USS

Risk Management Supplement

for the year ended 31 March 2018

Within this supplement we set out descriptions of USS risk framework, risk appetite and risk culture and outline USS current risk landscape.

Universities Superannuation Scheme

Risk Landscape

1 Understanding our risk landscape

In conducting its business USS must manage a wide range of risks that could impede the execution of its duty to safeguard the pensions of its members. Our risk management framework seeks to ensure that, through the operation of various controls and actions, our residual exposure to those risks is kept within manageable limits – within our "risk appetite".

What is risk?

Risk is defined as the possibility that objectives will not be achieved. For example this includes the possibility that target funding levels are not met, that expected investment returns do not materialise and that members are not paid the pension amounts they are due on time. These undesirable outcomes can be the result of many different sources of risk that make up our risk landscape.

The USS risk taxonomy

The trustee board of USS maintains a register of the principal risks it faces and must manage in the course of carrying out its business. These risks are classified into four broad categories: strategic risks, defined benefit funding risks, investment risks and operational risks.

USS risk taxonomy

1. Strategic risks 1.1. Strategic Vision 1.2. Institutional Stakeholder 1.3. Member Stakeholder 1.4. Product 1.5. Mutuality 1.6. Collectiveness 1.7. Fair Treatment 1.8. Governance 1.9. Reputational	**2. DB Funding risks** 2.1. Covenant 2.2. Funding Risk Appetite 2.3. Assumptions 2.4. Funding Liability 2.5. Contributions
3. Investment risks 3.1. Liquidity 3.2. Counterparty Default 3.3. Reference Portfolio Performance 3.3.1. Market risks 3.4. Investment Performance 3.4.1. Market risks 3.5. Structuring 3.6. Asset Valuation	**4. Operational risks** 4.1. Financial Control 4.2. Financial Reporting 4.3. Supplier 4.4. People 4.5. Financial Crime 4.6. Regulatory Compliance 4.7. Regulatory Engagement 4.8. Legal 4.9. Model 4.10. Business Continuity 4.11. Technology and Premises 4.12. Data 4.13. Service Delivery 4.14. Investment Operations 4.15. Change Delivery

Risk Landscape

These four categories are subdivided into a number of more specific risks. For example, the strategic risks include risks associated with the engagement with and alignment to our key stakeholders, the appropriateness of the pension products we provide, the soundness of our governance processes and our reputation. The next category, the defined benefit (DB) funding risks, includes risks associated with the employers' covenant (i.e., the ability and willingness of employers to support the DB pensions they have promised to members), risks relating to the assumptions used in the valuation of the DB liability and risks connected with the contributions that are required to meet both past and future benefit accrual. The exposure to all these risks originates not through choice, but in the very nature of the USS pension business.

By contrast the investment risk category includes many risks that USS actively seeks out in order to generate returns on its investments and thereby grow the size of its portfolios of assets. Amongst these are so-called financial market risks, such as equity, property and interest rate risks, as well as others such as credit and illiquidity risks. Collectively these "rewarded" investment risks are viewed from two perspectives. The first relates to their ***direct*** impact on the size of the investment portfolios, and hence the ability to meet the DB pension liability, as well as the growth requirements of members' defined contribution (DC) pots. The second perspective relates to the ***relative*** impact of these risks, in particular, the performance of the investment portfolios relative to their respective reference portfolio targets.

The final category, operational risks, is very broad and embraces the risks associated with business processes, people, systems and external events. More specifically it includes risks relating to business continuity, financial control, financial reporting, third-party suppliers, financial crime, regulatory compliance, data and information, service provision, the use of quantitative models, premises, investment and administrative operations, technology, and the delivery of business change. All these risks arise as a result of the normal conduct of business and USS seeks to manage them in a cost-effective way.

