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How Do CDC Schemes Qualify under the IORP II Directive?

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**How do CDC schemes qualify under the IORP II Directive?**

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**Summary**

This article considers whether a collective defined contribution pension scheme (a “CDC scheme”) provides “cover against biometric risk” or “guarantees ... a given level of benefits” for the purposes of Article 13(2) of EU Directive 2016/2341 (the “IORP II Directive”) or its predecessor, IORP I Directive (2003/41/EC), Article 15(2). If no such cover and no such guarantee are provided, then a CDC scheme is not required to comply with the technical provisions, buffer and other funding requirements applicable to an IORP which is classified as a “regulatory own fund” in Article 15 of the IORP II Directive.

There is a linked, and for current practice, relevant issue: if a pension fund operates a CDC pension scheme that does not qualify as a regulatory own fund IORP, it would be classified as a “special investment fund” for EU VAT Directive purposes with the associated beneficial VAT treatment that is enjoyed by a retail collective investment scheme. Furthermore this VAT treatment is available for all CDC schemes.

The article explores this issue by reference to CDC schemes established in The Netherlands and against the background that the UK is planning to introduce legislation permitting CDC schemes to be established in the UK. The article compares some of the Dutch legislation regulating CDC schemes established in The Netherlands with the corresponding position in the UK in relation to the legal form used for a pension scheme, the protection of accrued rights under a pension scheme, the approach to funding defined benefit pension schemes (including, for this purpose, Dutch CDC schemes) and the different approaches to dealing with the insolvency of the employer in relation to a pension scheme (including the difference between the UK legislation for a Pension Protection Fund and The Netherlands not legislating for a pension protection fund).

The article also notes that the essence of a CDC scheme is that the benefits are not guaranteed. Instead, the benefits are adjusted in accordance with legally binding rules which provide a mechanism for bringing the value of the target benefits back into line with the value of the assets of the scheme. The employer has no obligation to make any additional deficit repair contributions. The article notes that CDC schemes may also be referred to as Defined Ambition schemes or Target Benefit schemes.
1. Introduction

The United Kingdom is planning to introduce a new kind of pension scheme: a collective defined contribution scheme. In The Netherlands collective defined contribution pension schemes (“CDC schemes”) have existed for many years (Schols-Van Oppen, 2010).

It should be noted that the IORP I Directive has been replaced by Directive EU 2016/2341 (the “IORP II Directive”) which was required to be transposed into member State domestic legislation by no later than 13th January, 2019. This date is prior to Brexit on 29th March, 2019 at 11pm (UK time). It is assumed that any post Brexit transitional period will require the UK to continue to comply with EU Directives during that transitional period (Transposition legislation, 2018).

As at 6th February, 2019 (the time of writing this article) the United Kingdom is scheduled to leave the European Union on 29th March, 2019. References to 29th March, 2019 in this article should be read as replaced by any subsequent change to that date. The most likely scenario at this point in time is that there would be a transition period until at least 31st December, 2020 during which the UK would agree that all EU legislation applicable to the UK in force on 29th March, 2019 would continue to apply during that transition period (including the IORP II Directive, (The European Union (Withdrawal) Act 2018).

But how are the CDC schemes classified under the IORP II Directive? That is what is explored in this article. The UK can learn valuable lessons from the CDC design in The Netherlands and the experience of operating CDC schemes for a number of years (including through the period of the great financial crisis).

The IORP II Directive, Article 13 requires the home State of an Institution for Occupational Retirement Provision (an “IORP”), as defined in Article 6(1) of the IORP II Directive, which operates an occupational pension scheme which:

- provides cover against biometric risks, as defined in the IORP II Directive, Article 6(9)m as “risks linked to death, disability and longevity”, or

- guarantees either an investment performance (for example, that the member would always receive back at least an amount equal to the contributions paid in (or the contributions paid
in plus a minimum rate of interest), or a given level of benefits,

to establish technical provisions in respect of such a scheme.

The IORP II Directive, Article 14(1), says that the home State must require an IORP to have at all time sufficient and appropriate assets to cover the technical provisions in respect of the total range of pension schemes operated.

The IORP II Directive, Article 15(1), goes on to say that a home State must ensure that IORPs operating pension schemes:

“where the IORP itself, and not the sponsoring undertaking, underwrites the liability to cover against biometric risk, or guarantees a given level of investment performance or a given level of benefits, hold on a permanent basis additional assets above the technical provisions to serve as a buffer”.

