equity Passive	0.45%	0.56%	0.08%	0.31%
Cash	0.65%	0.00%	0.00%	0.00%
Ethical	0.65%	0.58%	0.06%	-0.03%

Notes for the transaction cost information on this page:

1. Purchase and sale costs are maximum costs. Actual realised costs may be much lower.
2. A negative embedded cost indicates a positive impact i.e. a gain. This may be due to implicit costs such as market timings.
3. Investment management charges are applied per annum, sales and purchases are one off costs and embedded fees are shown on an annualised basis, but actual timing of charges may vary depending on the reporting period.
4. Prudential transaction costs cover 1 July 2017 to 30 June 2018.

Illustration of costs and charges

The trustee is required to provide an illustrative example of the cumulative effect over time, of the application of the transaction costs on the value of a member's DC benefits.

Members automatically make contributions into the USS Investment Builder at the point where their salary exceeds the salary threshold (£57,217 for the 2018/19 financial year).

All members (including those with earnings below this threshold) can elect to make additional contributions into the USS Investment Builder.

The potential impact of costs and charges, across three different investment examples is set out below and on the next page for three different member profiles.

The examples illustrate the costs and charges borne by each member whose entire funds are invested in one of the funds named below only (and not a combination of the different options):

(i) USS Default Lifestyle Option;

(ii) USS Emerging Markets Equity Fund (most expensive fund with the highest expected return); and

(iii) USS Cash Fund (cheapest fund with the lowest expected return).

Member 1: Member who joins the scheme age 40 with a starting salary of £60,000 and makes normal contributions (but no additional contributions) until accessing their USS Investment Builder funds at age 65 (Normal Pension Age)

Investment in USS Default Lifestyle Option

Years in scheme	Before charges £	After all charges and cost £	After all charges and cost %
1	573	566	98.8
3	2,503	2,465	98.5
5	5,561	5,461	98.2
10	18,865	18,391	97.5
15	41,794	40,452	96.8
20	75,197	72,021	95.8
25	115,157	109,285	94.9

Investment in USS Emerging Markets Equity Fund (most expensive fund)

Years in scheme	Before charges £	After all charges and cost £	After all charges and cost %
1	589	584	99.2
3	2,631	2,599	98.8
5	5,974	5,877	98.4
10	21,364	20,817	97.4
15	49,965	48,195	96.5
20	96,871	92,448	95.4
25	168,905	158,909	94.1

Investment in USS Cash Fund (least expensive fund)

Years in scheme	Before charges £	After all charges and cost £	After all charges and cost %
1	552	551	99.9
3	2,342	2,337	99.8
5	5,064	5,050	99.7
10	16,099	16,027	99.6
15	33,490	33,286	99.4
20	57,670	57,227	99.2
25	89,124	88,304	99.1

Member 2: Member who joins the scheme age 30 with a starting salary of £35,000 and makes additional voluntary contributions of 2% from entering the scheme as well as normal contributions when salary exceeds the prevailing salary threshold until accessing their USS Investment Builder funds at age 65 (Normal Pension Age)

Investment in USS Default Lifestyle Option

Years in scheme	Before charges £	After all charges and cost £	After all charges and cost %
1	720	712	98.8
3	2,266	2,231	98.4
5	3,963	3,885	98.0
10	8,934	8,671	97.1
15	15,108	14,517	96.1
20	22,714	21,605	95.1
25	32,021	30,146	94.1
30	44,461	41,376	93.1
35	61,708	57,113	92.6

Investment in USS Emerging Markets Equity Fund (most expensive fund)

Years in scheme	Before charges £	After all charges and cost £	After all charges and cost %
1	740	734	99.2
3	2,395	2,364	98.7
5	4,308	4,229	98.2
10	10,440	10,115	96.9
15	19,031	18,184	95.5
20	30,920	29,117	94.2
25	47,225	43,797	92.7
30	71,515	65,434	91.5
35	111,299	100,582	90.4

Investment in USS Cash Fund (least expensive fund)

Years in scheme	Before charges £	After all charges and cost £	After all charges and cost %
1	694	694	99.9
3	2,106	2,102	99.8
5	3,552	3,540	99.7
10	7,320	7,279	99.4
15	11,332	11,242	99.2
20	15,619	15,461	99.0
25	20,214	19,967	98.8
30	26,999	26,648	98.7
35	39,843	39,342	98.7

Member 3: Member who joins the scheme age 50 with a starting salary of £80,000, transfers in a starting pot of £100,000, and who makes normal contributions (but no additional contributions) until accessing their USS Investment Builder funds at age 65 (Normal Pension Age)

Investment in USS Default Lifestyle Option

Years in Scheme	Before charges £	After all charges and cost £	%
1	109,223	108,746	99.6
3	129,552	127,959	98.8
5	152,562	149,608	98.1
10	219,024	210,732	96.2
15	287,186	271,951	94.7

Investment in USS Emerging Markets Equity Fund (most expensive fund)

Years in Scheme	Before charges £	After all charges and cost £	%
1	112,257	111,689	99.5
3	140,041	138,039	98.6
5	172,663	168,754	97.7
10	279,731	268,264	95.9
15	433,408	407,347	94.0

Investment in USS Cash Fund (least expensive fund)

Years in Scheme	Before charges £	After all charges and cost £	%
1	105,283	105,171	99.9
3	116,744	116,394	99.7
5	129,428	128,817	99.5
10	166,724	165,351	99.2
15	212,487	210,166	98.9

Member 4: Member who joins the scheme age 40 with a starting salary of £60,000 and makes normal contributions (but no additional contributions) until leaving the scheme at age 50, and remaining as a deferred member until accessing their USS Investment Builder funds at age 65 (Normal Pension Age)

Investment in USS Default Lifestyle Option

Years in Scheme	Before charges £	After all charges and cost £	%
1	573	566	98.8
3	2,503	2,465	98.5
5	5,561	5,461	98.2
10	18,865	18,391	97.5
15	21,751	20,795	95.6
20	24,575	22,943	93.4
25	26,026	23,706	91.1

Investment in USS Emerging Markets Equity Fund (most expensive fund)

Years in Scheme	Before charges £	After all charges and cost £	%
1	589	584	99.2
3	2,631	2,599	98.8
5	5,974	5,877	98.4
10	21,364	20,817	97.4
15	28,249	26,862	95.1
20	37,353	34,664	92.8
25	49,392	44,600	90.3

Investment in USS Cash Fund (least expensive fund)

Years in Scheme	Before charges £	After all charges and cost £	%
1	552	551	99.9
3	2,342	2,337	99.8
5	5,064	5,050	99.7
10	16,099	16,027	99.6
15	15,447	15,297	99.0
20	14,822	14,600	98.5
25	14,222	13,935	98.0

Notes on illustrations above and the previous page:

1. Starting pot criteria is as follows:
   a) Member 1, 2 and 4: starting pot criteria is nil and no funds are transferred in.
   b) Member 3: starting pot criteria is £100,000 of transferred in funds. No further funds are transferred in.
2. Member retires at age 65 and funds are then disinvested, with no early withdrawals of fund.
3. For the purposes of this illustration it is assumed that investment management charges apply, even though employers currently subsidise most of the fees that a member would otherwise pay for investing in the USS Investment Builder (with the exception of the IMC that applies to transferred in funds and to the Emerging Markets Equity Fund over the 0.30% subsidy level). This approach has been taken because there is no guarantee that employers will continue the subsidy in the future so it provides a more prudent estimate of the impact of charges.
4. Values shown are estimates and actual experience will depend on investment performance.
5. Projected pension pot values are shown in today's prices, and do not need to be reduced further for the effect of future inflation.
6. Inflation is assumed to be 2.5% per annum as prescribed in the Statutory Money Purchase Illustrations.
7. Normal contributions are assumed to be 20% per annum in excess of salary cap (8% employee and 12% employer). It is assumed that there are no contribution holidays for any of the three members and no additional contributions are made by member 1, 3 or 4. Member 2 is assumed to make 2% additional voluntary contribution from entering the scheme.
8. Salary increases are assumed to be 4.5% per annum.
9. The projected growth rate for the USS Default Investment Lifestyle Option is 5.5% up to 10 years prior to retirement, reducing to 4.7% at 5 years prior to retirement, and 3.3% at 1 year prior to retirement. The projected growth rate for the USS Emerging Markets Equity Fund is 8.4%. The projected growth rate for the USS Cash Fund is 1.7%. These are consistent with the assumptions used in calculating members' Statutory Money Purchase illustrations as at 31 March 2019.
10. With the exception of two managers, Prudential and Ashmore, all of the scheme's external investment managers have been able to provide data in this format for the period 1 January 2018 to 31 December 2018, and this data has been used in the tables and illustrations below. (Prudential provided data for the period 1 July 2017 to 30 June 2018 and Ashmore provided data for the period 1 September 2017 to 31 October 2018). Only two managers were able to provide historical data prior to 1 January 2018 so it has not been possible to calculate (or include) comprehensive figures showing the average costs since the inception of the USS Investment Builder. The trustee expects to be able to show average figures in the future in line with TPR guidance as the data builds up year on year.
11. The above illustrations take account of property management expenses as these are embedded within the projected growth rate of the relevant fund; they are not included within the percentages in the tables on page 47.
12. Year 1 represents the year ending 31 March 2019, with a pertaining salary threshold of £57,217.

Chair's defined contribution statement

5.Value for money

Delivering good value for money to both employers (who subsidise the costs of the USS Investment Builder) and members is fundamental to the scheme. In designing and managing the USS Investment Builder, the trustee focused on using the scheme's scale and expertise to deliver a high quality, cost-effective DC arrangement as part of the overall hybrid scheme. In line with the requirements of the Administration Regulations, this section of the DC Chair's Statement specifically focuses on the value offered to members of the USS Investment Builder. The trustee has worked with Crowe UK to create an assessment framework. Crowe UK has provided external insight to guide the scheme's assessment of value for money.

Assessment framework

Under this framework, the trustee is able to assess the scope and quality of services provided relative to the illustrative or actual cost of these services. The assessment takes a broad range of factors into consideration, including the scheme's performance in each key area of service, the characteristics of the members and their preferences and financial needs where possible. The framework considers whether the quality of service justifies any differential in cost compared to other schemes in the market. This annual assessment uses a scoring mechanism to identify areas where the level of benefit relative to the associated cost could be improved.

The trustee is satisfied that the quality of the USS Investment Builder product and service is high relative to charges. The framework demonstrates that good value for money is evident in 3 out of 4 categories and value for money is evident in the area of Communications and Member engagement, which is an improvement on the score for 2017/18.

More activities are planned in this area, including a communications plan which has been developed to support members with decision making and the specific actions they will need to take on their journey with USS in the future. The My USS digital platform, accompanied by on-line tools such as benefit illustrators and contribution modellers, continues to be developed and there is a structured development plan over the next three years.

Members typically face minimal charges, as administrative costs are met in full by the employer and investment management charges are currently fully subsidised (other than for funds transferred in) for members in the USS Default Lifestyle Option and all other funds except the USS Emerging Markets Equity Fund (where charges exceed the subsidy level as noted above).

Even in a case where a member does face some charges, for example a member who has recently transferred funds into the scheme, the charges members actually pay for the IMC (which are a maximum of 0.45% for the most expensive fund) are broadly in line with market practice. No administration charges are payable in such cases.

Over the next three years, further work will be conducted to understand the priorities for members and how specific categories of members are best served, as part of the trustee's commitment to continuous improvement.

More information on USS member services can be found on pages 12 to 15 of the Annual Report and Accounts.

6.Trustee knowledge and understanding

The trustee is committed to ensuring that its directors, both individually and collectively, have access to appropriate professional advice, and have and maintain all of the necessary skills, knowledge, competence and understanding required for the effective performance of their role as directors of the trustee. As part of this, and in accordance with section 248 of the Pensions Act 2004 and applicable codes of practice issued by TPR, each trustee director ensures that he or she is conversant with each of the key scheme documents (including the Scheme Rules, the SIP, the default SIP and the Statement of Funding Principles) as well as the law relating to pension schemes and the principles relating to funding and investment. The scheme has various procedures in place to facilitate this which are detailed below.

During the scheme year ended 31 March 2019, the trustee approved a new Director Appointment, Removal and Evaluation Policy (the 'Composite Policy') which consolidated and enhanced the trustee's policies in relation to director appointment, appraisal, training, development and removal. In addition, a revised skills matrix, new competency matrix and Trustee Board Succession Plan were all approved by the Governance and Nominations Committee during the year.

The Composite Policy requires that a number of activities are undertaken each year to evaluate and enhance the individual and collective skills, knowledge, competence and experience of the Trustee Board. These activities are summarised in the diagram on the following page and further details appear on the following pages.

Trustee skills, knowledge and understanding: key tools

Skills matrix	**Competency matrix**	**Induction**
Training needs assessment and training programme	**Annual appraisal process**	**Trustee Board/ committee effectiveness reviews**

Skills and competencies
Each trustee director is assessed against the trustee's skills and competency matrices at least annually and each director is also required to complete the trustee knowledge and understanding (TKU) questionnaire issued by TPR as part of their appraisal preparation. Each trustee director also has an individual annual appraisal during which any individual training and/or development requirements are identified.

An effectiveness review of the Trustee Board is carried out annually. The most recent review (which was externally facilitated and involved interviews with individual directors and members of the executive team and a series of workshops) was undertaken in February 2019 and the recommendations from the review are presently being implemented.

The Governance and Nominations Committee also reviews the completed board competency matrix annually and assesses whether or not the Trustee Board's collective competencies are appropriate in enabling the trustee to properly exercise its functions or whether there are any gaps which should be filled by training, succession planning or other means. As part of this review, consideration is also given to whether the skills and knowledge of the Trustee Board's standing committees should be supplemented.

