

USS Historic returns analysis

The purpose of the analysis is three-fold:

1. To examine USS assumptions about future returns compared to the historic record,
2. To consider whether, based on historic return volatility, USS could meet pension payments while retaining a predominantly growth asset portfolio, and
3. To illustrate the potential benefits of risk and reward sharing for members if a growth seeking portfolio is maintained and USS's "best estimates" returns are achieved.

USS future return assumptions

In order to assess the level of prudence in the USS future return assumptions, we plot the historic real returns (log scale) for a portfolio weighted 55% global equities, 20% global bonds, 20% UK bonds and 5% UK bills (with annual re-balancing) from the year 1900. We also plot a trend line for cumulative returns. From this, it can be seen that, as USS argues, current cumulative returns are well above trend and therefore a period of future below trend growth is reasonable (if returns show mean reversion).

Figure 1 shows the real returns of this portfolio since 1900 with the forecast "best estimates" USS returns for a similar portfolio of 2.14% real (over 30 years) which shows cumulative returns reverting to a little below trend over the period.

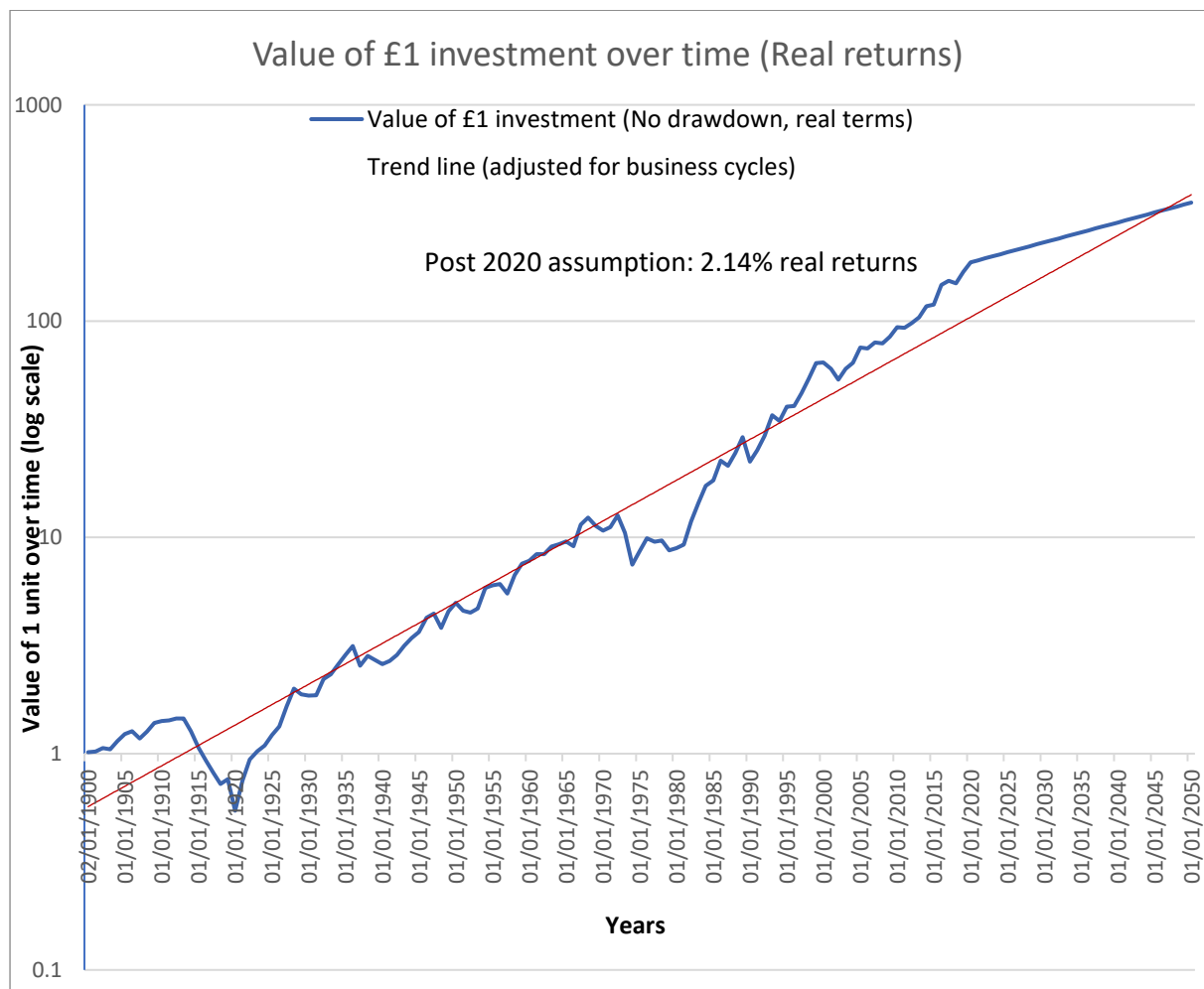


Figure 1.