The IORP II Directive, Article 15(2), specifies that the calculation of the minimum amount of additional assets required as the buffer is to be determined in accordance with the rules laid down in the IORP II Directive, Articles 16, 17 and 18.

The question considered in this article is whether an IORP which provides a CDC scheme is an IORP which:

- provides “cover against biometric risk”, or
- guarantees “a given level of investment performance or given level of benefits”.

The article considers this question, in particular, by reference to Dutch CDC schemes.

If legally binding rules applicable to the pension scheme provided by the IORP are legally effective to require that benefits are to be reduced if a particular funding level is not met, in order to bring the value of the benefits back into line with the value of the assets (whether immediately or over a period of time), then this article argues that the IORP providing the pension scheme is not underwriting the liability to provide cover against biometric risks or to guarantee a given level of benefits.

This is in contrast with the Dutch position on CDC schemes. By classifying a Dutch IORP which operates CDC schemes as ‘regulatory own funds’ the IORP can arguably not offer a PEPP (Van Meerten, Wouters, 2018) and is not classified as a ‘special investment fund’ under Dutch legislation transposing the
EU VAT Directive. A Dutch PPI is a DC IORP. A PPI can operate plans that qualify as pension schemes in the social and labour law of the countries in which these schemes have been agreed. As a result, the pension benefits accumulated in a PPI can eventually – depending on the regulations applicable in the country involved – take various forms: a (temporary) periodic benefit, a lump sum benefit or a benefit for life (Van Meerten, 2008).

A Dutch PPI can fall within the favourable ‘special investment fund’ VAT exemption (the availability of this exemption for all Dutch CDC schemes is discussed further in 2.2 below).

The fact that a ‘Dutch CDC IORP’ is, under Dutch legislation, classified as a regulatory own funds IORP, may furthermore be contrasted with the position of an annuity or deferred annuity provided by an insurance company where the insurance company has, under the insurance contract it has entered into, agreed, without any right to reduce, to provide the particular level of retirement income in question.

This article is organised as follows:

♦ Part 2 looks at:
  o -the legal form of Dutch pension schemes and, briefly, contrasts the position with UK pension schemes, and
  o -the availability of the ‘special investment fund’ VAT exemption for all CDC schemes

♦ Part 3 looks at the protection of accrued rights under a Dutch pension scheme and, briefly, contrasts the position with UK pension schemes.

♦ Part 4 looks at the approach to funding Dutch pension schemes (including Dutch CDC schemes) and, briefly, contrasts the position with UK pension schemes.

♦ Part 5 looks at the protection of pension benefits on an employer’s insolvency in The Netherlands and, briefly, contrasts the position with UK pension schemes.

♦ Part 6 looks at:
  (i) what Article 13 of the IORP II Directive means when it refers to providing cover against biometric risks or guaranteeing a given level of benefits,
  (ii) the treatment of defined contribution (or money purchase) pension schemes in the context of the IORP
II Directive, Article 15 and whether they provide cover against biometric risks or guarantee a given investment performance or a given level of benefits, and

(iii) who provides a buffer in a Dutch CDC scheme and who does it belong to.

❖ Part 7 sets out the conclusions reached.

2. Legal form of Dutch pension funds

2.1 The IORP

In the interests of relative brevity, only pension schemes which are provided by DB/CDC IORPs are considered in depth in this article. DC IORPs, common in certain Member States, are, in general, not discussed.

All Dutch pension funds established after 2015 are required to have the legal form of a Stichting. However, prior to 2016 it was possible for a Dutch pension fund to have a separate legal personality (e.g. a BV) although not established as a Stichting. That said, pension funds in The Netherlands are typically established as Stichtings. This article looks at the position on the basis that the legal form of the pension fund is a Stichting (although, as a practical matter, little turns on this point).

Under Dutch law, a “Stichting” is a body corporate which has its own separate legal personality (i.e. just like any other company). But a Stichting set up to provide pension benefits has a limited purpose under its constitutional documents of using the assets of the Stichting to provide those benefits to the members of the Stichting (i.e. the employer’s employees and the former employees and their respective survivors). The members derive their rights as against the Stichting from the memorandum and articles of association (or the Pension Regulations) of the Stichting which confer legally enforceable rights to the pension benefits on the member against the Stichting (Lutjens, 2016).

