

Filling Valleys in with Peaks rather than Levelling Down to Valley Floors: Collective versus individual defined contribution pensions

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Introduction and Summary

Under the USS proposal under consultation, pensions on any income earned above £55,000 will be provided via individual (a.k.a., 'money purchase') defined contribution (IDC) 'pension pots'.¹ For income below £55,000, entitlements to pensions will build up in a defined benefit (DB) pension scheme that is similar to the one that was introduced for new USS members in 2011.

- In **Section I** of this note, I provide an explanation of some well-known inefficiencies of an IDC pot in generating a pension that most closely approximates the sort of DB pension that will be delivered for income below £55,000. These inefficiencies involve:
 - Longevity risk
 - Investment risk
 - Lack of investment expertise
 - Loss of economies of scale
- In **Section II**, I document the inadequacies of a common default option of 'lifestyle' or 'life-cycle' de-risking of one's IDC pension pot as one nears retirement as a means of mitigating investment risk.
- In **Section III**, I draw attention to a type of DC pension, known as 'collective defined contribution' (CDC), which avoids the worst of the above inefficiencies. In addition to retaining many of the efficiencies of a DB pension scheme, a CDC pension scheme is designed to eliminate the risks and costs to employers that account for their resistance to DB pension schemes. I make a case for replacing IDC with CDC above the £55,000 threshold.

I. The inefficiencies of IDC versus DB

"It is widely recognized within the pension industry," according to a recent Canadian study, "that DC pension plans are less efficient generators of pension income than are DB arrangements or other pension design alternatives."²

Through the modelling of these inefficiencies, the study indicates that:

for an efficient \$10-billion DB plan, converting to individual account DC arrangements to provide the same value of pension benefit would increase the

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¹ I abbreviate as 'IDC' rather than the more common 'DC', since I draw a contrast between such an individual account pension scheme and another type of pension scheme that is known as 'collective benefit defined contribution', or 'CDC'.

² Robert Brown and Craig McInnes, 'Shifting Public Sector DB Plans to DC: The experience so far and implications for Canada' (October 2014), p. 1. <https://cpplc.files.wordpress.com/2014/09/db-vs-dc_plans_research-paper_online_20140924_rvsd1.pdf>. Unless I indicate otherwise, all references in the Canadian study to DC pensions are to 'IDC' pensions in my terminology.

ongoing cost of the plan by about 77 per cent and increase the required contribution rates accordingly. The portion of the final benefit coming from investment returns would drop from 75 per cent to 45 per cent.³

In addition to its modelling, the Canadian study draws on "experience and evidence from other jurisdictions" in reaching the conclusion that "Large, well-run DB plans are more efficient at producing retirement income than are DC plans. Several U.S. states that have looked at converting DB plans to DC have concluded that it would cost considerably more to maintain similar benefits. Two states that had converted to DC at least partially converted back because of concerns over how little income they were producing for retirees (Nebraska and West Virginia)."⁴

The Canadian study offers four general reasons why, when comparing like for like pensions, IDC pots yield less pension income per resource invested than DB pensions.⁵

(1) Longevity risk: By law of large numbers, those who administer a DB scheme will have a very good idea of the average longevity of the pool of retired people in the scheme and can budget fairly precisely for this. If an individual also knew in advance how many years he would live in retirement, he could budget precisely too and just save enough to cover each year via the drawing down of his pension pot over time. Since he doesn't know this, he has to, in effect, take out insurance against living a long time, or else run the risk of his money running out before he dies. The only way to get the sort of guarantee of a steady income for life that a DB scheme provides is via purchase of an annuity, which is expensive because people who buy them are assumed to live longer, and it's a commercial transaction from which someone else takes a profit. The cost of the annuity will also depend on interest rates at the time of purchase. The report also notes that it's harder to inflation-proof pension income from an annuity than pension income from a DB scheme.⁶