2 USS's risk framework

USS has a comprehensive framework for managing the risks it faces. This framework includes policies, processes and governance arrangements, which are designed to ensure that risks are effectively identified, measured, monitored, reported and managed across the business. This framework is coordinated by a dedicated Group Risk team, which is independent of USS front-line businesses and its head, the Chief Risk Officer, reports directly to USS Group Chief Executive officer. The team's remit is to coordinate and oversee all risk management activities across USS, in particular to:

- Assist the different business lines manage risk by providing risk information, tools, analysis and insights.
- Provide assurance to stakeholders through independent oversight, challenge and monitoring.

Three lines of defence

The risk team operates as part of a "three lines of defence" approach to risk management, which is made up of:

- The first line of defence: This comprises the various USS business divisions. They are the owners of the risks they take in the course of their operations.
- The second line of defence: This includes the Group Risk, Legal, Compliance and Financial Control teams.
- The third line of defence: This includes the independent internal audit function.

The USS three lines of defence model

first line of defence	second line of defence	third line of defence
USS business units risk ownership and management of business divisions	USS functions of group risk, legal, compliance and financial control	USS internal audit function
• risk ownership • management of risk in the business • operation of controls	• risk oversight • challenge to first line • maintenance of the risk framework	• independent review • risk assurance • objective challenge to first and second line

This approach to risk management is embedded throughout USS via three key elements:

- Risk appetite
- Risk management processes
- Risk governance.

Risk appetite

Risk appetite is at the heart of our approach to risk management. It expresses the desired or target level of risk that USS is prepared to accept in the pursuit of its objectives. Taking on too much risk, or too little risk, can result in the failure to achieve objectives.

Risk appetite is set by the trustee board and is expressed in terms of a series of statements for each risk type, linked where possible to quantitative metrics that provide a measure of the tolerance, or operating limits, for different risks. The statements themselves express the trustee board's appetite for each risk in terms of a five-category scale of risk disposition: averse, minimal, cautious, open and hungry. An "averse" disposition reflects a very low tolerance for a particular risk and a need to develop a significant suite of controls (even if they are costly) to reduce the likelihood and/or impact of this risk. At the other extreme, a "hungry" disposition reflects broad acceptance of a particular risk because of the potential for significant reward (in the form of income, asset growth or cost savings) with which it may be associated.

Implied within the definition of risk appetite is the notion that our risks present both opportunities and threats, and that by taking a balanced amount of risk into the organisation, USS has the best chance of achieving its objectives. The assessment of individual risks through the use of key risk indicators (KRIs) helps the business evaluate whether its risk-taking is consistent with its risk appetite.

USS regularly updates its risk appetite statements which are set in relation to strategic objectives and formally approved by the trustee board. They have been designed to cascade throughout USS to guide decision making and business planning by its employees. Collectively they help ensure that USS operates in such a way that the operation of the business and the achievement of strategic objectives is not overly threatened.

Risk Framework

Risk management processes

USS has implemented risk management processes to identify, measure, monitor and report risks across the business. Risks are identified on an ongoing basis through business change programmes, business-as-usual activity and from consideration of emerging risk areas. Risks are assessed and monitored regularly through 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. Risk monitoring and reporting is implemented through several tools including "risk registers", "event logs" and "assurance maps". The latter have been developed by each of the three lines of defence to monitor the state of the control environment in relation to key business processes. These assurance maps are supplemented by the planning and delivery of a risk-based "assurance programme" undertaken by the Compliance and Internal Audit functions.

The effectiveness of risk management across USS is assessed proactively after considering the appropriateness and efficacy of mitigations, which include internal controls as well as risk transfer and avoidance actions.