The relationships between the interested parties in relation to the Stichting can be analysed as a triangular relationship:

❖ Relationship 1: Employer to employee (under the contract of employment including any terms incorporated via the collective bargaining agreement between the employer or the employer’s association and the recognised trade union) which provides for
the terms on which the employer will make available, via the Stichting, pension benefits. This agreement is called a “pensioenovereenkomst” or a Pension Agreement (Lutjens, 2013).

♦ Relationship 2: Between the employer and the Stichting under which the employer has agreed with the Stichting under a funding agreement as to the amounts (or “premiums”) it will contribute to the Stichting to fund the retirement benefits to be provided by the Stichting to the employees of the employer (and their surviving dependants), which such benefits are more particularly described in the memorandum and articles of association (or Pension Regulations) of the Stichting. This agreement is called a “uitvoeringsovereenkomst” or an Administration Agreement.

♦ Relationship 3: Between the employee/member (including surviving eligible dependants) and the Stichting. The Stichting is required by the memorandum and articles of association (or Pension Regulations) of the Stichting to make payments to the member (and his or her eligible surviving dependants) of the benefits as determined in accordance with the terms of the memorandum and articles of association (or Pension Regulations) of the Stichting. These arrangements are referred to as the “pensioenreglement” or Pension Regulations.

A point to draw out is that, because of the legal form of the Dutch pension fund is a Stichting, its balance sheet will show both the assets and the liabilities (including pensions obligations) within it. By way of contrast, a UK private sector occupational pension scheme established, almost invariably (in terms of legal form), by way of irrevocable trust will not show in its balance sheet its obligations to provide pensions. Instead the balance sheet will be limited to the assets of the scheme and its liabilities to external third parties (such as accrued but unpaid fees to service providers).

In The Netherlands, it is possible, as an alternative to using a Stichting, for the retirement benefits to be provided:

♦ by an insurance company (ie. premiums are paid to the insurance company by the employer to purchase retirement benefits for the employee under an insurance contract), or
As set out in previous research (Borsjé, Van Meerten, 2016), there must be a distinction between two archetypes of pension frameworks. In the first archetype, the IORP is an independent legal entity, at some distance from the employer, with full recourse to its own funds. The IORP has up-front provisions on its balance sheet to bear biometric risks or to guarantee a certain investment performance or level of benefits. This IORP is the most common in The Netherlands (Van de Griend, Van Meerten, 2017).

In the second archetype, the sponsor and the IORP are closely related and the IORP may have been set up by the sponsor. The sponsor provides the ultimate pension security to its employees and stands ready to supply financing in the event of an adverse shock to the IORP. Most Member States have a combination of the two archetypes.

By way of contrast in the UK:

♦ a defined benefit pension scheme set up under irrevocable trust does not have a separate legal personality like a Dutch Stichting,

♦ instead, the trustee of the pension scheme, usually a single purpose company, often owned by the sponsoring employer, holds the assets of the pension scheme on trust to be used to provide the benefits of the scheme specified in the governing legal document (usually called a ‘trust deed and rules’) and overriding legislation,

♦ the terms “IORP” and “pension scheme” can be viewed as being interchangeable in relation to a UK pension scheme,

♦ the employers whose employees (and former employees) are members of the UK defined benefit pension scheme are fully liable to pay contributions to the scheme to provide the defined benefits conferred on members by the governing legal documentation of the pension scheme (and overriding legislation). See the UK Pensions Act 2004, pt 3 (dealing with funding requirements) and the UK Pensions Act 1995, s 75 (dealing with the obligation on an outgoing employer or an insolvent employer to pay up its share, unless an alternative approach applies, of the scheme’s
deficit calculated on the cost of securing the scheme’s benefit obligations with an insurance company (usually referred to as the “buy-out basis”)).

In other words, UK defined benefit pension schemes fall within the second archetype. The first archetype remains theoretically possible for a UK defined benefit pension scheme. It could only arise where the scheme was set up by an employer and then the employer was able successfully to cease, without a replacement, to be the sponsoring employer in relation to the scheme with no further obligation to pay contributions to the scheme.