For example, the chair of the USSIM Board and two additional investment specialists have been appointed to the Investment Committee to ensure that the members of the committee include individuals with specific investment expertise. A full review of the effectiveness of the Trustee Board's standing sub-committees is undertaken once every two years (and overseen by the Governance and Nominations Committee).

Rigorous appointment processes are followed in respect of all trustee director appointments and reappointments (having regard to the Trustee Board succession plan and competency matrix), including a formal role description which highlights the skills and behaviours required for the role. This too helps to ensure that the directors will continue to collectively have appropriate competencies and that each director appointed is fit and proper.

Training
In addition to the review of individual director's training and development needs during annual appraisals, the collective training needs of the Trustee Board and its committees are reviewed at least annually by the Governance and Nominations Committee, which has responsibility for approving the annual board and committee training programme.

In compiling the annual training programme, consideration is given to a number of relevant matters including (a) directors' completed skills matrices, (b) the scheme's business plan, (c) future board and committee agenda plans, (d) legal and regulatory horizon scanning, (e) regulatory guidance and (f) feedback from directors and committee members.

The training is compiled in this way in order to ensure that any actual or potential knowledge gaps are identified and rectified. Training sessions are typically held immediately before or after Trustee Board and committee meetings and attendance is generally compulsory. The formal training sessions are supplemented by additional (non-compulsory) educational sessions and the mandatory completion of e-learning modules. A log is maintained of all training undertaken by the trustee directors.

Trustee directors are also encouraged to attend additional external training events relevant to their specific areas of expertise and/or the committees on which they sit.

Trustee directors receive training on a broad range of topics, including some that are DC specific. By way of example, during the year, the Trustee Board received training in relation to Master Trusts and the legal requirements associated with having, and applying for, Master Trust status and more generally in relation to DC developments (which covered in-house DC experience to date as well as wider industry and regulatory developments).

Chair's defined contribution statement

Induction
There is an induction process for new Trustee Board directors, designed to ensure familiarity with the key scheme documents and sufficient knowledge and understanding of pensions and trust law, as well as the principles of pension scheme funding and investment. This process is documented and is regularly reviewed by the Governance and Nominations Committee, which also oversees completion of the induction process by each new director.

Each new Trustee Board director is expected to devote significant time to their induction, which is tailored to reflect their individual level of knowledge and assessed by reference to their completion of the skills matrix.

During the scheme year, the trustee's appointment and induction processes were amended in line with TPR's Code of Practice 15 (Authorisation and Supervision of Master Trusts), to require that any individual appointed to the Trustee Board completes TPR's Trustee Toolkit prior to commencement of their appointment (previously directors were required to do so within their 6 month induction period). All of the current trustee directors have completed TPR's trustee Toolkit.

Advice and guidance
The combined knowledge of the Trustee Board is supported by the USS Executive Management Team (which includes a range of professionals from various disciplines including: legal, actuarial and risk and compliance) as well as external professional advisers.

The Scheme Actuary and the Group General Counsel and/or the Chief Legal Officer attend all Trustee Board meetings ensuring that the Trustee Board has access to timely actuarial and legal advice. The trustee's principal investment manager is USSIM and independent investment advice is provided by Mercer. Both USSIM and Mercer attend each meeting of the Investment Committee. In addition, other professional advisers, attend meetings of the Trustee Board and its other committees on an ad hoc basis when required.

Non-affiliation of Trustee Directors
The scheme is a multi-employer trust based pension scheme and as such it is required to comply with additional requirements in relation to governance. These include that the majority of the trustee directors (including the chair) must be 'non-affiliated'.

There are 12 directors on the Trustee Board, 7 are non-affiliated (one of whom is the chair) and thus the requirement for a majority of non-affiliated directors is satisfied. The trustee confirms that none of the 7 non-affiliated directors (i) have been associated with any company that provides services in respect of the scheme, (ii) has been in his post for longer than the requisite time limits; and that (iii) each has either been appointed through an open and transparent process or their appointment preceded these requirements. Of the remaining 5 directors:

- Dr Carter was re-appointed during the scheme year ended 31 March 2019 and is affiliated because he is a director of USSIM which provides investment and advisory services to the scheme;
- Professor Sir Anton Muscatelli was re-appointed during the scheme year ended 31 March 2019 and is counted as an affiliated director because it is unclear whether his role was advertised sufficiently widely for the process used for his reappointment (which was operated by UUK and not the trustee itself) to be considered to be in accordance with the 'open and transparent' criteria in the legislation; and
- Ms English, Mr Maybury and Mr Merton are considered as affiliated directors as, when they were reappointed by the Trustee Board at the end of their first 3 year term, the additional requirement to achieve non-affiliated status of holding an open and transparent recruitment process was not fulfilled.

Since these reappointments, changes have been made to trustee director appointment procedures to reflect new legislative requirements. These changes will ensure that the trustee has oversight and suitable control over the appointment process for all directors and every director appointment or reappointment in the future will satisfy the new 'open and transparent' criteria.

During the scheme year ended 31 March 2019, 2 of the 7 non-affiliated directors were subject to appointment or reappointment processes as follows:

- Mr Spinks was appointed as a director with effect from 1 September 2018. Mr Spinks was appointed by Universities UK (UUK). UUK advertised the role in its CEO newsletter, on the website of the Employers Pension Forum and on jobs.ac.uk. Applicants were shortlisted by UUK based on whether or not they met the criteria of the director role profile. The shortlisted candidates were then interviewed and assessed against a common scorecard by a panel made up of representatives from UUK and the trustee. The chair of the Trustee Board was consulted on the proposed appointment which was also reviewed by the Governance and Nominations Committee and the full Trustee Board; and
- Mr Poisson was reappointed to the Trustee Board with effect from 1 November 2018. Mr Poisson is an independent director and was reappointed by the Trustee Board as a whole. The role was advertised in the Times newspaper and elsewhere. Applicants were sifted by the trustee's external recruitment adviser prior to being shortlisted. The shortlisted candidates were then interviewed and assessed against a common scorecard. The process was overseen by the Governance and Nominations Committee with input from the scheme's HR Officer. The chair of the Trustee Board was consulted on the proposed appointment. The Governance and Nominations Committee and the Trustee Board then reviewed and approved the reappointment of Mr Poisson.

7. Member communications, engagement and representation

Engaging members and empowering them to make the right decisions for their future is very important to the scheme. As well as meeting statutory disclosure requirements, the scheme is proactive in seeking to improve the overall member experience and reflect best practice identified by the Government, regulators and within the industry.

A range of channels are used to communicate with and collect feedback from members, including regular email updates, the online member portal, 'My USS' and annual member statements (including Statutory Money Purchase Illustration (SMPI) components) which are issued to active members.

My USS

Around 40% of the scheme's active membership, and over 80,000 active members in total, are now registered for the My USS portal. This online platform provides a further communication channel and allows active members to manage their contributions and investment decisions, see the value and performance of their USS Investment Builder funds and view detailed fund information through fund factsheets.

Emails

Throughout 2018/19, email updates have included several USS Investment Builder campaigns designed to boost understanding and engagement amongst DC members. These included raising awareness of new flexible options for taking DC benefits (UFPLS) and providing information and options on responsible and ethical investments.

Combined Annual Member Statements

Combined DB and DC Annual Member Statements for the year ending 31 March 2018 were issued to the vast majority of active members by September 2018. These statements are personalised to individual members and they highlight specific benefits and/or calls to action. They also include information about the tax status of members' pensions in relation to annual and lifetime allowances to assist members with tax planning.

The scheme also met the statutory requirement to provide all active and deferred members with Statutory Money Purchase Illustrations (SMPIs) by 31 March 2019.

Reflecting member views

UCU has the power (subject to the approval of the trustee) 'to appoint' three directors to the Trustee Board. UCU has a wide role representing members in connection with the scheme, both formally through the Joint Negotiating Committee (JNC) which approves and can initiate changes to scheme rules, and also informally through regular discussions with the USS Executive Management Team. A further description of the JNC appears on page 30 of this annual report.

The scheme gathers feedback from individual members in a number of ways. Members are given information on uss.co.uk about how to contact USS online, by phone or by letter, and there is also a specific Member Service Desk (MSD) for members with questions or comments about the USS Investment Builder. Members are also invited to provide specific 'touch point' feedback, for example when using My USS and accessing services such as the retirement team, or when receiving email updates or their annual member statement.

In 2018/19, the arrangements outlined above were supplemented with two large surveys sampling the whole membership. These were designed to understand members' perceptions and their levels of understanding and awareness, but also to encourage members to share their views about a number of aspects of the scheme, including the options available in the USS Investment Builder, the quality of member communications, and other dimensions of the products and services offered. These surveys included both structured questions and the ability to provide open feedback. Feedback from the surveys has been shared with the Trustee Board and the scheme stakeholders through the JNC and has helped the trustee to prioritise further improvements to the USS Investment Builder and the support offered to members around it.

The trustee takes all member feedback seriously and through dedicated policy and member communications teams continually assesses the channels (and their effectiveness) for engaging with members, having regard to the size, nature and demographic of the scheme membership.

In 2019/20, the scheme intends to establish a 'Voice of the Member' online panel. This is in line with the TPR's stated best practice for large complex schemes like USS, and will ensure member views can be consistently fed into the USS Investment Builder design and wider scheme developments in a flexible and timely way.

Professor Sir David Eastwood
Chair of the Trustee Board

USS Default Lifestyle Option Statement of Investment Principles

Introduction

1. This Statement of Investment Principles specifically covers the USS Default Lifestyle Option and shall be referred to as the Default SIP. It supplements the main Statement of Investment Principles (the SIP) which covers the whole scheme.

2. The trustee makes available a default lifestyle option for members of the DC section. The approach for the default lifestyle option has been formed as a lifestyle strategy. Lifestyle strategies are designed to meet the conflicting objectives of maximising the value of a member's assets at retirement and protecting the value of accumulated assets particularly in the years approaching retirement.

3. Typically, a proportion of members will actively choose this option because they feel it is suitable for them. However, the vast majority of members do not make an active investment decision and are therefore invested in the default lifestyle option by default.

4. The default lifestyle option aims to generate investment returns, in a risk-controlled manner, which are sufficient to provide a reasonable level of retirement benefits for members, given the level of contributions paid over a member's lifetime in to the DC section, whilst also recognising the hybrid nature of the scheme.

Objectives

5. The objectives of the default lifestyle option, and the ways in which the trustee seeks to achieve these objectives, are detailed below:

   - To focus particularly on generating returns in excess of inflation during the growth phase of the strategy (up to 10 years before retirement) whilst mitigating downside risk.

     The default lifestyle option's growth phase invests in equities and other growth-seeking and diversifying assets. These investments are structured to maximise real returns over the long term with some downside protection and some protection against inflation erosion. The downside risk from an equity market downturn is mitigated to a degree through diversification away from equities into other asset classes.

   - To provide a strategy that reduces investment risk in the consolidation phase (between five and 10 years before retirement) for members as they approach retirement.

     As a member's DC savings grow, investment risk will have a greater impact on member outcomes. Therefore, the trustee believes that a strategy which seeks to reduce investment risk as the member approaches retirement is suitable. In the consolidation phase, the trustee is seeking, through greater diversification of assets, to reduce the likelihood of extreme investment shocks adversely affecting retirement outcomes.

   - To provide exposure, at retirement, to a more stable portfolio of assets that are broadly suitable for how members may take their retirement benefits.

     In the final five years before retirement (protection phase), the trustee has constructed a glide path that seeks to continue to grow the member's DC savings in real terms while reducing volatility as member's funds get closer to maturity. The trustee expects that the majority of members approaching retirement in the next five years or so will take their benefits as cash.

     In the protection phase, assets are therefore switched to more cautious assets (such as gilts and corporate bonds), including an allocation to cash. This has been designed additionally to reflect the uncertainty inherent in the timing of retirements, and the post-retirement investment choices that might be made by members. The trustee believes that maintaining a measured amount of risk will improve the average outcome for members.

   - To comply with the trustee's policy in relation to the realisation of assets as set out in paragraphs 3.9 of Section 1 of the SIP[1]. The chart on the bottom of the next page provides an illustration of the default structure described in paragraph 3.4 of Section 3 of the SIP[2], in particular detailing the balance between the different kinds of investments held.

6. The chart on the bottom of the next page provides an illustration of the default structure described in paragraph 3.4 of Section 3 of the SIP[2], in particular detailing the balance between the different kinds of investments held:

Policies

7. The trustee's policies in relation to the default lifestyle option are detailed below:

   - The default lifestyle option manages strategic asset allocation risks through a diversified reference portfolio consisting of traditional and alternative assets. Risk is not considered in isolation, but in conjunction with expected investment returns and outcomes for members. In designing the default lifestyle option, the trustee explicitly considers the trade-off between risk and expected returns and continues to monitor these risks through ongoing reporting.

Notes

1 The trustee's policy is that there will be sufficient investments in liquid or readily realisable assets to meet cash flow requirements in foreseeable circumstances so that the realisation of assets will not disrupt the scheme's overall investments, where possible. The internal manager will ensure the scheme holds sufficient cash to meet benefit and other payment obligations.

2 Referred to in point 5.

- Assets in the default lifestyle option are invested in the best interests of members and beneficiaries, taking into account the profile of members. In particular, the trustee considered high level profiling analysis of the scheme's membership in order to inform decisions regarding the default lifestyle option.
- Members are supported by communications aiming to set out clearly the aims of the default lifestyle option and the access to alternative investment approaches. If members wish to, they can opt to make their own choice of investment strategy or an alternative lifestyle strategy from those made available by the trustee. This option is available on joining but also, subject to any restrictions or conditions imposed by the scheme rules of the trustee, at any other future date. Moreover, members do not have to take their retirement benefits in line with those targeted by the default lifestyle option; the target benefits are merely used to determine the investment strategy held pre-retirement.