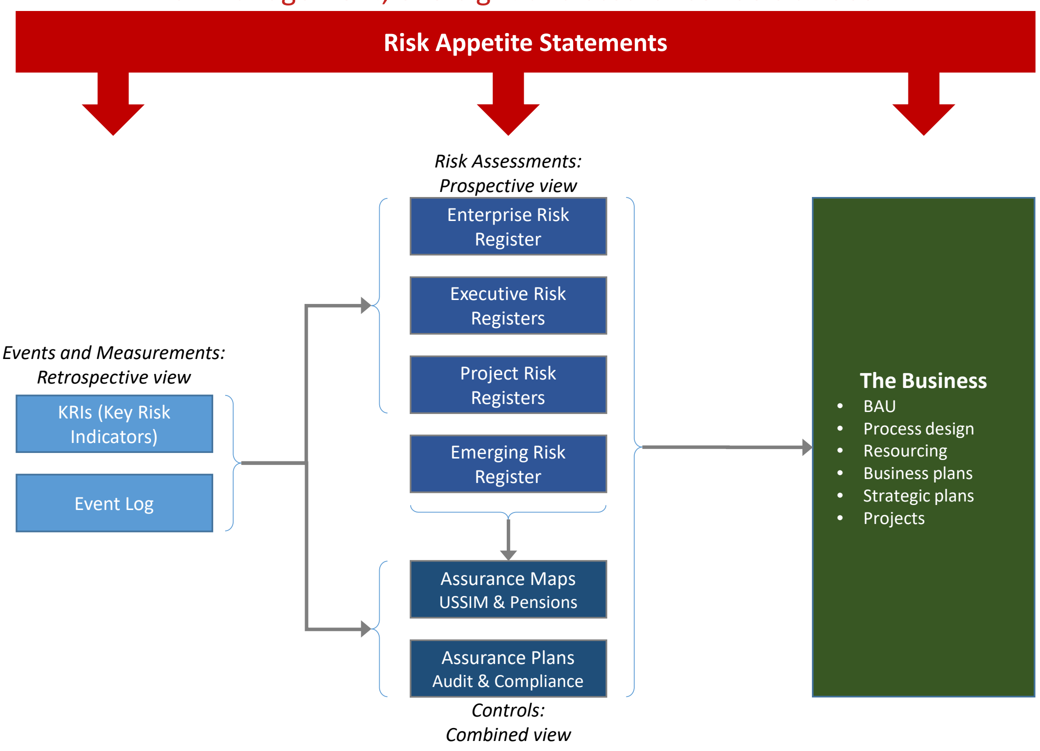
Risk governance

Effective risk governance starts with clear roles, responsibilities and delegations. USS combines these with specific policies, business standards and risk committees. For risk management to be effective it is important that the roles and responsibilities of all those involved are defined unambiguously and in accordance with the "three lines of defence" model. The trustee board of directors has primary responsibility for the group's risk management framework, but delegates the day-to-day activities associated with this responsibility. For example, the board delegates (within well-defined parameters) the responsibility for risk management in respect of the Scheme's investment activity to USS's subsidiary, USS Investment Management Ltd.

Both the Group CEO of USS Ltd and the CEO of USS Investment Management are responsible for risk management within their legal entities and have established executive risk committees to review and monitor the effectiveness of internal control and risk management systems. The Group Risk Committee was established by the Group CEO to oversee risk management across the Group. The USS Investment Management Risk Committee is responsible for overseeing the risks associated with investment strategy and investment processes. In addition there are two non-executive committees chaired by independent external experts that are charged with risk oversight across USS. These are the Audit Committee and the USS Investment Management Audit, Risk and Compliance Committee.

Risk owners in the business are responsible for identifying and managing risks, enforcing risk management policies in their areas of responsibility and escalating risk issues promptly to senior management and the appropriate risk oversight functions.