(2) Investment risk: Employees are often provided with an option of 'lifestyle' or 'life cycle' de-risking of their IDC pots, in which investments are shifted away from equities and into less volatile assets such as bonds as one nears retirement.⁷ The rationale is that one doesn't want to risk a great fall in the value of one's assets, from which it will be difficult to recover, close to the point at which one will need to transform one's pot into a pension. There is, however, a cost to such de-risking, since less volatile assets tend to provide lower expected returns. A DB scheme manager isn't faced with this dilemma, because the group that constitutes the scheme membership is "an ongoing entity with a long-time horizon", and the average age of a scheme member, even if rising, will increase at a much slower rate than any individual ages. Hence, the DB fund can safely remain invested in higher-risk, higher-return assets.⁸

³ Ibid., p. 2.

⁴ Ibid., p. 30.

⁵ A 'like for like' IDC pension is an inflation-protected annuity, which is the pension that one can purchase in exchange for one's IDC pension pot that most closely approximates the pension that one receives under USS's DB scheme.

⁶ 'Shifting Public Sector DB Plans to DC', pp. 15-16. For further explanation of why the annuities market doesn't work well, see Nicholas Barr, *The Economics of the Welfare State*, 5th ed. (OUP, 2012), ch. 7, pp. 159-160.

⁷ 'Lifestyle' is the UK terminology, whereas the term 'life cycle' is typically employed outside of the UK.

⁸ 'Shifting Public Sector DB Plans to DC', pp. 15, 17, 23.

(3) Lack of investment expertise: Compounding the above problem of investment risk, the average individual with an IDC pot won't have the expertise to invest it well, but investment advisers and fund managers who do will charge a lot – enough to halve the income from one's pension in not unusual cases.⁹

(4) Loss of economies of scale: In comparison with typical IDC pension pots, a large DB pension fund tends to have lower administrative and management costs and investment opportunities not available to those who invest into IDC pots.¹⁰

The USS proposal under consultation will partially compensate for the problems of lack of investment expertise and loss of economies of scale identified by **(3)** and **(4)** respectively. Regarding economies of scale, USS maintains that "the significant scale of the potential defined contribution section which is proposed to be created will enable arrangements to be delivered which will offer value for money."¹¹ Regarding investment expertise, the DC section will include a default option which is "designed to be the most appropriate investment choice for the scheme membership".¹² Employers will cover investment management charges for the default option. For employees who do not regard the default option as the most appropriate investment choice, there will be "a range of [other] investment options to meet the risk and return requirements of members". Employees will, however, need to cover investment management charges associated with these non-default options.¹³

It is important to emphasize, however, that none of the above remedies to the problems of investment expertise and economies of scale will apply once USS members hit retirement. At that point, we will be left to our own devices to figure out how to transform our IDC pots into pensions.¹⁴ We can shop around for an annuity. Or we can try to figure out how to invest our pension pot during our retirement so as to generate enough returns to enable us to draw down a decent amount each year until that unpredictable moment when we die.¹⁵ Being on our own when it comes to the investment of our pension pots post-retirement is a major shortcoming for IDC versus DB, since, as the Canadian study notes, "[m]uch of the investment returns that drive DB pension plans come from returns made during the individual's period of retirement." Under the DB portion of our hybrid pensions, for example, the USS investment team will be on call to invest our collective USS pension fund

⁹ Ibid., pp. 13-15. Nicholas Barr writes: "Over a full career an annual management charge of 1 per cent of a person's accumulation reduces the accumulation, and hence his or her pension, by 20 per cent." (Barr, *The Economics of the Welfare State*, 5th ed. [OUP, 2012], p. 162.)

¹⁰ 'Shifting Public Sector DB Plans to DC', pp. 17-18.

¹¹ 'Consultation by Employer with Affected Employees on Proposals for Changes to Universities Superannuation Scheme', USS (March 2015), p. 24.