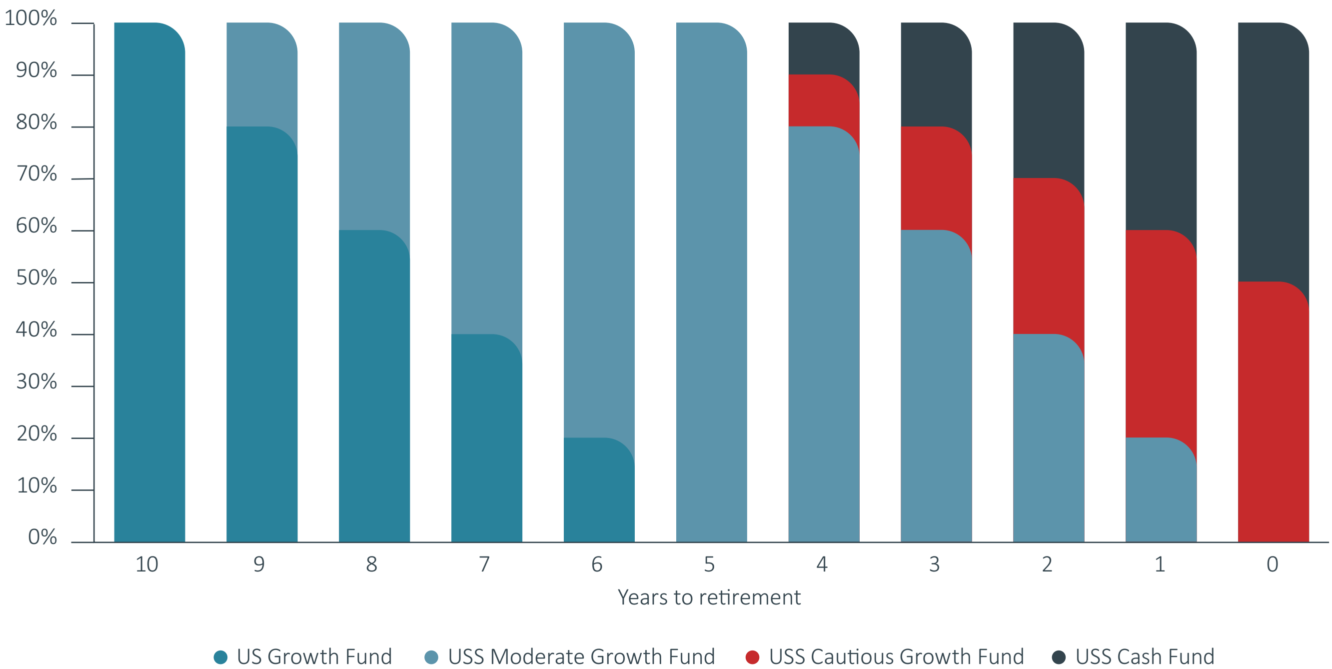
Default structure illustration

Kinds and balance of investments held

8. The following are indicative descriptions of the type of investments that may be held by the different underlying funds comprising the default lifestyle option.
   - A growth fund – will invest predominantly in growth assets, with an objective to provide long term growth to members, with some diversification to mitigate portfolio risk to a degree.
   - A moderate growth fund- will typically invest a majority in growth assets, with more diversification than the growth fund, and with an objective to provide long term growth to members from a balanced, more diversified portfolio of assets. This diversification aims to mitigate portfolio risk to a greater extent.
   - A cautious growth fund – with an objective to provide stable growth to members from a portfolio of predominantly low risk, income focused assets, with some diversification, and minority exposure to growth assets.
   - A cash fund – typically aims to produce a return in excess of its benchmark, principally from a portfolio of Sterling denominated cash, deposits and money market instruments.
9. Moving from growth to moderate growth to cautious growth funds would be associated with decreasing proportions in growth assets such as equities, and property and increasing proportions in non-government and government bonds.

Social, environmental or ethical considerations

10. The default lifestyle option is managed in line with the trustee's policy on social, environmental or ethical considerations as set out below:
    - The trustee is an active and responsible steward of the assets in which it invests. The trustee expects this approach to both protect and enhance the value of the fund in the long-term.



USS Default Lifestyle Option Statement of Investment Principles

- The trustee therefore requires its investment managers to integrate all material financial factors, including corporate governance, environmental, social, and ethical considerations, into the decision-making process for all fund investments. The trustee does this in a manner which is consistent with the trustee's investment objectives, legal duties and other relevant commitments e.g. the UN-backed Principles for Responsible Investment and the UK Stewardship Code.
- Specifically, the trustee has instructed the internal manager, as its principal investment manager and adviser, to follow good practice and use its influence as a major institutional investor and long-term steward of capital to promote good practice in the investee companies and markets to which the fund is exposed.
- The trustee also expects its internal and external investment managers to undertake appropriate monitoring of current investments with regard to their policies and practices on all issues which could present a material financial risk to the long- term performance of the fund such as corporate governance and climate change.
- Effective monitoring and identification of these issues can enable engagement with boards and management of investee companies to seek resolution of potential problems at an early stage. The trustee tasks the internal manager to provide oversight of external managers in this respect. The trustee also aims to use its voting rights as part of its engagement work, in a prioritised, value-adding and informed manner. Where collaboration is likely to be the most effective mechanism for encouraging issues to be addressed, the trustee expects its investment managers to participate in joint action with other institutional investors as permitted by relevant legal and regulatory codes.
- The investment committee monitors this activity on an ongoing basis with the aim of maximising its impact and effectiveness. The trustee's governance, social, ethical and environmental policies are also reviewed regularly by the board and updated as required to ensure that they are in line with good practice.

Alternative options

11. In addition to the default lifestyle option, the trustee makes available an alternative ethical lifestyle option reflecting the fact that a large group of the membership has specific objectives around ethical investing. This is built along similar principles to the default lifestyle option but has been specifically designed to reflect members' objectives in this area. As well as this, a range of self-select funds are also offered to members.

Review

12. Taking into account the demographics of the scheme's membership and the trustee's views of how the membership is likely to behave at retirement, the trustee will continue to review this over time, at least triennially, or sooner if there are significant changes to the scheme's investment policy, demographic or other circumstances which the trustee determines warrant a reconsideration of the reference portfolios (as explained in paragraph 7 of this Default SIP) for the default lifestyle option.

Enquiries about the scheme

Enquiries should be addressed to the Company Secretary,

Ms Nicola Mayo
Universities Superannuation Scheme Limited,
Royal Liver Building,
Liverpool,
L3 1PY.

Principal officers and advisers

The principal external advisers of the scheme and for the trustee company are:

Scheme Actuary
Ali Tayyebi of Mercer,
4 Brindley Place,
Birmingham,
B1 2LQ

Independent Auditor
Ernst & Young LLP
25 Churchill Place ,
Canary Wharf,
London
E14 5EY

Bankers
Barclays Bank PLC,
Manchester
M2 1HW

National Westminster Bank Plc,
22 Castle Street,
Liverpool,
L2 0UP

Custodians
JP Morgan
25 Bank St,
Canary Wharf,
London
E14 5JP

Northern Trust
50 Bank Street,
Desk 7-18-F,
London,
E14 5NT

The financial statements included in this report and accounts have been prepared and audited in compliance with regulations made up sections 41(1) and (6) of the Pensions Act 1995.

Financial statements

Audited financial statements including the fund account, statement of net assets and notes.

Image: University of Glasgow

Statement of trustee's responsibilities

The financial statements, which are prepared in accordance with UK Generally Accepted Accounting Practice, including the Financial Reporting Standard applicable in the UK (FRS 102) are the responsibility of the trustee. Pension scheme regulations require, and the trustee is responsible for ensuring, that those financial statements:

- show a true and fair view of the financial transactions of the scheme during the scheme year and of the amount and disposition at the end of the scheme year of its assets and liabilities, other than liabilities to pay pensions and benefits after the end of the scheme year; and
- contain the information specified in Regulation 3A of the Occupational Pension Schemes (Requirement to obtain Audited Accounts and a Statement from the Auditor) Regulations 1996, including making a statement confirming that the financial statements have been prepared in accordance with the relevant financial reporting framework applicable to occupational pension schemes.

In discharging the above responsibilities, the trustee is responsible for selecting suitable accounting policies, to be applied consistently, making any estimates and judgments on a prudent and reasonable basis, and for the preparation of the financial statements on a going concern basis unless it is inappropriate to presume that the scheme will not be wound up.

The trustee is also responsible for making available certain other information about the scheme in the form of an annual report. The trustee also has a general responsibility for ensuring that adequate accounting records are kept and for taking such steps as are reasonably open to it to safeguard the assets of the scheme and to prevent and detect fraud and other irregularities, including the maintenance of an appropriate system of internal control.

The trustee is responsible under pensions legislation for preparing, maintaining and from time to time reviewing and if necessary revising a schedule of contributions showing the rates of contributions payable to the scheme by or on behalf of the employers and the active members of the scheme, and the dates on or before which such contributions are to be paid.

The trustee is also responsible for keeping records of contributions received by any active member of the scheme and for adopting risk-based processes to monitor whether contributions are made to the scheme by the scheme's employers in accordance with the schedule of contributions. Where breaches of the schedule occur, the trustee is required by the Pensions Acts of 1995 and 2004 to consider making reports to The Pensions Regulator and the members.

Signed on behalf of the trustee on 17 July 2019.

Professor Sir David Eastwood
Chair

Independent auditor’s report to the trustee of Universities Superannuation Scheme

Opinion[1]

We have audited the financial statements of Universities Superannuation Scheme for the year ended 31 March 2019 which comprise the Fund Account, the Statement of Net Assets and the related notes 1 to 21, including a summary of significant accounting policies. 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 FRS102 ‘The Financial Reporting Standard applicable in the UK and Republic of Ireland’.

In our opinion, the financial statements:

- show a true and fair view of the financial transactions of the scheme during the year ended 31 March 2019 and of the amount and disposition at that date of its assets and liabilities, other than liabilities to pay pensions and benefits after the end of that year;
- 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
- contain the information specified in Regulation 3A of the Occupational Pension Schemes (Requirement to Obtain Audited Accounts and a Statement from the Auditor) Regulations 1996, made under the Pensions Act 1995.

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 below. We are independent of the scheme in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the FRC’s Ethical Standard, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Conclusions relating to going concern

We have nothing to report in respect of the following matters in relation to which the ISAs (UK) require us to report to you where:

- the trustee’s use of the going concern basis of accounting in the preparation of the financial statements is not appropriate; or
- the trustee has not disclosed in the financial statements any identified material uncertainties that may cast significant doubt about the scheme’s ability to continue to adopt the going concern basis of accounting for a period of at least 12 months from the date when the financial statements are authorised for issue.

Other information

The other information comprises the information included in the Report and Accounts other than the financial statements and our auditor’s report thereon. The trustee is responsible for the other information.

Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in this report, 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 the other information, we are required to report that fact. We have nothing to report in this regard.

Note

1 The maintenance and integrity of the Universities Superannuation Scheme web site is the responsibility of the trustee; the work carried out by the auditors does not involve consideration of these matters and, accordingly, the auditors accept no responsibility for any changes that may have occurred to the financial statements since they were initially presented on the web site. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Independent auditor's report to the trustee of Universities Superannuation Scheme

Responsibilities of the trustee

As explained more fully in the trustee's responsibilities statement set out on page 58, 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 trustee determines 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 scheme'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 trustee either intends to wind-up the scheme or to cease operations, or has no realistic alternative but to do so.

Auditor's responsibilities for the audit of the financial statements

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.

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.

Use of our report

This report is made solely to the scheme's trustee, as a body, in accordance with the Pensions Act 1995 and Regulations made thereunder. Our audit work has been undertaken so that we might state to the scheme's trustee 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 scheme's trustee as a body, for our audit work, for this report, or for the opinions we have formed.

Ernst & Young LLP
Statutory Auditor
25 Churchill Place
London E14 5EY
17 July 2019

Fund account for the year ended 31 March 2019

Contributions and benefits	Note	2019 £m	2018 £m
Employer contributions receivable	4	2,030	1,929
Employee contributions receivable	4	249	238
Total contributions		**2,279**	**2,167**
Transfers in		16	43
Total additions		**2,295**	**2,210**
Benefits payable	5	(1,892)	(1,780)
Payments to and on account of leavers	6	(125)	(125)
Administrative expenses	7	(61)	(54)
Total withdrawals		**(2,078)**	**(1,959)**
Net additions from dealings with members		**217**	**251**

Return on investments	Note	2019 £m	2018 £m
Investment income	8	1,716	1,432
Taxation		(49)	(25)
Change in market value of net investments		2,205	2,326
Investment management expenses	7	(90)	(73)
Net return on investments		**3,782**	**3,660**
Net increase in the fund during the year		**3,999**	**3,911**
Net assets of the scheme at the start of the year		**64,457**	**60,546**
Net assets of the scheme at the end of the year		**68,456**	**64,457**

Statement of net assets available for benefits as at 31 March 2019

	Note	2019 £m	2018 £m
Investment assets			
Equities	9	24,276	25,641
Bonds	9	25,789	21,535
Pooled investment vehicles	9, 10	13,399	12,206
Derivatives	9, 11	834	526
Property	9	2,313	2,226
Cash and cash equivalents	9	2,929	2,747
Defined contribution investments	9	1,035	777
Other investment balances	9,12	1,107	1,143
		71,682	**66,801**
Investment liabilities			
Derivatives	9, 11	(411)	(447)
Other investment balances	9, 12	(2,881)	(1,920)
		(3,292)	**(2,367)**
Total net investments		**68,390**	**64,434**
Current assets	17	**232**	**223**
Current liabilities	18	**(166)**	**(200)**
Net assets of the scheme at 31 March		**68,456**	**64,457**

The financial statements summarise the transactions of the scheme and deal with the net assets at the disposal of the trustee. They do not take account of obligations to pay pensions and benefits which fall due after the end of the scheme year. The actuarial position of the scheme, which does take account of such obligations, is dealt with in the report on Actuarial Liabilities on page 82 and should be read in conjunction with this report.