2.2 The pension schemes

The pension schemes serviced by the IORP can, in principle, be either of a Defined Benefit (DB) or a Defined Contribution (DC) nature. A DB pension plan guarantees to deliver benefits at retirement that are predefined in the accumulation phase, and are usually based on an employee’s final or average pensionable pay and length of service. In a DC pension plan, contributions paid by employers (and/or employees), rather than the benefits that are delivered on retirement, being defined in any particular year of employment: the accumulated pension assets (and, therefore, the actual benefits that can be delivered at retirement) depend on the level of contributions and the financial returns from investing those contributions (and the charges and expenses paid out of those pension assets).

Of course, all kinds of hybrid schemes are possible. Perhaps, the most publicised ones are, ‘Defined Ambition’ schemes (‘DA’) and, the subject of this article, a ‘CDC’ scheme.

The first CDC schemes started in The Netherlands in the beginning of 2000. The benefit structure, is in general, an average salary benefit structure with conditional revaluation before the pension comes into payment and conditional indexation once the pension is in payment.

In this article a distinction is drawn between the increase of the accrued but not in payment pension (referred to as revaluation) and the increase to the pension in payment referred to as indexation. The rates of revaluation and indexation may be identical or they may differ depending on the benefit design.

CDC schemes were introduced in The Netherlands by way of response to changes in accounting standards which had the effect of bringing the deficits in Dutch defined benefit schemes on to the balance sheet of Dutch companies. So the CDC scheme provided a similar benefit structure to a traditional Dutch defined benefit pension scheme providing average salary benefits, but with the
employer contribution rate being fixed as a percentage of pensionable pay (but for a period of no more than 5 years, DNB, 2015). The key point is that, even if the employer contribution rate is re-negotiated after the end of that period, of up to 5 years, there would be no legal requirement to pay any deficit make up contributions.

However, the funding regime and other attributes of regulation of the Dutch CDC scheme, including in relation to conditional revaluation and conditional indexation, seem similar to those for a “traditional” Dutch defined benefit pension scheme.

A point to draw out is that, in many ways, the “traditional” Dutch defined benefit pension scheme which provides average salary benefits with conditional revaluation and conditional indexation is the same as the Dutch CDC scheme.

In terms of outturns for members, if the liabilities of the scheme (ie. the technical provisions) plus the solvency margin exceed the value of the assets of the scheme, then:

- there is no future conditional revaluation and no future conditional indexation granted (because it is conditional on the revaluation and indexation being affordable (measured by reference to the margin by which the value of the scheme’s assets exceeds the value of the scheme’s accrued “nominal” or “guaranteed” liabilities plus a buffer)),

- if the deficit is not made good along with the required “buffer” or “solvency margin” within a 5 year period (to restore the funding position back to the Minimum Required Funding Level), then it will be necessary to reduce the “nominal” benefits (whether in payment, in deferment or accrued for active members) in order to balance the books usually over a period of 10 years by equal reductions.

DA schemes never found their way into Dutch legislation (Van Meerten, Borsjé, 2013). The legal difference between DA and CDC scheme is very cumbersome. Some studies see DA as a category of CDC (Research report, 2014).

The UK Pension Schemes Act 2015 came up with a complex recategorization of pension schemes for UK purposes into:

- defined benefits schemes,

- shared risk schemes ‘(sometimes known as “defined ambition”)’,
• defined contribution schemes, and

• schemes which provide “collective benefits” (Pension Schemes Act, 2015)

The objective of this legislation was to provide much more flexibility as to risk sharing in a way in which a pension scheme provided retirement benefits compared to the current UK position where there are, in summary, two models:

• the employer bears all of the risk: in other words the scheme is one which provides defined benefits, and

• the member bears all of the risk: in other works the scheme is a scheme which provides defined contribution or money purchase benefits. Under UK pensions legislation, leaving to one side the Pension Schemes Act 2015, the term “defined contribution” does not enjoy any formal legal definition. Instead, the term used in UK pensions legislation is “money purchase benefits” – defined in the Pension Schemes Act 1993, s 181 (as amended).

Although the Pension Schemes Act 2015 was passed as an Act of Parliament, the provisions in Part 1 and Part 2 of that Act (dealing with the categorisation of schemes as outlined above including the provision of collective benefits) have not been brought into force. One reason for this is the substantial number of changes required, via secondary legislation, to deal with the consequences of the different types of proposed scheme and benefit classification. In other words, this was an over ambitious project.