<https://www.ussconsultation.co.uk/uploads/document/file/24/USS_Project_Tailor_V10.0_web.pdf>

¹² 'A briefing for employees – "What do the proposed USS reforms mean for me?"', Employers Pension Forum (29 January 2015), p. 3. <<http://www.employerspensionsforum.co.uk/en/utilities/document-summary.cfm?docid=F2891747-2C18-469B-B59BF1945E22EAE6>>

¹³ 'Consultation by Employer', p. 24.

¹⁴ This is implied by the two examples that USS provides of "how the proposed defined contribution section would work" on pp. 25-26 of 'Consultation by Employer'.

¹⁵ Various other options might also be available.

expertly and optimally throughout the period of our retirement, so as to generate enough income to cover the pensions they've promised. In the case of our IDC pension pots, by contrast, "at retirement the amount accumulated in an individual's account is turned over to the individual, and *the benefits of low-cost professional management are lost for the subsequent period of individual's retirement. By one estimate, 60 cents of every dollar of retirement income is earned after retirement.*"¹⁶ The benefits we lose include both the lower administrative costs of economies of scale that come with the management of large funds and the investment expertise of the fund managers.

The problems mentioned in the previous paragraph reveal that, not only do individuals face the challenges of lack of investment expertise and loss of economies of scale, but they will also need to contend with longevity risk (see **(1)** above) in trying to figure out what they should do with their pension pots once they retire.

The problem of investment risk described in **(2)** above also remains. In the next section, I discuss the inadequacies of 'lifestyle' or 'life cycle' de-risking as a means of dealing with this problem.

II. The inadequacy of lifestyle or life-cycle de-risking of one's IDC pension pot

USS has not yet provided details regarding the default DC option they will provide members, free of investment management charges. If, however, their default option takes the currently most prevalent form, it will involve 'lifestyle' de-risking. According to a survey in 2012, about three quarters of the default options for UK DC pension schemes involved a "lifestyle approach where members' assets are automatically switched from equity-type investments to less risky investments as they approach retirement".¹⁷ As mentioned above, there is, however, a cost to such de-risking, since less risky alternatives to equities typically have lower expected returns. How great is this cost?

In 'The Value and Risk of Defined Contribution Pension Schemes: International Evidence',¹⁸ Edward Cannon and Ian Tonks have drawn on extensive historical data across sixteen different OECD countries to quantify this cost. They pose the following question: If a worker always earning the national average income had put 10% of his salary into an IDC pension pot for each year of a 40 year career, how large would his pension pot have been at retirement if (a) he had invested everything into equities each year, or (b) he had instead followed a 'life-cycle' or 'lifestyle' de-risking strategy in which "everything is invested in equity for the first 28 years and everything in bonds for the last 3 years", while "in the intervening 9 years the fund is gradually moved from equity to bonds"? For every country, they calculated the size of a worker's pension pot at retirement, under each investment strategy, for every year from 1948 to 2007. The size of a pension pot was measured as a multiple of the worker's final year salary.

¹⁶ 'Shifting Public Sector DB Plans to DC', p. 24. Emphasis added.

¹⁷ 'The Future of UK DC Pension Platforms', BNY Mellon, book I, p. 5, and book III, p. 7.