The defined contribution investments included within total net investments includes additional voluntary contributions invested with the Prudential. These assets are specifically allocated to secure extra benefits for those members that have made these additional voluntary contributions.

The prior year comparatives have been restated following a review of the private market asset classifications. Assets held via internal holding vehicles have been reclassified from pooled investment vehicles and instead a look through approach has been adopted to the nature of the underlying asset type. As a result, equities have increased by £1,553m, bonds have increased by £465m and pooled investment vehicles have decreased by £2,018m. There was no impact on total net assets.

The financial statements on pages 61 to 80 were approved by the trustee, Universities Superannuation Scheme Limited, on 17 July 2019 and were signed on its behalf by:

Professor Sir David Eastwood
Chair

The notes on pages 63 to 80 form part of these financial statements.

Notes to the financial statements for the year ended 31 March 2019

1 Basis of preparation

The financial statements have been prepared in accordance with the Occupational Pension Schemes (Requirement to obtain Audited Accounts and a Statement from the Auditor) Regulations 1996, Financial Reporting Standard 102 (FRS 102) – The Financial Reporting Standard applicable in the UK and Republic of Ireland issued by the Financial Reporting Council and the guidance set out in the Statement of Recommended Practice (2015) (the SORP).

Universities Superannuation Scheme is a registered Pension Scheme under Chapter 2 of Part 4 of the Finance Act 2004 and is therefore not normally liable to income tax on income from investments directly held, nor to capital gains tax arising from the disposal of such investments.

2 Treatment of subsidiary undertakings

The trustee company, Universities Superannuation Scheme Limited, owns the share capital of a number of investment holding companies to aid the efficient administration of the scheme's investment portfolio. In accordance with FRS 102 and the SORP, the trustee is not required to prepare consolidated accounts which include these entities and has chosen not to do so because the companies are held for investment purposes and not as operating subsidiaries. An analysis of the net assets held within such companies is shown in Note 15. Details of these companies may be obtained by writing to the Company Secretary of Universities Superannuation Scheme Limited, Ms N Mayo, at Royal Liver Building, Liverpool L3 1PY.

3 Accounting policies

The principal accounting policies of the scheme are set out below and have been applied consistently by the scheme in both the current and prior years.

(a) Contributions receivable

Contributions represent the amounts returned by the participating employers as being those due to the scheme under the Schedule of Contributions for the year of account and include contributions in respect of deficit funding. The responsibility for ensuring the accuracy of contributions rests with institutions which, under the terms of the trust deed regulating Universities Superannuation Scheme, are ultimately responsible for ensuring the solvency of the scheme. Retirement augmentation receipts and benefits payable are accounted for in the period in which they fall due under the agreement under which they are payable.

Employer S75 debt contributions are accounted for when a reasonable estimate of the amount receivable can be determined.

(b) Benefits paid or payable

Pensions in payment are accounted for in the period to which they relate.

The principal scheme benefits are provided under the main section. The supplementary section, which is funded by a contribution of 0.35% of salary from the members, provides additional benefits payable when a member retires on the grounds of ill health or incapacity or dies in service.

Where members can choose whether to take their retirement benefits as a full pension or as a lump sum with reduced pension, retirement benefits are accounted for on an accruals basis, whichever is the later of the retirement date and the date the scheme is advised of the member's choice. Other benefits are accounted for on the date of retirement or death as appropriate.

Opt-outs are accounted for when the scheme is notified of the opt-out.

Where the trustee agrees or is required to settle tax liabilities on behalf of a member (such as where lifetime or annual allowances are exceeded) with a consequent reduction in that member's benefits receivable from the scheme, any taxation due is accounted for on the same basis as the event giving rise to the tax liability and shown separately within benefits.

(c) Transfers in and out

Transfers to and from the fund are accounted for when member liability is accepted or discharged, which is normally when the transfer amount is paid or received.

Notes to the financial statements for the year ended 31 March 2019

3 Accounting policies (continued)

(d) Administrative and investment management expenses
Administrative and investment management expenses represent the costs incurred by the trustee company in managing and administering the scheme. These costs are recharged to the scheme in accordance with its rules and recognised in the scheme accounts on an accruals basis.

(e) Investment income
Investment income is brought into account on the following bases:

(i) Dividends, tax and interest from investments, on the date that the scheme becomes entitled to the income;

(ii) Interest on cash deposits and bonds, as it accrues; and

(iii) Property rental income, on a straight-line basis over the period of the lease.

(f) Change in the market value of investments
The change in market value of investments during the year comprises all increases and decreases in the market value of investments held at any time during the year, including profits and losses realised on sales of investments during the year.

(g) Investments
Investments are included in the statement of net assets at fair value at the year end as follows:

(i) Quoted equities and bonds – Quoted equities and bonds in active markets are stated at closing prices; these prices may be last trade prices or bid market prices depending on the convention of the stock exchange on which they are quoted;

(ii) Fixed interest securities – Interest is excluded from the market value of fixed interest securities and is included within investment income receivable;

(iii) Unquoted equities and bonds – Unquoted equities and bonds are stated at fair value as estimated by the trustee using appropriate valuation techniques. Significant direct investments are valued by independent valuation experts; and

(iv) Pooled investment vehicles – Pooled investment vehicles are stated at unit prices or values as advised by the fund administrator based on the fair value of the underlying assets;

Unit trusts and managed funds
- Unit trusts and managed funds are stated at latest available bid price or single price, as advised by the fund manager, based on the market valuation of the underlying assets;

Private equity funds
- Private equity funds are stated at the latest available cashflow adjusted valuations prepared in accordance with International Private Equity and Venture Capital Guidelines; and

Hedge funds
- Hedge funds are stated at fair value based on prices determined by the independent administrator of each respective investment manager.

(v) Derivative contracts – Derivative contracts are included in the statement of net assets at fair value. Exchange traded derivatives with positive values are included as assets at bid price, and those with negative values as liabilities at offer price.

Derivatives with an initial purchase price are reported as purchases. Those that do not have an initial purchase price but require a deposit, such as initial margin to be placed with the broker, are recorded at nil cost on purchase.

Derivatives comprise the following types of contracts which are either exchange-traded or over the counter (OTC).

Options (exchange-traded)
- Options are recognised at the fair value as determined by the exchange price for closing out the option as at the year end. Collateral payments and receipts are reported as broker balances and are not included within realised gains or losses reported within change in market value.

Futures (exchange-traded)

- Open futures contracts are recognised in the statement of the net assets at their fair value, which is the unrealised profit or loss at the current bid or offer market quoted price of the contract, as determined by the closing exchange price as at the year end. Margin balances with the brokers represent the amounts outstanding in respect of the initial margin and any variation margin due to or from the broker. Amounts included in the change in market value represent realised gains or losses on closed futures contracts and the unrealised gains or losses on open futures contracts.

Swaps (OTC)

- Swaps (OTC) are recognised at fair value, which is the current value of future expected net cash flows arising from the swap, taking into account the time value of money. Net receipts and payments are reported within change in market value. Realised gains and losses on closed contracts and unrealised gains and losses on open contracts are included within change in market value. The notional principal amount is used for the calculation of cash flow only.

Forward foreign exchange contracts (OTC)

- Forward foreign exchange contracts outstanding at the year end are stated at fair value, which is determined as the gain or loss that would arise if each outstanding contract was matched at the year end with an equal and opposite contract at that date. Changes in the fair value of forward contracts are reported within the change in market value in the fund account.

(h) Property

Property is stated at open market value as at the year end date determined in accordance with the Royal Institute of Chartered Surveyors (RICS), Valuation- Global Standards 2017 (Incorporating the International Valuation Standards) and the UK National Supplement 2018, taking into consideration the current estimate of rental value and market yields.

(i) Defined contribution investments

Defined contribution investments are stated at net asset value provided by the fund administrator at the year end date.

(j) Repurchase agreements (repos)

The scheme continues to recognise and value securities that are delivered out as collateral under repurchase agreements (repos) and includes them in the financial statements. The cash received is recognised as an asset and the obligation to pay it back is recognised as a payable.

(k) Foreign currency

The scheme’s functional and presentation currency is pounds sterling.

Foreign currency investments and related assets and liabilities are translated into sterling at the rate ruling on the date of the transaction and subsequently at the rates of exchange at the year end. Exchange differences arising from translation are included in the fund account within the change in market value of investments. Foreign currency income and expenditure is translated at exchange rates prevailing on the appropriate dates, which are usually the transaction dates.

(l) Other investment arrangements

- The scheme continues to recognise securities delivered out under stock lending arrangements and as collateral under OTC derivative contracts reflecting its ongoing interest in those securities.
- Collateral securities received in respect of stock lending arrangements and derivative contracts are disclosed but not recognised as scheme assets.
- The value of collateral received in respect of OTC derivative contracts reflects its fair value.

Notes to the financial statements for the year ended 31 March 2019

4 Contributions receivable

	2019 £m	2018 £m
Employer contributions		
Employer contributions – defined benefit	1,351	1,290
Employer contributions – defined contribution	93	92
Employer salary sacrifice contributions	573	547
S75 debt	11	(1)
Augmentation	2	1
	2,030	**1,929**
Employee contributions		
Members' basic contributions – defined benefit	72	70
Members' basic contributions – defined contribution	7	7
Main section AVCs	136	127
Legacy AVCs	8	9
Supplementary section	26	25
	249	**238**
	2,279	**2,167**

The scheme offers the following additional contributions facilities:

- Main section AVCs referred to above, represent additional contributions made into the USS Investment Builder which provides defined contribution benefits from the scheme. Contributions from members who commenced additional contributions on or after October 2016 are paid into main section AVCs.
- Legacy AVCs represent contributions made to purchase benefits under a legacy facility administered throughout the current and prior years by the Prudential Assurance Company Limited (the Prudential). Individual members' contributions are deducted from their salaries and paid direct to the Prudential by the employers. The contributions are invested through the Prudential on behalf of the individuals concerned to provide additional benefits within the overall limits laid down by HM Revenue and Customs (HMRC).
- Contributions towards the past service deficit are included within employer contributions above. For the period 1 April 2017 to 31 March 2019 this amounted to 2.1% of total salaries. Under the current funding plan, 5% of total salaries will be payable from 1 April 2020 and will continue until 30 June 2034. There will be no contributions towards the past service deficit due under the current funding plan for the year ending 31 March 2020.

5 Benefits payable

	2019 £m	2018 £m
Main section		
Pensions	1,462	1,383
Lump sums on or after retirement	354	320
Lump sums on death in service	17	16
Taxation where lifetime and annual allowance exceeded	3	5
	1,836	**1,724**
Supplementary section		
Pensions	15	15
Lump sums on death in service	4	1
	19	**16**
MPAVCs		
Pensions	36	39
Lump sums on death in service	1	1
	37	**40**
	1,892	**1,780**

Taxation arising on benefits paid is in respect of members whose benefits have exceeded the lifetime or annual allowance and who elected to take lower benefits from the scheme in exchange for the scheme settling their tax liability.

6 Payments to and on account of leavers

	2019 £m	2018 £m
Individual transfers out to other schemes	124	98
Refunds of contributions in respect of non-vested leavers	1	27
	125	**125**

Notes to the financial statements for the year ended 31 March 2019

7 Administrative and investment management expenses

	2019 £m			2018 £m		
	Administrative expenses £m	Investment management expenses £m	Total £m	Administrative expenses £m	Investment management expenses £m	Total £m
Personnel costs						
Wages and salaries	16	15	31	14	15	29
Employee incentives	2	19	21	2	17	19
Pension costs	10	9	19	2	2	4
Social security costs	2	5	7	2	1	3
Other	2	2	4	4	1	5
Total personnel costs	**32**	**50**	**82**	**24**	**36**	**60**
Other costs incurred in managing and adminstering the Scheme						
Professional fees	9	5	14	9	5	14
Invoiced external manager fees	–	11	11	–	11	11
Securities research fees	–	10	10	–	9	9
Information services costs	6	6	12	7	5	12
Investment property management fees	–	4	4	–	3	3
Group premises costs	4	–	4	4	–	4
Recruitment, training and welfare	3	–	3	3	–	3
Pension Protection Fund levies	3	–	3	3	–	3
Other costs	4	4	8	4	4	8
Total other costs	**29**	**40**	**69**	**30**	**37**	**67**
Total Scheme overheads	**61**	**90**	**151**	**54**	**73**	**127**

Administrative expenses[1] are incurred by the trustee company in managing and administering the scheme and, in accordance with the trust deed, are chargeable to the scheme.

Investment management expenses[1] comprise all costs directly attributable to the scheme's investment activities, including the operating costs of USS Investment Management Limited and the costs of management and agency services rendered by third parties.

Included in the administrative personnel costs are emoluments charges (which equal amounts paid) in relation to salary and benefits, excluding LTIP and pension related charges, for Mr Galvin, Group Chief Executive, of £459,163 (2018: £456,254). Mr Galvin is eligible to participate in an individual LTIP plan which vests after 3, 4 and 5 years, and will amount to an annual maximum amount of £200,000 that will be entirely related to his performance and the achievement of set objectives. Amounts relating to the LTIP plan, charged within administrative personnel costs in the year are £194,132 (2018: £159,306); on a paid basis the amounts are £103,419 (2018: £102,211). Mr Galvin is also a member of the scheme and amounts charged (which equal amounts paid) in respect of contributions and foregone contributions in the year are £60,713 (2018: £71,842). Mr Galvin's accrued USS Retirement Income Builder pension at 31 March 2019 was £17,106 (2018: £15,996) and his accrued lump sum was £59,835 (2018: £47,990). These accrued pension benefits relate to amounts earned in respect of services to the scheme and exclude transfers in from other schemes.