Figure 2 however shows the same graph with USS’s “prudent return assumptions” (used for determining liabilities and required contributions) of 0% real (over 30 years). Also plotted on the graph is the worst ever historic rolling 30 year return for the model portfolio since 1900. This shows that the USS prudent assumption has no precedent in the historic data – a period covering two world wars, the great depression and the 70s oil shock.

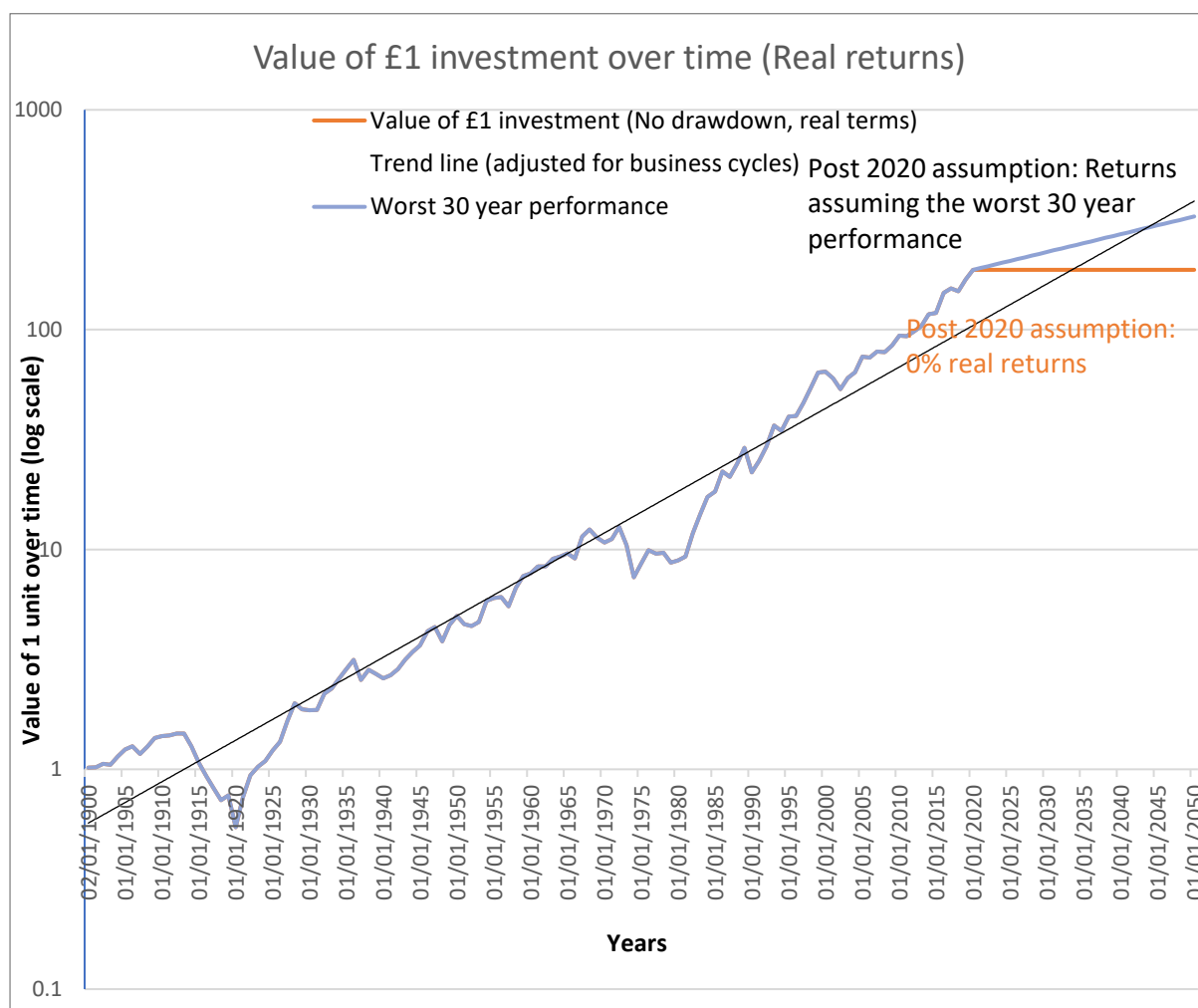


Figure 2

USS may argue that the assumption of a consistent 55% equity portfolio is not a valid assumption as it would need to have the capability to de-risk the portfolio over time as it could not be sure that the scheme would remain open and employers remain solvent to meet any deficit that might arise. It should be noted that employers have recently shown strong commitment to the scheme and many employers have high ratings and long-term bonds which trade strongly in the capital markets which provides good evidence against the concern. However, to further test this concern, the model allows us to ask the question “if periods of historical returns repeated themselves from the end of 2020, the scheme closed, and no further employer support was forthcoming, given a starting value of USS assets at £80.6bn (as at March 2021) and the constant 55% global equity portfolio, is there any period of history where USS would not have been able to meet its pension payments as they fell due?”

