Department of Statistics
University of Warwick
Coventry
CV4 7AL
19 October 2017

Professor Janet Beer,
Universities UK
Woburn House,
20 Tavistock Square,
London,
WC1H 9HQ

Dear Prof. Beer,

Universities Superannuation Scheme (USS)

We write to you, in your capacity as chair of the board of Universities UK, concerning the ongoing consultation over the technical valuation of the USS. We write as statisticians. One of us has a long experience of and some expertise in financial mathematics and was also, for ten years, a lead examiner for the Institute and Faculty of Actuaries' Financial Economics professional examination.

There are numerous arcane details related to the current actuarial valuation of USS which are concerning. We would like to draw your attention to two illustrative points.

The first is that the *best estimate* of the current state is that the fund has a *substantial surplus* (£8.3bn; 16%) of assets over liabilities[1] (a figure which is surprisingly absent from the 112 pages of annual accounts). The difference, which we might term an allowance for pessimism, is £13.4bn (26% of notional liabilities). This allowance for pessimism has grown since the 2014 valuation (difference £8.8bn, 21% of liabilities at that time) by as much as the amount of the nominal deficit.

The second is that the pessimistic (or prudent) draft technical valuation assumes investment returns over the next ten years will be half a percent less than CPI for 10 years, then jump to 2.1% over CPI and then fall due to "derisking[2]" while general salaries will increase at 2% p.a. above CPI.

There is no evidence that the salary assumption is anything other than totally unrealistic, whereas the investment returns assumption beggars belief. Over a ten year period and with the scale available to it, USS could essentially automatically match CPI by trading in the underlying basket. *Were the investment return assumed to be a very prudent level of CPI growth only for the first ten years and the "derisking" strategy not adopted, the technical valuation deficit would become a surplus according to the actuaries' own sensitivity analysis[3].*

It is, perhaps, worth noting that the scheme actuaries have made more optimistic assumptions than this in relation to other pension funds[4] within the past year.

1 2017 USS Actuarial Valuation Document, Technical Provisions, Table 8.
2 Actuaries apparently use the term "derisking" to describe an investment strategy guaranteed to ensure that a pension fund's asset returns are insufficient to match its liabilities. One of us has repeatedly asked different actuaries to justify this terminology, without success.
3 2017 USS Actuarial Valuation Document, Technical Provisions, Table 21.

Under these circumstances it seems hard to view the concerns expressed by some parties, including tPR, over the health of the scheme as anything other than hysterical.

Yours sincerely,
Saul Jacka
Professor of Statistics, C.Stat., C. Sci.
Adam Johansen,
Reader in Statistics

4 For example the 2016 triennial valuation of the Avon Pension Fund (an LGPS scheme) where assumed investment returns are between 2.2% and 2.7% above CPI.