The aggregate amount of compensation payable for loss of office to employees during the year was £0.5m (2018: £0.7m) of which £0.4m (2018: £0.6m) was payable to employees whose remuneration exceeded £100,000 during the year.

Note

1 Investment management expenses and administrative expense differ from the investment management and pension administration cost KPIs as the KPIs reflect administrative expenses allocations and amounts payable each year for pension deficit recovery (rather than the provision movement in the Fund Account following finalisation of the scheme valuation).

8 Investment income

	2019 £m	2018 £m
Dividends from equities	789	654
Net property income	109	101
Income from pooled investment vehicles	311	199
Income from bonds	565	534
Interest on cash deposits	30	13
Income/(expenses) from derivatives	(54)	(35)
Other income/(expenses)	(34)	(34)
	1,716	**1,432**

Income from property is net of property related expenses of £4m (2018: £4m).

Investment income from overseas investments may be subject to deduction of local withholding taxes under local domestic law. Where double taxation treaties exist between the UK and the country in which the income arises, the tax withheld may be reduced to a lesser rate or to zero by the operation of the relevant treaty. Final withholding taxes suffered, after applying any beneficial treaty rates, are disclosed on the face of the fund account as taxation.

9 Investments reconciliation

The changes in the market value of investments are shown below:

	Note	Market value 2018 £m	Purchases at cost and derivative payments £m	Proceeds of sales and derivative receipts £m	Changes in value during the year £m	Market value 2019 £m
Equities		25,641	10,624	(12,637)	648	24,276
Bonds		21,535	12,619	(9,459)	1,094	25,789
Pooled investment vehicles	10	12,206	3,125	(3,049)	1,117	13,399
Derivatives	11	79	6,393	(5,296)	(753)	423
Property		2,226	59	(21)	49	2,313
Defined contribution investments		777	288	(84)	54	1,035
		62,464	**33,108**	**(30,546)**	**2,209**	**67,235**
Cash and cash equivalents		2,747				2,929
Other investment balances (net)	12	(777)				(1,774)
	13	**64,434**				**68,390**

The prior year comparatives have been restated following a review of the private market asset classifications. Assets held via investment holding companies have been reclassified from pooled investment vehicles and instead an approach which looks through to the nature of the underlying asset type has been adopted. As a result, equities have increased by £1,553m, bonds have increased by £465m and pooled investment vehicles have decreased by £2,018m. There has been no impact on total net assets.

Changes in the value of investments comprise both realised gains and (losses) on investments sold during the year and unrealised gains and (losses) on investments held at the year end.

Included in the amount for derivatives are realised and unrealised losses of £983m (2018: gains £1,025m) from forward currency contracts, which are used to hedge the currency risk relating to overseas investments (see Note 11, Derivatives). These are offset by gains in the values of the corresponding overseas assets. Turnover in derivatives primarily represents the rolling of these forward currency contracts. Defined contribution investments comprised £256m (2018: £293m) legacy MPAVC investments and £779m (2018: £484m) USS Investment Builder investments.

At the year end, within other investment balances, amounts payable under repurchase agreements are £2,441m (2018: £1,650m). At the year end £2,559m (2018: £1,650m) of bonds reported in scheme assets are held by counterparties under repurchase agreements.

Notes to the financial statements for the year ended 31 March 2019

9 Investments reconciliation (continued)

Transaction costs

Transaction costs are included in the cost of purchases and deducted from sale proceeds. Direct transaction costs include costs charged to the scheme such as advisory fees, commissions and stamp duty. In addition to the direct transaction costs disclosed below, indirect costs are incurred through the bid-offer spread on investments.

Transaction costs analysed by main asset class and type of cost are as follows:

	Fees & taxes £m	Commission £m	2019 £m	2018 £m
Equities	14	10	24	28
Bonds	1	–	1	2
Private equity	1	–	1	1
Property	3	–	3	1
	19	**10**	**29**	**32**

10 Pooled investment vehicles

The scheme's pooled investment vehicles at the year end comprised:

	Note	2019 £m	2018 £m
Equities		2,232	2,550
Hedge funds		1,760	1,862
Private equity		8,026	6,612
Property		1,381	1,182
	9, 13, 14	**13,399**	**12,206**

The prior year comparatives have been restated following a review of the private market asset classifications. Assets held via investment holding companies (as described on page 63) have been reclassified from pooled investment vehicles and instead an approach which looks through to the nature of the underlying asset has been adopted. As a result, pooled investment vehicles have decreased by £2,018m.

11 Derivatives

At the year end, the scheme recognised the following derivatives:

	Note	2019 £m	2018 £m
Assets			
Options	11 (a)	38	7
Futures contracts	11 (b)	249	184
Swaps	11 (c)	152	100
Forward foreign exchange contracts	11 (d)	395	235
		834	**526**
Liabilities			
Options	11 (a)	(2)	(8)
Futures contracts	11 (b)	(146)	(186)
Swaps	11 (c)	(152)	(125)
Forward foreign exchange contracts	11 (d)	(111)	(128)
		(411)	**(447)**
Net asset	**9, 13**	**423**	**79**

Objectives and policies

The trustee has authorised the use of derivatives by the investment managers in accordance with the investment guidelines for each mandate. Investment in derivative instruments is only permitted for the purposes of:

- contributing to a reduction of risks; and
- facilitating efficient portfolio management (including the reduction of cost or the generation of additional capital or income with an acceptable level of risk).

Processes and controls are in place to ensure risk exposures, including to individual counterparties, are maintained within acceptable levels.

The main objectives for the use of derivatives are summarised as follows:

(i) Protection
Derivatives may be used as part of the permitted instrument types available to managers to protect (or enhance) active returns relative to the specified strategic benchmarks, for example, through the use of options and credit default swaps.

(ii) Modify exposure to asset classes
Derivatives are bought or sold to allow the scheme to change its exposure to a particular market or asset class more quickly than by holding the underlying physical assets. They may also be easier to trade than conventional stocks, particularly in large amounts.

(iii) Hedging
Forward currency contracts are used to partially hedge the currency risk relating to overseas investments. This aims to achieve a better match between the fund's assets and the base currency of its future liabilities. Derivatives may also be used for the purpose of hedging risk exposures affecting future scheme liabilities, for example, through the use of inflation and interest rate swaps.

(iv) Replication
Derivatives are used where liquidity or funding for generating a relevant investment exposure is perceived to be more efficient in derivatives, rather than the underlying physical assets.

Derivative contracts outstanding at year end

A summary of the scheme's outstanding derivative contracts at the year end is set out below. The valuations are based on the unrealised fair values of the various investments as at 31 March 2019.

a) Options (exchange traded)

	Expires within	Notional principal £m	Asset £m	Liability £m
Type of option				
Currency	1 year	49	38	(2)
		49	**38**	**(2)**

b) Futures (exchange traded)

	Expires within	Notional principal £m	Asset £m	Liability £m
Type of future				
Equities	1 year	6,648	83	(41)
Bonds	1 year	1,868	–	(40)
Commodity	1 year	572	14	(27)
Currency	1 year	203	1	(1)
Interest rate	1 year	8,212	151	(37)
		17,503	**249**	**(146)**

The economic exposure represents the notional value of stock purchased under the futures contract on an absolute basis and is subject to market movements.

11 Derivatives (continued)

c) Swaps (OTC)

	Expires within	Nature of Swap	Notional principal £m	Asset £m	Liability £m
Interest Rate	0-27 years	Fixed vs floating	5,875	66	(105)
Total Return	0-1 year	Equity	246	19	–
	0-1 year	Commodity	537	–	–
Credit Default	0-6 years	Index	803	38	(25)
	0-6 years	Single	1,872	29	(19)
Dividend Swap	0-4 year	S&P 500 Index	1	–	(3)
			9,334	**152**	**(152)**

d) Forward foreign exchange (OTC)

Currency bought	Currency sold	Notional principal £m	Asset £m	Liability £m
GBP	USD	17,788	137	(33)
GBP	EUR	5,467	148	(2)
GBP	AUD	1,506	25	(14)
GBP	Other	1,368	15	(3)
USD	GBP	2,422	15	(10)
USD	Other	2,619	34	(3)
Other	USD	2,621	13	(25)
Other	GBP	2,656	7	(21)
Other	EUR	250	1	–
		36,697	**395**	**(111)**

Other currency relates to a number of smaller contracts in denominations not disclosed above. All of the above contracts settle within one year.

At the end of the year the scheme held collateral of £500m (2018: £246m) and pledged collateral of £14m (2018:£33m) in the form of cash and government bonds in respect of OTC derivatives. The prior year comparative has been restated to show the correct value.

12 Other investment balances

	2019 £m	2018 £m
Assets		
Amount due from stockbrokers	139	86
Dividends and accrued interest	282	235
Margin balances	686	757
Repurchase agreements	–	65
	1,107	**1,143**
Liabilities		
Amount due to stockbrokers	(198)	(108)
Margin balances	(238)	(152)
Repurchase agreements	(2,441)	(1,650)
Accrued interest	(4)	(10)
	(2,881)	**(1,920)**
Net other investment balances	**(1,774)**	**(777)**

During the normal course of business, the scheme enters into derivative transactions which are reflected in the scheme financial statements. As a consequence of the clearing arrangements in respect of these transactions, certain charges have been granted by Universities Superannuation Scheme Limited. No liability is expected to arise as a result of these charges.

The prior year comparatives have been restated to show the net settlement of open spot contracts instead of gross as in the prior year. As a result, the amount due from stockbrokers has decreased by £1,595m and amount due to stockbrokers has decreased by £1,595m. There was no overall impact on total net other investments.

Notes to the financial statements for the year ended 31 March 2019

13 Fair value determination

Fair value is the price that would be received to sell an asset or the price paid to transfer a liability in an orderly transaction between market participants at the measurement date.

The fair value of financial instruments has been estimated using the following fair value hierarchy:

Category 1: The unadjusted quoted price in an active market for identical assets or liabilities that the entity can access at the measurement date.

Category 2: Inputs, other than quoted prices included within Level 1, that are directly or indirectly observable (i.e. developed using market data) for the asset or liability.

Category 3: Inputs are unobservable for the asset or liability (i.e. assets for which market data is unavailable).

The prior year comparatives have been restated following a review of the private market asset classifications. Assets held via internal holding vehicles have been reclassified from pooled investment vehicles and instead a look through approach has been adopted to the nature of the underlying asset type. As a result, equities have increased by £1,553m, bonds have increased by £465m and pooled investment vehicles have decreased by £2,018m. There was no impact on total net assets.

		2019 Category			
	Note	1 £m	2 £m	3 £m	Total
Equities		20,804	–	3,472	24,276
Bonds		–	22,935	2,854	25,789
Pooled investment vehicles	10	230	1,017	12,152	13,399
Derivatives	11	103	284	36	423
Property		–	–	2,313	2,313
Cash and cash equivalents		2,886	43	–	2,929
Defined contribution investments		–	1,035	–	1,035
Other investment balances	12	(1,774)	–	–	(1,774)
	9	**22,249**	**25,314**	**20,827**	**68,390**

		2018 Category			
	Note	1 £m	2 £m	3 £m	Total
Equities		22,408	–	3,233	25,641
Bonds		–	19,370	2,165	21,535
Pooled investment vehicles	10	115	963	11,128	12,206
Derivatives	11	(2)	106	(25)	79
Property		–	–	2,226	2,226
Cash and cash equivalents		2,747	–	–	2,747
Defined contribution investments		–	777	–	777
Other investment balances	12	(777)	–	–	(777)
	9	**24,491**	**21,216**	**18,727**	**64,434**

The comparative for defined contribution investments has been restated in order to show as Category 2 in line with the latest guidance.

14 Investment risks

Investment risks are set out below as follows:

Credit risk: This is the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation.

Market risk: This comprises currency risk, interest rate risk and other price risk.

- **Currency risk**: This is the risk that the fair value or future cash flows of a financial asset will fluctuate because of changes in foreign exchange rates.
- **Interest rate risk:** This is the risk that the fair value or future cash flows of a financial asset will fluctuate because of changes in market interest rates.
- **Other price risk:** This is the risk that the fair value or future cash flows of a financial asset will fluctuate because of changes in market prices (other than those arising from interest rate risk or currency risk), whether those changes are caused by factors specific to the individual financial instrument or its issuer, or factors affecting all similar financial instruments traded in the market.

The trustee manages investment risks, including credit risk and market risk, within agreed risk limits which are set taking into account the scheme's strategic investment objectives. These investment objectives and risk limits are implemented through the reference portfolio in place with the scheme's internal investment manager and monitored by the trustee by regular reviews of the activity and performance of the internal manager and of scheme assets relative to the reference portfolio.

Further information on the trustee's approach to risk management and the scheme's exposures to credit and market risks are set out below and within the Statement of Investment Principles. This does not include defined contribution investments as these are not considered significant in relation to the overall investments of the scheme.

Credit risk

The scheme is subject to credit risk because the scheme invests directly in bonds, OTC derivatives, has cash balances and unsettled trades, undertakes stock lending activities, leases properties and enters into repurchase agreements.