Risk management, oversight and assurance tools at USS

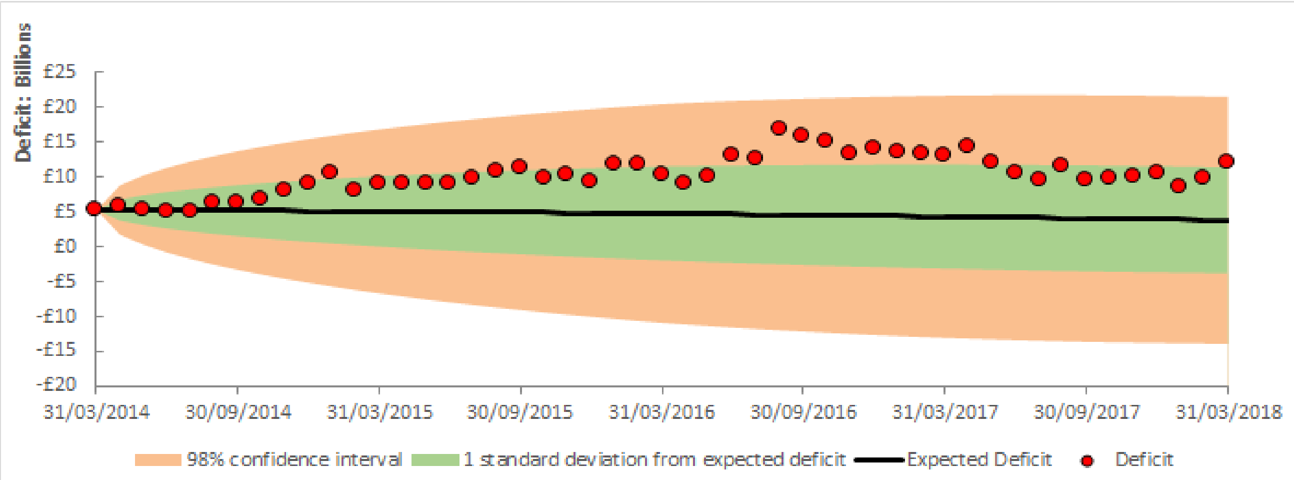


Risk Monitoring

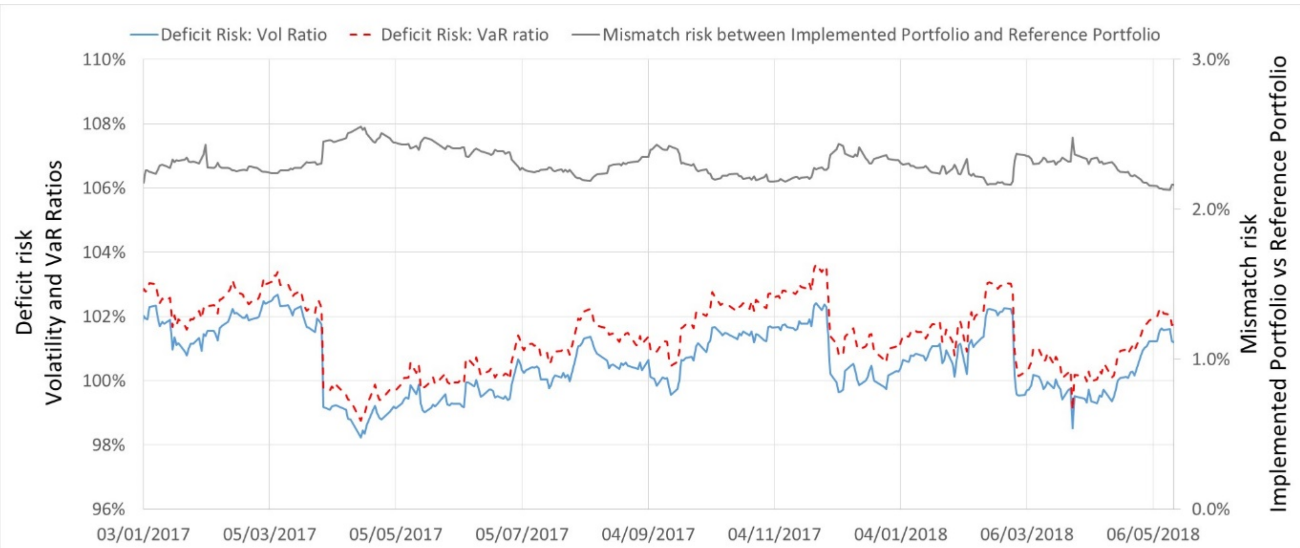
3 Monitoring of key risk indicators

Key risk indicators (KRIs) are used to monitor risk levels relative to the board's risk appetite. Some of the most important KRIs include DB deficit measurement and projection indicators, investment risk indicators and DC error monitoring indicators. Examples of some of these are shown in this section.