<http://www.bnymellonam.com/core/literature/campaigns/email/cerulli_report.pdf>

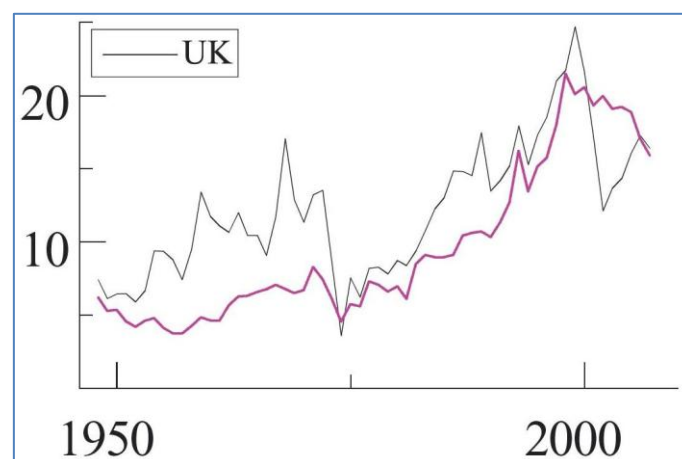
¹⁸ *Journal of Risk and Insurance*, 80 (2013): 95-119 <<http://dx.doi.org/10.1111/j.1539-6975.2011.01456.x>>.

Their overall finding across all 16 countries was that the median life-cycle de-risked pension pot was only 73.4% as large at retirement as the median pot that had been invested in equities throughout. (The median pot is that which performed better than half, and worse than half, of all pots similarly invested, out of the set of all pots encompassing each year from 1948 to 2007.) For the UK in particular, the median de-risked pension pot was only 59.5% as large as the median pot that remained invested in equities throughout.

Life-cycle de-risking is thought to involve a sacrifice in expected pensions income in exchange for protection against downturns in the stock market. Perhaps it should not therefore come as a surprise that the median pension pot invested purely in equities is larger than the median de-risked pension pot. What is surprising, however, is that even when one examines pensions pots at the lower extreme, those invested purely in equities outperform de-risked pots. A de-risked pension pot at the lowest decile (i.e., one which performed worse than all but 10% of those similarly invested) performed worse than the purely-equities-invested pot at the lowest decile of pots similarly invested. For the 16 OECD countries as a whole, such a de-risked pot at the lowest decile performed only 83.1% as well as a pot invested in equities throughout. For the UK in particular, the de-risked pension pot performed only 68.7% as well as the equities-invested pot.

From the fact that the median (or lowest decile) de-risked pension pot performed less well than the median (or lowest decile) equities-invested pension pot, one cannot infer that a worker who retired in the year that a de-risked pension pot was at the median (or lowest decile) would have done better had he instead invested in equities throughout. One cannot infer this, because a purely-equities-invested pension pot needn't also have performed at the median (or the lowest decile) in that same year of retirement.

When, however, one examines the graph below that plots the performance of de-risked (pink line in the pictured graph) versus purely-equities-invested (black line in graph) pensions pots in the same years, one will see that, for the average wage earning UK worker, a de-risked pension pot underperformed a pensions pot invested purely in equities in the vast majority of years from 1948 to 2007. Life-cycle de-risking would have made a UK pensioner more than marginally better off only during the years immediately following the burst of the dotcom bubble in 2000. (Such de-risking may also have been better in the aftermath of the crash of 2008, but that is outside of the years surveyed in the article.)



(From figure 1 of Cannon and Tonks, op. cit., p. 106.)

A lesson we can draw from this data is that, historically, life-cycle de-risking would have been an often costly and ineffective form of protection against downturns in the stock market for UK workers. In the vast majority of years from 1948 to 2007, even those preceded by fairly sharp downturns in the stock market, life-cycle de-risking would have made one poorer in retirement than a high wire strategy of remaining invested purely in equities throughout one's career. Cannon and Tonks also show that alternative investment strategies of investing purely in bonds, or else 50% in equities and 50% in bonds, throughout one's career, fare even worse at the median than life-cycle de-risking. All of these investment strategies involve a flattening of the market volatility of equities only at the cost of a substantial amount of levelling down into lower-return assets.

If we would like to smooth such volatility in return-seeking equities without levelling down, we must instead turn to a strategy of risk-pooling among different employees, which allows for smoothing across generations while remaining invested in equities throughout. A large defined benefit (DB) pension scheme, into which different employees' pensions contributions are pooled, is one way to provide such smoothing, so long as it is properly managed in a way that does not involve a de-risking of the pension fund from equities into bonds (including gilts).