	Investment grade		Non-investment grade		Unrated		Total	
	2019 £m	2018 £m	2019 £m	2018 £m	2019 £m	2018 £m	2019 £m	2018 £m
Direct								
Bonds not under repurchase or stock loan agreements	15,388	14,477	1,640	1,477	3,368	2,947	20,396	18,901
Bonds lent under repurchase agreements	2,448	1,650	–	–	–	–	2,448	1,650
Bonds lent under stock loan agreements	3,063	1,086	–	–	–	–	3,063	1,086
Cash	2,929	2,747	–	–	–	–	2,929	2,747
Unsettled trades	105	44	10	15	–	44	115	103
Sub-total	**23,933**	**20,004**	**1,650**	**1,492**	**3,368**	**2,991**	**28,951**	**24,487**
Other collateralised positions								
Equities lent under stock loan agreements	1,614	2,899	–	–	–	–	1,614	2,899
Other repurchase exposures	–	65	–	–	–	–	–	65
OTC derivatives (fair value)	548	335	–	–	–	–	548	335
Sub-total	**2,162**	**3,299**	**–**	**–**	**–**	**–**	**2,162**	**3,299**
Indirect								
Pooled investment vehicles	–	–	–	–	10,585	9,218	10,585	9,218
	26,095	**23,303**	**1,650**	**1,492**	**13,953**	**12,209**	**41,698**	**37,004**

The prior year comparatives have been restated following the review of the private market asset classifications during the year (see Note 9).

Notes to the financial statements for the year ended 31 March 2019

14 Investment risks (continued)

Credit risk arising on bonds and private credit is mitigated:

(i) Through investment in developed-market government bonds where the credit risk is minimal; and

(ii) For corporate and emerging-market bonds and private credit, individual investment mandates set out the maximum permissible exposure to non-investment grade issuers, so as to maintain the overall credit quality of the portfolios.

The use of credit default swaps has the effect of mitigating the maximum exposure to credit risk. The exposure to fixed interest credit risk mitigated through credit derivatives was £1,855m (2018: £432m).

Credit risk arising on derivatives depends on whether the derivative is exchange traded or OTC. OTC derivative contracts, other than those which are centrally cleared, are not guaranteed by any regulated exchange and therefore the scheme is subject to risk of failure of the counterparty. The credit risk for OTCs, including swaps and forward foreign currency contracts, is reduced by collateral arrangements (see Note 11). OTCs are valued daily and counterparty exposures are fully collateralised subject to de-minimis limits.

Cash is held with financial institutions which are at least investment grade credit rated, with the maximum deposit limit for any one counterparty set by reference to its credit rating.

Credit default swaps (CDS) spreads and rating notifications are monitored to ensure exposures remain within the approved limits. Money market liquidity funds must have a minimum AAA rating to be eligible for investment and limits are in place on the maximum allowable exposure to any single fund.

Credit risk on repurchase agreements is mitigated through collateral arrangements as disclosed in Note 9.

Credit risk arising from unsettled trades is mitigated through delivery versus payment settlement in the majority of markets.

Credit risk arising from stock lending activities is mitigated by restricting the amount of stock that may be lent, only lending to approved borrowers who are rated investment grade, limiting the amount that can be lent to any one borrower and through collateral arrangements. Loans are fully collateralised, with daily mark to market of all loaned securities to ensure collateral is received or returned to maintain full collateralisation. In addition the scheme's custodians provide indemnity for any losses arising from stock lending exposure to counterparties.

Credit risk arises from the rents due from tenants of the scheme's investment property portfolio. This is mitigated through credit control procedures, regular review of tenant credit ratings and the use of rent deposits where appropriate.

Direct credit risk arising from pooled investment vehicles is mitigated by the underlying assets of the pooled arrangements being ring-fenced from the pooled manager, provisions to automatically dissolve the funds in the event of insolvency of the pooled manager or general partner, a cap of liability to pooled funds at the level of funds committed, and diversification of investments amongst a number of pooled arrangements.

Therefore credit risk arising from pooled investment vehicles is all deemed to be indirect for the purpose of this disclosure. Due diligence checks are carried out on the appointment of new pooled investment managers and on an ongoing basis thereafter.

A summary of pooled investment vehicles by type of arrangement is as follows:

	Note	2019 £m	2018 £m
Unit trusts		1,040	881
OEIC's		2,232	2,549
Partnership Interests		8,367	6,914
Shares of limited liability partnerships		1,760	1,862
	9,10,13	**13,399**	**12,206**

The prior year comparatives have been restated following the review of the private market asset classifications during the year (see Note 9).

Currency risk

The scheme is subject to currency risk because some of the scheme's investments are denominated in foreign currencies and/or comprise assets whose economic value is generated in foreign currencies. Currency exposures are monitored and mitigated through a currency hedging policy, through which the reference portfolio includes 50% hedging for developed market equity and 100% for developed market fixed income. Derivative holdings are represented on an economic exposure basis within the table below:

	2019 £m	2018 £m
Direct		
Australian Dollar	1,750	1,946
Brazilian Real	670	747
Canadian Dollar	704	1,574
Euro	4,496	3,962
Hong Kong Dollar	1,615	1,454
Indian Rupee	652	238
Japanese Yen	2,067	2,636
Mexican Peso	587	635
South African Rand	583	562
South Korean Won	590	873
Swiss Franc	971	1,196
United States Dollar	18,996	14,781
Other	3,102	3,664
	36,783	**34,268**
Less: Foreign currency hedging	(15,016)	(13,540)
	21,767	**20,728**
Indirect		
Pooled investment vehicles	9,870	7,544
	9,870	**7,544**

Interest rate risk

The scheme's investments are subject to interest rate risk because they include public and private credit, swaps, liabilities under repurchase agreements and money market instruments. Also, investments in certain unquoted equities are valued in a way that makes them sensitive to interest rates and are, therefore, directly subject to interest rate risk. Much of this investment-related interest-rate risk provides an offsetting exposure to the interest risk which is inherent to the scheme's liabilities. This serves to mitigate the interest rate risk across the scheme as a whole.

	2019 £m	2018 £m
Direct		
Bonds	25,789	21,535
Equities	2,840	2,715
OTC derivatives (economic exposure)	9,333	6,111
Indirect		
Pooled investment vehicles	10,584	9,216
	48,546	**39,577**

The prior year comparatives have been restated following the review of the private market asset classifications during the year (see Note 9).

Notes to the financial statements for the year ended 31 March 2019

14 Investment risks (continued)

Other price risk

Other price risk arises principally in relation to the scheme's return-seeking portfolio, which includes directly held equities, equities held in pooled vehicles, bonds, equity futures, loans, hedge funds, private equity and investment properties. Derivative values below are based on absolute economic exposure rather than market value.

The scheme manages this exposure to overall price movements by constructing a diverse portfolio of investments across various markets.

	2019 £m	2018 £m
Direct		
Equities	24,276	25,641
Bonds	25,789	21,535
Derivatives (economic exposure)	20,225	20,256
Property	2,313	2,226
Indirect		
Pooled investment vehicles	13,399	12,206
	86,002	**81,864**

The prior year comparatives have been restated following the review of the private market asset classifications during the year (see Note 9).

15 Subsidiaries controlled by Universities Superannuation Scheme

The net assets of subsidiary companies through which the scheme holds investments are summarised in aggregate below.

	2019 £m	2018 £m
Equities	2,837	3,785
Bonds	1,288	1,105
Pooled investment vehicles	6,466	2,968
Cash	18	19
Other investment balances	(1)	-
	10,608	**7,877**

16 Self investment

The scheme had no Employer Related Investments at year end, as defined by relevant legislation, except equity and loan investments made in the normal course of business in certain investment holding companies. The funding of these investment vehicles, which are held for investment purposes and are not operating subsidiaries as explained on page 63, amounts to 2.3% (2018: 2.3%) of the net assets of the scheme.

17 Current assets

	2019 £m	2018 £m
Contributions receivable:		
– employer contributions	118	113
– members' basic contributions	53	51
– members' additional voluntary contributions	11	10
Other debtors	3	13
Cash at bank and in hand	47	36
	232	**223**

Contributions due at the year end have been paid to the scheme subsequent to the year end in accordance with the Schedule of Contributions.

18 Current liabilities

	2019 £m	2018 £m
Rents and service charges received in advance	(20)	(99)
Benefits payable	(88)	(53)
Taxation creditor	(1)	(4)
Due to trustee company	(56)	(34)
Other creditors	(1)	(10)
	(166)	**(200)**

As explained on page 17 of the Trustees report, on 26 October 2018, the High Court handed down a judgment involving the Lloyd's Banking Group's defined benefit pension schemes. The judgment concluded the schemes should be amended to equalise pension benefits for men and women in relation to guaranteed minimum pension benefits. The issues determined by the judgment arise in relation to many defined benefits schemes. The trustee of the scheme is aware that the issue will affect the scheme and will be considering this at its future board meetings and decisions will be made as to the next steps. Under the ruling, schemes are required to backdate benefit adjustments in relation to GMP equalisation and provide interest on the backdated amounts. Based on an initial assessment of the likely backdated amounts and related interest, the trustee does not expect these to be material to the financial statements and therefore has not included a liability in respect of these matters in these financial statements. Any such amounts will be accounted for in the year in which they are determined.

19 Securities on loan

Securities have been lent to the counterparties in return for fee income earned by the scheme. Security for these loans is obtained by holding collateral in the form of cash, equities, government bonds and letters of credit.

	2019 £m	2018 £m
Value of stock on loan at 31 March		
Equities	1,614	2,899
Bonds	3,063	1,086
	4,677	**3,985**
Collateral held	**5,031**	**4,257**

20 Financial commitments

	2019 £m	2018 £m
Outstanding commitments to private equity partnerships	**6,058**	**5,197**

These represent amounts subscribed and committed to private equity partnerships that had not been drawn down at the year end.

21 Related party transactions

Related party transactions are defined as either employer-related transactions or trustee-related transactions.

There were no transactions with employers in either the current or preceding years, other than those identified as employer-related investments disclosed in Note 16. Such transactions are performed in the normal course of business and at an arm's length.

The only trustee-related transactions in either the current or prior years relate to the day-to-day administration of the scheme by the trustee company and its subsidiary, and the membership of the scheme of certain trustee board members or key management personnel. The membership of those trustee board directors is through past or present employment with the scheme employers and accordingly is in the normal course of business on an arm's length basis. Similarly, membership of key management personnel which arises on account of their employment by the trustee company, is based on the same conditions as all members and is therefore considered to be on an arm's length basis and in the normal course of business.

Administrative and investment management expenses incurred by the trustee company are shown in Note 7. All transactions are solely for the purposes of effectively administering the scheme.

Actuarial

An explanation of the actuarial liabilities of the scheme and the funding ratio.

Report on actuarial liabilities

Actuarial valuations: how we protect the promises made to members

Funding ratios
(using technical provisions liabilities)

89%

Actuarial valuation at 31 March 2017

92%

Funding update of 2017 valuation at 31 March 2019

Overview

The purpose of an actuarial valuation is:

- to compare the scheme's assets with how much money is expected to be needed now in order to pay the earned benefits due to members;
- to determine the level of contributions needed to meet any shortfall, and;
- to determine the level of contributions needed to provide benefits which members will build up in the future.

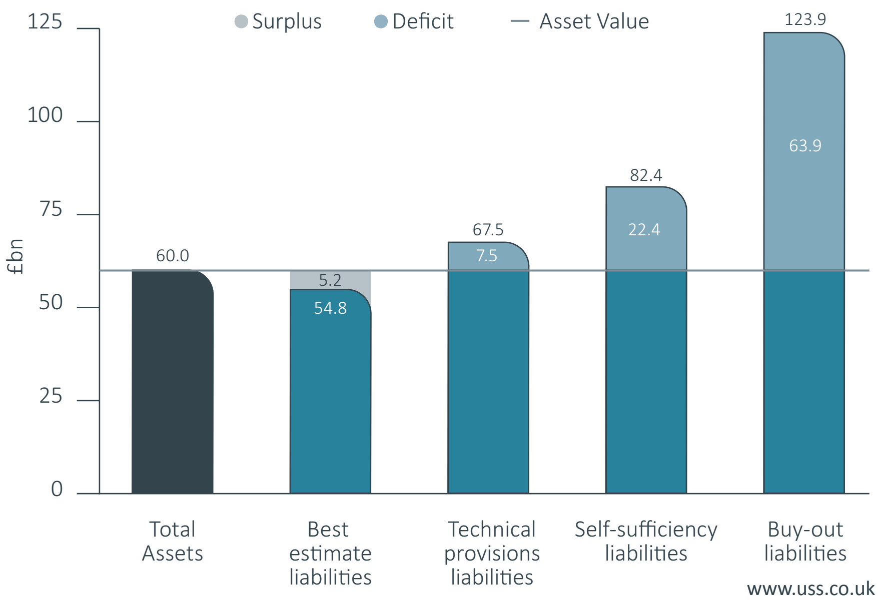
The amount of money we expect to need depends on what investment returns we expect in the future, as well as other factors like whether members are married and how long we expect members and spouses to live. When we calculate this sum of money needed to pay earned benefits due to members, called our 'liabilities', we consider a range of assumptions, and calculate the results in a number of different ways.

The results that drive the required contributions are called the 'technical provisions' liabilities, although other measures feed into the trustee's considerations in setting the final contribution rates. By law the trustee must be prudent when calculating the technical provisions liabilities. A valuation must be carried out at least every three years. We last completed one based on the position as at 31 March 2017. The results of that valuation, across a range of approaches, are shown below. These results reflect different levels of certainty of being able to provide the promised benefits:

The 'best estimate' value represents an amount which the trustee believes would be adequate if all its assumptions were borne out in practice. The amount on a best estimate basis does not build in prudence and has a 50% chance of being more than is required to pay the benefits and 50% of being too little.

The technical provisions value which, as is legally required, builds in a degree of prudence above the best estimate; the trustee estimates there is about a 67% chance that this sum would be sufficient to pay benefits when due. This is the sum used in finalising the valuation.