Figure 3 shows the value of the fund assuming the most dangerous historic period of returns on record for this portfolio since 1900 repeated itself. This is the period starting with an initial investment in 1906 where the peak drawdowns would have coincided with the two world wars and the great depression. It can be seen that even if these returns were to be repeated, there is comfortably enough in the portfolio to meet payments as they fall due – and indeed a surplus of over £30bn in real terms once the liabilities have been met.

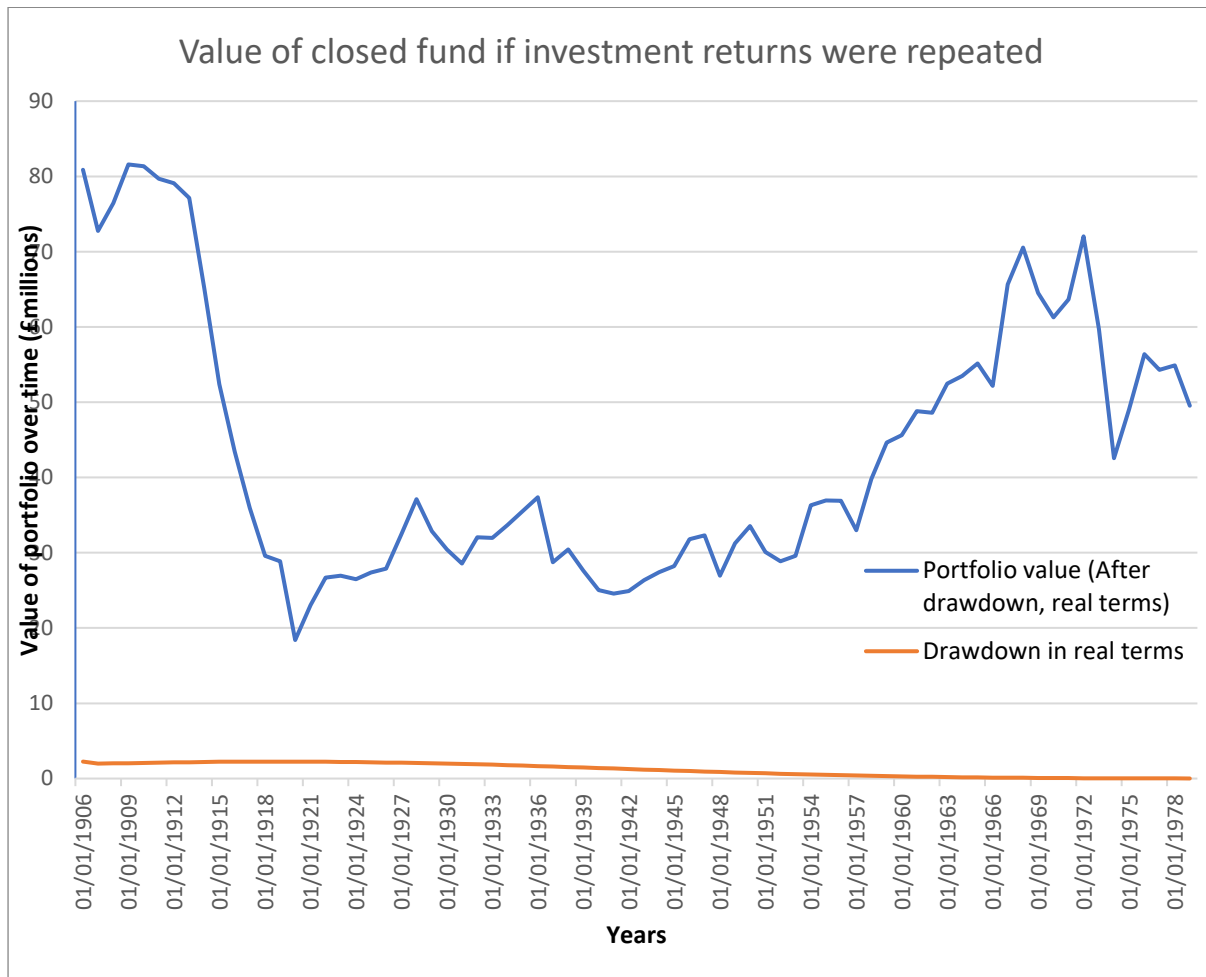


Figure 3

It is possible that under the current UK regulatory approach to pensions that USS nonetheless feels that the investment risks being run are too high and that further risk sharing is necessary in order to maintain a predominantly growth seeking portfolio. The analysis in figure 3 suggests that for a scheme as well funded as USS, even with the worst historic returns, there would be no need for **sustained** reduction in real pensions (i.e. there would be enough money to pay pensions in full even if there was a reduction in the short term which was recouped when it was clear that markets had improved). Equally, if the 55% equity portfolio was maintained, then there would be significant excess returns to be distributed to those that took the risk. For example, assuming USS best estimates return of 2.14% above CPI is achieved (as a uniform growth rate) from March 2021, only c £57.4bn of the scheme's £80.6bn would be needed to meet promised benefits. If risk and reward is split 50:50 between employers and members, then an additional £11.6bn would be available for benefit improvements reflecting a c 20% uplift in benefits.