It is often remarked that the move from DB to IDC transfers risks that lie mainly with the employer entirely onto the employee. Though this is true, we can now see that it tells only part of the story. We should distinguish cases of risk transfer that are zero-sum because they simply redistribute a fixed sum of the disutility (i.e., reduction in our well-being) of risk onto different parties from cases of risk transfer that increase the overall sum total of the disutility of risk. The move from DB to IDC is not zero-sum: rather, the total disutility of risk goes up on account of the loss in benefits of risk-pooling. Things are therefore doubly bad for the employee: not only is all risk shifted from employer to employee, but the overall disutility of risk goes up too.

A move from DB to DC needn't, however, make risk worse. There is a form of DC, known as 'collective benefits' defined contribution, or 'CDC', which, while still shifting all risk from the employer to the employee, does so in a manner which avoids the increase in the overall disutility of risk of the move from DB to IDC. With the enactment in early March of the Pension Schemes Act 2015 with cross-party support from Labour, Liberal Democrats, and Conservatives, CDC will become possible in the UK from 2016.¹⁹

III. The case for CDC

Adopting CDC would allow us to risk-pool our pensions contributions above the £55,000 threshold in a manner akin to DB risk-pooling that overcomes both longevity and investment risks. CDC operates on the basis of target pension incomes that smooth over variations in investment luck in the years leading up to retirement and also variations in longevity. The target is pegged to the best estimate of the average rate of return on the pension fund's investments. Employees who happen to retire when the stock market is at a

¹⁹ <<http://www.legislation.gov.uk/ukpga/2015/8/notes>>.

peak end up doing less well than they would have done under IDC. But employees who retire when the stock market is at a nadir end up doing better.²⁰ In other words, the scheme provides insurance by spreading risk. Moreover, as explained below, it does so in a manner that provides good value for money.²¹ The pensions themselves could be constructed to approximate the CRB DB pension that has been proposed for incomes below £55,000. The accrual rate could be set at $1/x$ of career average salary, where the career average is calculated in the same manner as CRB DB. The x in the denominator would then be set as that which could be delivered, given the best estimate of the average rate of returns on pension fund investments. This accrual rate would constitute a target rather than a promise and might later need to be adjusted in the light of actual outcomes.

Since the principle of risk-pooling that underpins CDC involves the sharing of one another's misfortunes in order to mitigate their burdens and increase the expected pension income of workers, it should not come as a surprise that trades unions are sympathetic. The TUC, for example, announced that they "welcome [Pensions Minister] Steve Webb's support for collective defined contribution pensions. Of course it is important to get the details right, but sharing risk among members can increase returns and smooth outcomes."²² UCU's actuary First Actuarial has also spoken out in favour of CDC.²³

CDC has attracted support from those allied with management as well as labour.²⁴ Aon Hewitt, which is the actuary for Universities UK (formerly known as the Committee of Vice-Chancellors and Principals), has been one of the strongest supporters of this approach to pensions provision.

According to research conducted by Aon Hewitt, the pooling of benefits via CDC would render pension income in retirement both less unpredictable and higher at the median, in comparison with IDC. The graph below captures Aon Hewitt's modelling of the pension that would have been generated at retirement via 25 years of pensions contributions at 10% of one's income into a CDC plan (green line) as compared with various IDC plans.²⁵ Their modelling of IDC investment in equities versus 'lifestyle' de-risking incorporates somewhat different assumptions from those of Cannon and Tonks. But it generates a similar result: namely, that 'lifestyle' de-risking (red line) provides a superior pension, in comparison with investment in equities (black line), in only a small minority of the years modelled; moreover,

²⁰ See graph below.

²¹ See graph below and accompanying explanation.