USS funding position as at 31 March 2017



The self-sufficiency value, reflects the value of assets required to meet, with a high probability, all accrued benefits using a low risk investment strategy without any further contributions. In the view of the trustee, it has a more than 95% chance of being sufficient to be able to meet all the benefits as they fall due.

The 'buy-out' value is effectively the cost of buying a very high degree of certainty of all earned benefits being paid – it represents the cost of paying for an insurer to provide the benefits. The liabilities are valued in this case at a very high cost as an insurer cannot demand more monies from the trustee and so can take very limited investment risk investing the buy-out sum over the period until all benefits are paid.

These various ways of looking at the funding position are explained further below.

The actuarial valuation at 31 March 2017 was finalised in January 2019 following a thorough and robust review of the scheme's financial position including extensive consultation with the scheme's stakeholders. This resulted in a new higher set of contribution requirements, with increases to member and employer contributions being phased in over the period to 1 April 2020. The 92% funding level shown above as at 31 March 2019 is based on updating the 2017 valuation results on an approximate basis using the monitoring approach adopted by the trustee which allows for changes in market value of assets, expected future investment returns, and the expected changes in membership. This is shown in more detail in the section titled "How has the funding position changed since the 31 March 2017 valuation" on page 84.

In late spring 2018 Universities and Colleges Union (UCU), on behalf of members, and Universities UK, on behalf of sponsoring employers, set up a 'Joint Expert Panel' (JEP) to review the 2017 valuation. In September 2018, it made a number of recommendations regarding financing the scheme which would reduce the immediate contributions required to fund the benefits. Some of these recommendations, if adopted, would increase the amount of risk taken in funding the scheme.

As the statutory deadline (of 30 June 2018) for completing the 2017 valuation had passed leaving the scheme in breach of pensions law, the trustee used scheme rules previously agreed with the stakeholders to implement a cost sharing mechanism to finalise the 2017 valuation. At the same time the trustee agreed to carry out another valuation, as at 31 March 2018, giving time for it to assess and include, where possible, the recommendations of the JEP. This is now well underway, and there is more information on our website. As, at the time of writing, the 2018 valuation is not yet finalised, this Report on actuarial liabilities is based on the 2017 valuation results.

Set out in the sections below is an update of the financial position of the scheme since the 2017 valuation. Details of the work that has been undertaken to date on the 2018 valuation are available on the USS website at www.uss.co.uk/2018-valuation.

The USS benefit structure

Members build up benefits on what is called a Career Revalued Basis (CRB) in the USS Retirement Income Builder in respect of salary up to a threshold (£58,589.70 from 1 April 2019). This salary threshold is revalued each year in line with CPI (subject to certain restrictions). Above this salary threshold, defined contribution benefits are built up in the USS Investment Builder. These DC benefits are funded by 8% and 12% of salary above the threshold being paid into the USS Investment Builder by members and employers respectively. The remainder of the contributions are paid into the USS Retirement Income Builder; the level of total contributions each year arising from the 2017 valuation is laid out in the table below.

Contributions from sponsoring employers and from scheme members into the USS Retirement Income Builder, together with the investment returns earned, are used to pay benefits to members and/or their eligible dependants when they fall due, as well as meeting the costs of operating the scheme.

The required contributions resulting from the 2017 valuation are as follows:

	Member	Employer
Contributions to 31 March 2019	8%	18%
1 April 2019 to 30 September 2019	8.8%	19.5%
1 October 2019 to 31 March 2020	10.4%	22.5%
1 April 2020 onwards	11.4%	24.2%

For more information on the scheme's benefits please refer to the USS website, at www.uss.co.uk/for-members/your-pension-explained

How is the financial position of USS Retirement Income Builder measured?

The financial position of the USS Retirement Income Builder is primarily measured by comparing the current value of its assets with the trustee's estimate of the current value of its liabilities. The current value of the assets is determined at a particular point in time, using their market value at that date. In estimating the current value of the liabilities there are inherent uncertainties coming from, for example, the future rate of return on investments, the future level of inflation, the length of time for which a pension might be paid, and the possibility that a survivor's benefit might be paid. Estimates of all these factors are used to determine the value of the liabilities by calculating the amount of assets that would be required today in order to meet, in full and without additional contributions, the benefits members have already earned up to the date of the valuation. The trustee aims to ensure that an appropriate amount of risk is taken, and that the reliance placed on employers to make good any shortfall remains at an acceptable level over time.

Report on actuarial liabilities

As noted above, the most recently completed full review of the funding position was the actuarial valuation undertaken as at 31 March 2017 (as the actuarial valuation at 31 March 2018 is not yet finalised). In any actuarial valuation, as explained above, the trustee places a value on the liabilities assuming that the scheme is ongoing, which is known formally as the 'technical provisions'. It is this technical provisions basis that is typically used when referring to the value of the scheme's liabilities. However, in addition to technical provisions, the trustee is also required by law to value the scheme's liabilities assuming those liabilities had to be bought out by an insurance company. This latter measure is known as the buy-out basis and provides a further reference point by which the health of the scheme can be assessed, but members should note that neither the Trustee Board, nor the scheme's stakeholders, have any plans to buy out the scheme with an insurance company.

At every actuarial valuation the trustee reviews all of the underlying assumptions relating to the USS Retirement Income Builder and then consults the employers to obtain their view of the trustee's proposed assumptions. The final set of assumptions adopted by the trustee following consultation with the employers for the 2017 valuation is shown on page 88.

How has the funding position changed since the 31 March 2017 valuation?

The trustee regularly monitors the funding position under several metrics, including both technical provisions and self-sufficiency (which provides one measure of the amount of risk in the scheme related to the level of reliance on the sponsoring employers), as part of its overall monitoring of the Financial Management Plan. These updates do not involve the same detailed review of all the underlying assumptions that is undertaken in respect of full valuations, including the ongoing 2018 valuation. As the 2018 valuation is still being considered, the funding position as at 31 March 2019 has been shown using the approach adopted for the 2017 valuation, allowing for expected benefit payments and changes in membership since then, and updated for changes to market conditions and investment return expectations. Therefore the value of liabilities as of 31 March 2019 presented here does not reflect the assumptions being used in the 2018 valuation. This is consistent with the approach used by the trustee to monitor the scheme's funding position between actuarial valuations and will be maintained until a new process has been agreed following the completion of the 2018 valuation. Reports and other information on the valuation can be found at www.uss.co.uk/about-us-/our-valuations

Since 31 March 2017 there has been an improvement in the scheme's funding position on the technical provisions basis.

In the two years since the 2017 valuation, the scheme's deficit is estimated to have decreased from £7.5bn to £5.7bn as at 31 March 2019.

However during the 2018/19 financial year (to 31 March 2019), there was a small increase in the deficit with the assets of the USS Retirement Income Builder increasing by £3.7bn from £63.7bn to £67.4bn, whilst the liabilities increased by £5.1bn from £68.0bn to £73.1bn, leading to a small increase in the deficit over the year.

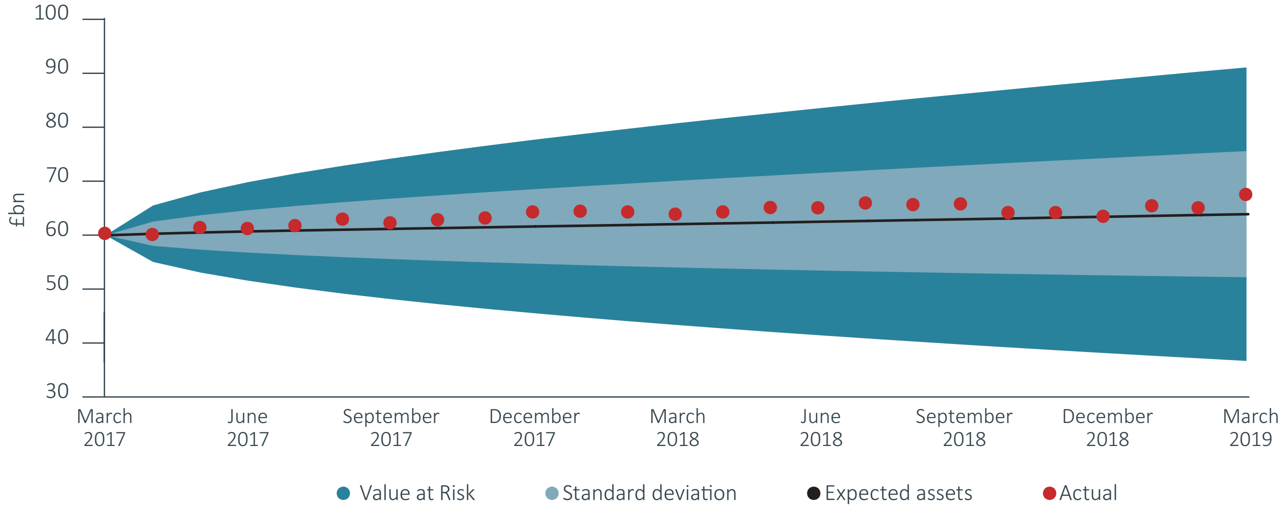
The graphs on the next page show the development of the value of the USS Retirement Income Builder assets and liabilities, based on the monitoring approach, since 31 March 2017. The black line reflects the expected path of assets and liabilities[1] from this date and the light blue area represents the range of outcomes that might be reasonably expected to materialise over the intervening period (shown here as the expected path plus or minus one standard deviation). Each of the dots corresponds to an estimate of the actual scheme assets and liabilities at the end of every month since the 2017 valuation (except two where expected investment returns are not available). The outer boundaries of the dark blue area reflect outcomes that in 2017 were considered extreme and associated with a probability of occurrence of 1% (as implied by normal market volatility).

Realised investment returns on the assets held in the USS Retirement Income Builder have been higher than expected (more information is on page 88), but the increase in the scheme's liabilities, which has also been higher than expected, has meant that the deficit, whilst reduced, is marginally larger than the level expected at March 2019.

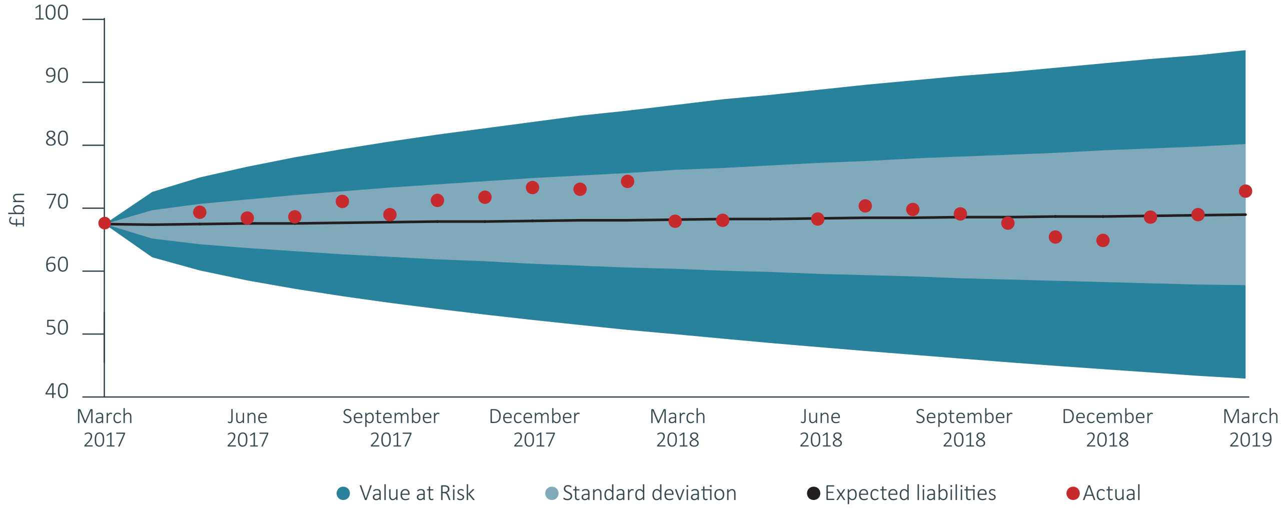
Note

1. The expected path of the liabilities is measured using the single equivalent discount rate relative to UK government bonds (gilts) on the valuation date, being the gilts yield plus 1.2%.