KRI for the DB deficit relative to the 2014 valuation projection

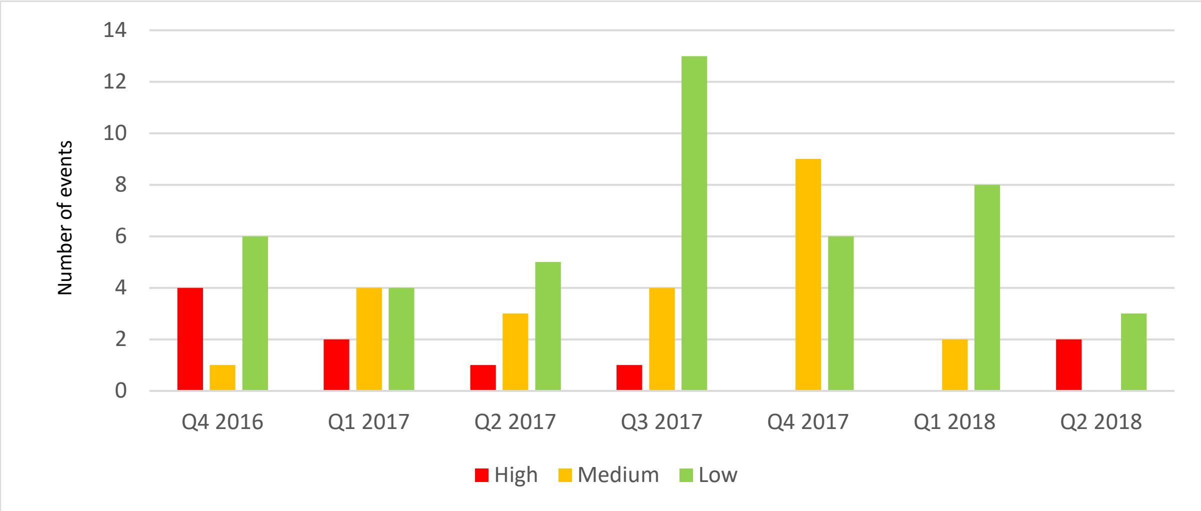


KRIs for DB investment risk relative to the DB reference portfolio



Risk Monitoring

KRIs showing the materiality of DC operational events (retrospective view)



4 USS Risk Culture Statement

USS enables its people to take or manage risks in conformance with its risk appetite and in support of its strategic objectives. It directs its people to conduct its business with regard to the risks arising from its legal and regulatory environment, ethical considerations, the needs of its stakeholders and other internal and external factors arising from its business environment that could jeopardise the achievement of its business objectives.

This direction is supported by a distinct, consistent tone from the top, originating from the trustee board and cascading to executive and senior management, that outlines acceptable risk-taking and risk-avoidance behaviour at all levels in the organisation. USS encourages and rewards appropriate, but challenges and sanctions inappropriate, risk-taking conduct. USS' people are expected to:

- Conduct themselves with integrity and sound business judgment;
- Take individual and collective responsibility for their risk-taking behaviour;
- Take a forward-looking and comprehensive view of risks;
- Identify, report, escalate and remedy risk events, losses, breaches and near misses rapidly; and
- Act to help promote USS' reputation with its stakeholders.

USS encourages a diversity of perspectives, values and beliefs in respect of risk management to ensure the status quo is challenged where necessary. USS views the reporting of risk events and near misses as an opportunity to learn and improve business activities going forward.

Risk management is facilitated by the production of transparent and timely risk information throughout the organisation. It operates on a continuous, rather than periodic, basis and is integral to strategic planning and operational delivery. It applies to business change and business-as-usual environments, irrespective of underlying complexity.

USS encourages and values the acquisition of risk management skills and knowledge across all three lines of defence and provides sufficient resources to ensure its:

- People are adequately supported in their risk management responsibilities;
- People are clear about the risks they are taking or avoiding; and
- Risks are managed within risk appetite.

This includes providing appropriate resourcing for its risk management and oversight functions that is proportionate to the risks USS takes or avoids.

USS seeks to promote "Just Culture" conditions in which individuals are not blamed for honest errors, but are held accountable for wilful violations and gross negligence.

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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