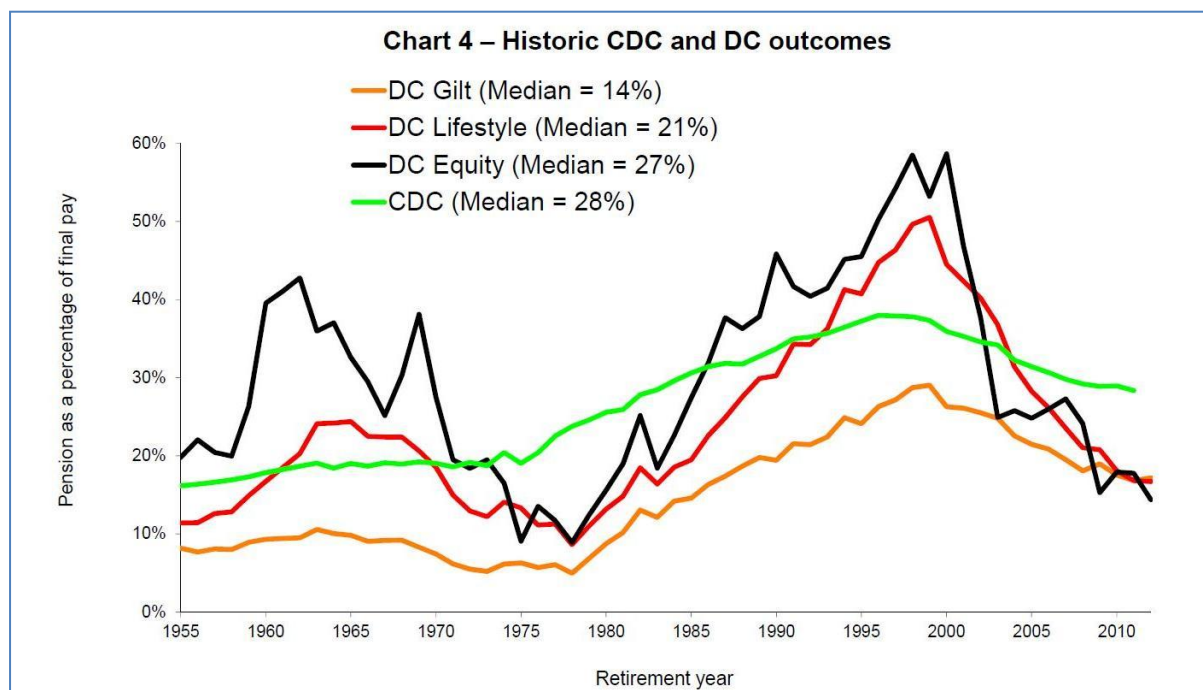
²² <<https://www.tuc.org.uk/economic-issues/pensions-and-retirement/tuc-welcomes-steve-webb-backing-collective-dc>>. The TUC also recently sponsored a conference to explore the merits of CDC: <<https://storify.com/TUCeconomics/the-abc-of-cdc-tuc-pensions-conference-21-january>>.

²³ See testimony to Parliament by Hilary Salt and Derek Benstead: <<http://www.publications.parliament.uk/pa/cm201415/cmpublic/pensionschemes/141021/pm/141021s01.htm>>

²⁴ More generally, CDC has received support from diverse points in the political spectrum. In the United States, for example, both the libertarian Reason Foundation and the left-of-centre Brookings Institute have written in its defence. See <<http://reason.org/studies/show/pension-reform-defined-contribution>> and <http://www.brookings.edu/~media/research/files/papers/2014/02/26%20public%20pension%20reform/improving%20public%20pensions_final.pdf>.