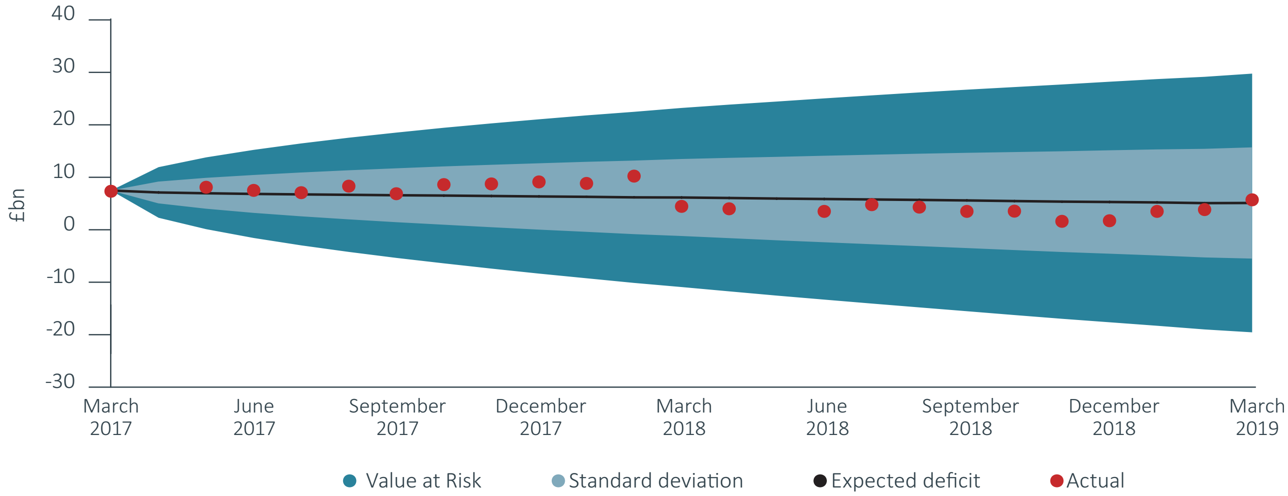
Asset progression since 2017 valuation



Liabilities progression since 2017 valuation[1]



Deficit progression since 2017 valuation[1]



Note
1 Liabilities and Deficit progression have no figures for April 2017 and May 2018 as there was no expected return data available for these dates

Report on actuarial liabilities

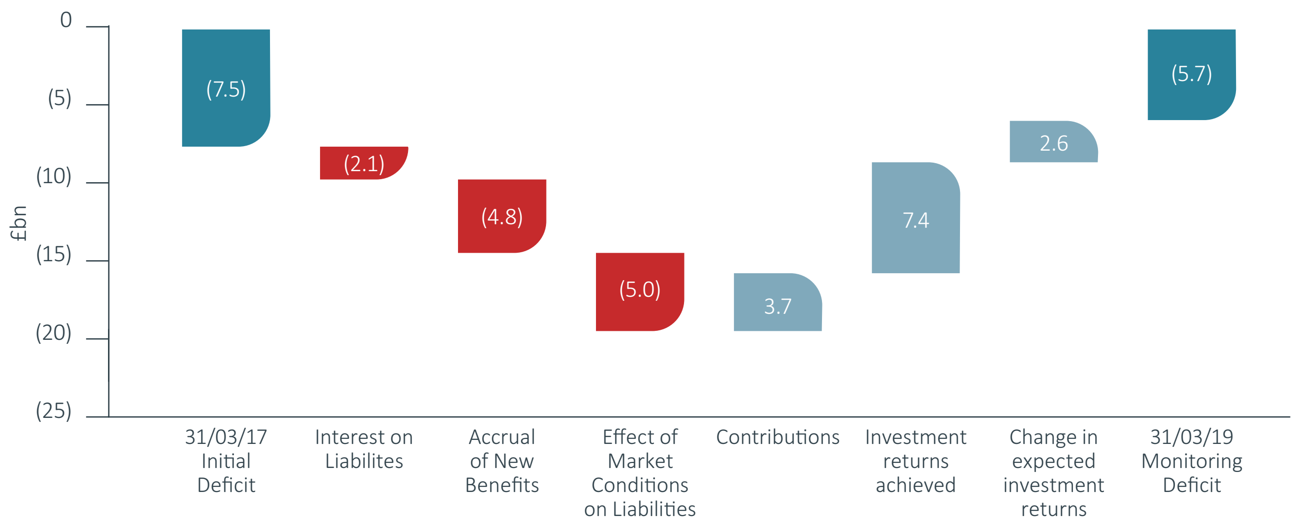
Funding position based on the 2017 monitoring approach

The table below summaries the funding position of the scheme each 31 March since 2017 on the monitoring basis using the approach described above.

As at 31 March in £bn	Actuarial valuation 2017	Funding update 2018	Funding update 2019
Value of assets	60.0	63.7	67.4
Value placed on liabilities	67.5	68.0	73.1
Deficit	7.5	4.3	5.7
Funding ratio	89%	94%	92%

The above table indicates that the deficit on the monitoring approach has decreased from £7.5bn at 31 March 2017 to £5.7bn at 31 March 2019, a reduction of £1.8bn relative to the 2017 valuation but an increase of £1.4bn relative to the previous year end. The chart below details the underlying drivers of the change in the deficit using this monitoring approach.

Change in deficit since 2017 valuation (monitoring approach)



Other approaches

As mentioned above, the value placed on the scheme's liabilities can be measured from a number of different perspectives, including on a technical provisions basis, a buy-out basis, a best estimate basis, and a self-sufficiency basis. The technical provisions and self-sufficiency bases are monitored regularly. The buy-out and best estimate liabilities are updated at each actuarial valuation

The table below summarises the scheme's position on a self-sufficiency basis. Self-sufficiency is based on the 'guaranteed' cash flows available from low risk investments, and is the value of assets we would need to hold in order to have a greater than 95% chance that all the benefits members have earned to date can be paid when due, without any further contributions. In other words, this is the funding level we would need to achieve in the absence of further support from employers. Self-sufficiency is assessed using return assumptions on the portfolio of assets that would achieve this level of security (delivering a discount rate of gilts +0.75%) and with a different inflation assumption to that adopted in the technical provisions. Our aim is to be within a set value of self-sufficiency in 20 years' time such that the ability to secure the benefits promised to members at that point is, credibly and demonstrably, within the means of employers to fund. More details can be found in the Statement of Funding Principles on www.uss.co.uk.

As at 31 March in £bn	Self-sufficiency 2017	Self-sufficiency 2018	Self-sufficiency 2019
Value of assets	60.0	63.7	67.4
Self-sufficiency liabilities	82.4	84.7	92.4
Deficit	22.4	21.2	25.0
Funding ratio	73%	75%	73%

As at 31 March 2017, the Scheme Actuary estimated the cost on a buy-out basis, i.e. the cost to transfer the liabilities to an insurance company, as £123.9bn therefore giving rise to a deficit on this basis of £63.9bn. A buy-out basis often gives the worst view of the liabilities. However, on a best estimate basis, liabilities at 31 March 2017 were £54.8bn, implying a surplus on this basis of £5.2bn.

Although not required, the trustee has produced figures under the FRS102 accounting approach of using a discount rate based on corporate bond yields, as this is a required disclosure for many UK entities and as such is a recognised method of measurement. Using this approach, the position as at 31 March 2019, based on a discount rate of 2.44% and a CPI assumption of 2.11% with all other assumptions unchanged from those stated on page 88, produces liabilities of £79.2bn and a deficit of £11.8bn. This approach is not used to inform decisions made by the trustee.

The trustee is currently in the process of working to complete the 2018 valuation.

What is the Trustee Board's funding plan?

The trustee's overarching funding principle, supported by the employers, is that the amount of funding and solvency risk within the scheme should be proportionate to the amount of financial support available from the scheme's sponsoring employers. Specifically the reliance being placed on the employers should not be greater than what they can support. The trustee is therefore of the view that, with the right economic conditions, and following appropriate dialogue, opportunities should be taken over the years ahead to reduce the amount of risk within the scheme, and specifically reduce the amount of investment risk. At the 2017 actuarial valuation the trustee incorporated a long-term, gradual de-risking into its funding approach, with the intention of slowly reducing the amount of investment risk within the scheme over a 20-year period, a principle also adopted in the 2014 valuation. Details of the trustee's investment approach can be found in the Statement of Investment Principles which is available online.

The recovery plan in the 2017 actuarial valuation requires employers to contribute 5% of salaries towards repairing the deficit over a period of slightly over 14 years from 1 April 2020. This was determined by the trustee following extensive work undertaken by its advisers on the ability of the scheme's sponsoring employers to financially support the scheme (which is generally referred to as the employers' 'covenant'). The conclusion from that work was that there is good visibility of the ongoing strength of the covenant over the next 20–30 years, thereafter becoming less visible. The size of the risk being carried by the scheme in the short term however, shown by the level of the self-sufficiency deficit, is close to the limit that could be borne by employers.

In calculating the contributions required for the recovery plan, allowance for additional investment return was made, over and above the discount rate which the trustee uses to determine the technical provisions. The additional allowance was 10% of the difference between the discount rate used to calculate the technical provisions and the best estimate of the expected return on assets.

Pension Protection Fund

The Government established the Pension Protection Fund (PPF) in 2005 to provide benefits in the event that a scheme's sponsoring employer (or employers) becomes insolvent without there being sufficient funds available in the scheme.

USS is recognised by the PPF as a multi-employer scheme with a joint or shared liability. This joint liability is based on the 'last-man standing' concept, which means that it would only become eligible to enter the PPF in the extremely unlikely event that the vast majority (if not all) of the scheme's employers were to become insolvent.

If such circumstances were ever to occur, the PPF would take over the payment of pension benefits to members, but the benefits received might be less than the full benefits earned within USS. The precise amount that the PPF would pay to each member would depend on the member's age, the period over which the benefits were earned and the total value of benefits.

At the 31 March 2017 valuation date, the scheme's 'section 179' valuation position, used in determining the PPF levy payable by the scheme, showed a deficit of £23.1bn.

Further information about the PPF is available on its website at www.pensionprotectionfund.org.uk or you can write to Pension Protection Fund, Renaissance, 12 Dingwall Road, Croydon, Surrey, CR0 2NA.

Report on actuarial liabilities

Principal actuarial assumptions

The following table shows the assumptions used in the 2017 technical provisions actuarial valuation, and how these have been updated as at 2018 and 2019 to produce the figures shown earlier. These funding updates, shown in the 'Funding position based on the 2017 monitoring approach' section above, reflect broad changes in market conditions and expected investment return. The contributions payable to the scheme are determined based on the full actuarial valuations only, with the funding updates used for monitoring purposes.

The 2017 valuation uses full yield curves in the assumptions, rather than averages. The full year-on-year figures in the 2017 valuation assumptions are available in the documents shown on the website here: www.uss.co.uk/2017-valuation

The assumptions that will be used for the 2018 valuation are not yet finalised because this valuation is incomplete.

Principal actuarial assumptions	31 March 2017 valuation – technical provisions
Market derived price inflation[1]	Term dependent rates in line with the difference between the Fixed Interest and Index Linked yield curves
Inflation risk premium	0.3% p.a.
Price inflation – Retail Prices Index[1]	Term dependent rates based on market derived price inflation less Inflation risk premium
RPI / CPI gap	1.0% p.a.
Price inflation – Consumer Prices Index[1]	Term dependent rates based on RPI assumption less RPI / CPI gap
Investment return	Years 1-10: CPI – 0.53% reducing linearly to CPI – 1.32% Years 11-20: CPI + 2.56% reducing linearly to CPI + 1.70% by year 21 Years 21 +: CPI + 1.70%
Salary increases[2]	CPI assumption plus 2% p.a.
Pension increases in payment	CPI assumption (for both pre and post 2011 benefits)
Mortality base table	**Pre-retirement:** 71% of AMC00 (duration 0) for males and 112% of AFC00 (duration 0) for females **Post retirement:** 96.5% of SAPS S1NMA 'light' for males and 101.3% of RFV00 for females
Future improvements to mortality	CMI 2016 with a smoothing parameter of 8.5 and a long term improvement rate of 1.8% pa for males and 1.6% pa for females

Date	Funding update 2018	Funding update 2019
Investment return	Years 1-10: CPI – 0.04% reducing linearly to CPI – 0.84% Years 11-19: CPI + 2.45% reducing linearly to CPI + 1.69% by year 20 Years 20 +: CPI + 1.69%	Years 1-10: CPI – 0.36% reducing linearly to CPI – 1.22% Years 11-18: CPI + 2.36% reducing linearly to CPI + 1.71% by year 19 Years 19 +: CPI + 1.71%
Market derived price inflation	As above, updated for market derived price inflation as at 31 March 2018	As above, updated for market derived price inflation as at 31 March 2019

Notes

1 These values have been updated for funding updates in subsequent years in line with the table above.

2 This assumption is applied to the scheme's overall payroll and is used to project the development of the overall scheme over time, including the recovery plan, but does not affect the projected size of individual members' accrued benefits.

Actuarial certificate of technical provisions

SCHEME FUNDING REPORT OF THE ACTUARIAL VALUATION AS AT 31 MARCH 2017

UNIVERSITIES SUPERANNUATION SCHEME

F
CERTIFICATE OF TECHNICAL PROVISIONS

Name of the Scheme	Universities Superannuation Scheme

Calculation of technical provisions

I certify that, in my opinion, the calculation of the Scheme's technical provisions as at 31 March 2017 is made in accordance with regulations under section 222 of the Pensions Act 2004. The calculation uses a method and assumptions determined by the Trustee of the Scheme and set out in the statement of funding principles dated 28 January 2019.

Signature	
Name	Ali Tayyebi
Date of signing	28 January 2019
Name of employer	Mercer Limited
Address	Four Brindley place, Birmingham B1 2JQ
Qualification	Fellow of the Institute and Faculty of Actuaries

Actuarial certificate of schedule of contributions

CERTIFICATE OF SCHEDULE OF CONTRIBUTIONS

Name of the Scheme	Universities Superannuation Scheme

Adequacy of rates of contributions

1. I certify that, in my opinion, the rates of contributions shown in this schedule of contributions are such that the statutory funding objective can be expected to be met by the end of the period specified in the recovery plan dated 28 January 2019.

Adherence to statement of funding principles

2. I hereby certify that, in my opinion, this schedule of contributions is consistent with the statement of funding principles dated 28 January 2019.

The certification of the adequacy of the rates of contributions for the purpose of securing that the statutory funding objective can be expected to be met is not a certification of their adequacy for the purpose of securing the Scheme's liabilities by the purchase of annuities, if the Scheme were to be wound up.

Signature	
Name	Ali Tayyebi
Date of signing	28 January 2019
Qualification	Fellow of the Institute and Faculty of Actuaries
Name of employer	Mercer Limited
Address	4 Brindley Place Birmingham B1 2JQ

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Inside back cover: Threadneedle Street, the London offices of USS.

The registered number of the trustee company (Universities Superannuation Scheme Ltd) at Companies House is 01167127

The reference number of the scheme (Universities Superannuation Scheme) at the Pensions Regulator is 10020100

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Liverpool
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