²⁵ See 'The Case for Collective DC', Aon Hewitt (November 2013), p. 40. <http://www.aon.com/unitedkingdom/attachments/aon_hewitt/dc/Aon_Hewitt_The_Case_for_Collective_DC_Nov13.pdf>

it does so at the cost of a significant lowering of the median performance. By contrast, CDC (green line) provides a superior pension to equities across a greater number of years. Moreover, the median performance of CDC is slightly higher than that of IDC equities. CDC efficiently fills in the valleys of equities via transfers of benefits from the peaks. By contrast, IDC alternatives to equities (both 'lifestyle' and gilts) inefficiently reduce volatility by levelling pensions down below the valleys as well as the peaks of equities throughout most of the modelled time period.²⁶



As Aon Hewitt explains:

The primary reason for the superior CDC performance is that pensions are paid from the plan (without the need for an annuity being purchased at retirement) enabling a higher proportion of investment in growth assets, and avoiding being forced to invest in lower yielding assets at inappropriate times (which is what annuity purchase in current times of low yields implies). Collective investment by trustees on behalf of all CDC plan members enables longer-term decisions to be taken, such as investment in infrastructure, mortgages and long-term illiquid assets which are not readily incorporated into DC schemes with their daily unit pricing.²⁷

There are the following reasons why employers should be in sympathy with CDC. In the manner described above, CDC would enable employers to provide better pensions in

²⁶ One of the grounds that USS has offered for a de-risking of the DB pension fund out of equities and into gilts is that the latter more closely track the non-volatile nature of pensions liabilities. We can see from the graph that CDC performs similarly to gilts, but at a higher level throughout. This provides evidence in favour of a policy of remaining invested in equities while smoothing peaks into valleys, rather than de-risking the DB fund into gilts.

²⁷ 'Collective Defined Contribution Plans: A new opportunity for UK pensions?', p. 4.

<http://www.aon.com/unitedkingdom/attachments/aon_hewitt/dc/Aon-Hewitt-Collective-DC-Whitepaper-Summary-Nov13.pdf>

comparison with IDC without contributing a penny more in contributions. Moreover, CDC would not add any debt to employer balance sheets, since the benefits to employees do not constitute a promise. As the Department for Works and Pensions (DWP) explains: "Because of the way in which collective benefit has been defined, it cannot offer a promise and therefore cannot place a funding obligation on an employer beyond the contribution level."²⁸ Rather than making any promises that the employer might have to make good on through an increase in their contribution rates, CDC relies on targets. If the targets turn out over time to have been too optimistic, employees make good the shortfalls via a reduction in their pensions income, which is later restored if the financial situation improves. For employers, therefore, CDC has none of the drawbacks of DB, since all the risk lies with the employees.

The main advantage of CDC over IDC for employees is that we do not bear these risks as isolated individuals. Rather, employees bear the risks as a collective, by pooling or spreading investment and longevity risks evenly among ourselves. The reaping of benefits of economies of scale and investment expertise during retirement is a further advantage of CDC over IDC. Some will also consider the following an advantage of CDC over IDC: it is a less radical departure from the status quo in that it more closely approximates the sort of DB pension scheme that it is replacing. A final virtue of CDC is that, unlike DB, we would be rowing with rather than against the legislative and regulatory tide. This is the sort of pensions provision the government is encouraging, as a way of meeting the desires of employers and employees to preserve many of the benefits of the DB schemes that are being regulated out of existence.²⁹

There are various freedoms and flexibilities that IDC provides that might be impossible to provide via CDC.³⁰ They will need to be weighed against the inefficiency of IDC in generating a pension that is equivalent to a DB pension. Perhaps members will prefer these freedoms and flexibilities on balance. Even if they do not, perhaps they will prefer their clearly defined property rights over an IDC pot and the transparency regarding its value at any given point in time. CDC also raises issues regarding the feasibility of setting targets that smooth over investment risks in a manner that is fair to different generations. These are not issues on which employees have been consulted with any high degree of specificity and information. In fact, very little detail has been provided regarding the specifics of the IDC pension that is proposed to replace DB, and its merits in comparison with alternatives means of DC pension provision. It is understandable that CDC was never offered as a possibility during the recent

²⁸ 'Pension Schemes Bill Information Note – Defined Ambition pensions and Collective Benefits', pp. 2-3. <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/365557/pension-schemes-bill-2014-to-2015-defined-ambition-collective-benefits.pdf>. Note that, in the wording of the Pension Schemes Act 2015, so-called 'shared risk' or defined ambition (DA) schemes are not the same thing as 'collective benefits'. Shared risk DA is a pension scheme intermediate between DB and DC, which involves promised pensions short of DB promises. But DWP makes clear that collective benefits can be part of a DC scheme with no employer promises beyond contribution level, when they write: "The **collective benefit** definition is a benefit level definition, so it is possible to have collective benefits in a DC or a DA scheme" (ibid., p. 2).

²⁹ Changes in international accounting standards, over which the UK government does not have control, are also making DB schemes harder to sustain.

³⁰ There is also the question of the extent that it will be possible, under current legislation, regulations, and government policy, to require individuals to forego these freedoms and flexibilities as a condition of entering CDC, where such requirements might be necessary for the viability of CDC.

discussions, since the Pension Schemes Act that makes it legally possible in this country had only been announced as a bill by the Queen's speech in June 2014. But now that this bill has become law, it is appropriate to begin widespread consultation on whether we should adopt CDC.

CDC is obviously untested in this country,³¹ and the regulations that will apply have yet to be issued. The Pension Schemes Act provides for the possibility of regulations to do with targets and valuation and a "policy for dealing with a deficit or surplus" (i.e., undershooting or overshooting the target).³² Employers and USS will understandably want to wait until these regulations are in place and they've received advice before endorsing CDC. There may therefore not be sufficient time to introduce CDC as soon as April 2016. Given the portability and fungibility of IDC accounts, however, it will be possible to implement IDC as planned for April 2016, and then to roll these individual pension pots into a CDC fund at an agreed rate of exchange at a later date.

CDC would make up for much of what will be lost in the move from DB to IDC. It nevertheless falls short of the properly protected DB pensions promises to employees that we could have if only we were allowed to value the scheme in a properly ongoing manner.³³ My own view is that the current regulatory environment is so (unjustifiably) inhospitable for DB, and CDC a sufficiently good approximation of the virtues of DB, that USS scheme members and UCU that represents them should constructively engage with employers to try to design a good CDC above the £55,000 threshold, rather than trying to hold out for the restoration of DB across the full range of salaries in the near future. Especially if, out of an aversion to taking on any risk of a rise in employer contributions, the USS trustee and our employers insist on pursuing a misguided policy of de-risking our DB pension fund for income below £55,000, we should press for them to make it possible for us to pool the risks of return-seeking equities, without levelling down, via the mechanism of collective DC (CDC) for income above £55,000.

³¹ Versions of it, however, exist in the Netherlands and Denmark. According to the DWP, "in the case of both Denmark and the Netherlands, CDC arrangements are an integral part of pension systems that are recognised world-wide as being high quality. According to the 2012 Melbourne Mercer Global Pension Index, the Danish pension system was ranked number 1 on a list of 18 countries that fully reflect the significant range of different pension systems around the world. The Netherlands was ranked second on this list, which takes into account the adequacy, sustainability and integrity of a pension system. We believe that the UK can learn some positive lessons from these high quality pension systems and the CDC schemes that are integral to them." ('Public consultation: Reshaping workplace pensions for future generations', DWP, November 2013, p. 47. <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/255541/reshaping-workplace-pensions-for-future-generations.pdf>.) See also <<http://www.ft.com/cms/s/0/62476102-d809-11e2-9495-00144feab7de.html>>.

³² <<http://www.legislation.gov.uk/ukpga/2015/8/part/2/enacted>>.

³³ 'How to value a pension fund for an ongoing pre-92 higher education sector that is not about to become insolvent': <<https://www.facebook.com/mike.otsuka.9/posts/339643592902573>>.