In terms of conceptualisation, it is, perhaps, easier to think about a defined ambition scheme as one which has the ambition to provide a certain level of benefit but with no guarantee that that ambition will be achieved. Another way of expressing this concept is to call the scheme a “Target Benefit scheme” or a “Collective Benefits scheme”. But a common feature of any such conceptualisation is that the risks are shared amongst the members of the scheme whether within a generation of members or a particular group (for example, a five year cohort) of generations of members or across generations of members, with the employer having no greater obligation than to pay the contributions it has agreed to pay to the scheme to finance the non-guaranteed benefits. Alternatively, such a scheme could be called a “Collective Defined Contributions scheme” with the name reflecting the fact that the risk and reward
is shared collectively by the members of the scheme in accordance with the risk sharing rules provided for under the scheme’s governing legal documents.

Using this conceptualization, it becomes clear that DA schemes, unlike DB schemes, do not offer guarantees but instead in these schemes the participants—rather than an external sponsor—bear the risks of any shortfalls between the assets of the pension fund and the target benefits of the pension fund. These Dutch schemes have evolved from traditional defined benefit (DB) schemes with employers as external risk sponsors (Bovenberg, Mehlkopf, Nijman, 2014).

Having said this, an interesting way to distinguish the different pension schemes is developed in the ECJ case of ATP (C-416/12). This case decided that the services provided by a pension administration office for a Danish pension scheme could be VAT exempt because the scheme qualified as a “special investment fund” for the purposes of Article 13B(d)(6) of the Sixth VAT Directive, the ‘EU VAT Directive’.

The criteria to qualify as a "special investment fund", and thus for the VAT exemption, were as follows:

- the participants (not the employers) bear the risk (para 51 of the ATP case),

- asset pooling so that the risks that the participants bear can be shared (paras 51 and 52), and

- the participants finance the pension scheme: although the employer pays an agreed level of employer contributions into the pension scheme, this is treated as part of the salary of the employee and the employer has no additional payment obligation –‘the contributions are paid on behalf of pension customers using funds which must be regarded as reverting to them as a result of their work and that those customers bear the risks of any investments made using those contributions’-(para. 53).

The fact that a predetermined portion of the pension savings collectively agreed for the employees was used to purchase an annuity for life did not take the Danish pension scheme outside the exemption (see paras 55 and 57).

In the pension scheme context, the opposite of such a special investment fund could be called a ‘DB scheme’, i.e. an arrangement:
- which is financed by the employers (although there may be member contributions fixed, for example, a percentage of pensionable pay). In the UK, a typical defined benefit scheme contribution structure might be a contribution of 5% pensionable pay by the employee and the balance of the cost being financed by the employer (with that balance being generally 10% or more of pensionable pay);

- using a risk-spreading mechanism, and

- where the members do not bear the investment risk.

In Dutch literature, the question whether a ‘Defined Ambition’ contract can qualify as a DB scheme was heavily debated (Lutjens, 2013). The consensus was that a ‘Defined Ambition’ is not a DB scheme, although some authors had a different opinion (Blom, 2012).

We consider that the reasoning applied inter alia by Lutjens can *mutatis mutandis* apply to CDC schemes: CDC schemes do not contain a ‘Solvency II guarantee’. Therefore, no buffers are required. Hence it seems clear that CDC schemes cannot be DB schemes, not even if the way pension accrued is similar or even alike as in DB schemes.

Linked to this analysis is the related point that all CDC schemes would ‘special investment funds’ for the purposes of Article 13B(d)(6) and so would be able to benefit from the associated VAT exemption (whether or not currently recognised as such by member State law transposing the EU VAT Directive).

It may be noted that ECJ case law holds that a Member State cannot plead incorrect transposition of an EU Directive as a defence and that the Directive is, as against the Member State (and its emanations), to be treated, in general, as having direct effect. For a recent discussion of the law on this point see the Advocate General’s opinion in Hampshire (C-17/17) at paragraphs 67 to 93.

It may be necessary to be aware that Dutch CDC is not *per se* of a DB character. Article 10 of the Dutch Pensions Act says that there are three types of pension scheme:

a. een uitkeringsovereenkomst (a DB scheme);

b. een kapitaalovereenkomst; (a hybrid scheme, in which the amount of capital that can be accrued is agreed);

c. een premieovereenkomst (a DC scheme).
A Dutch CDC scheme is not defined in law. It is not defined as being category a, b or c.

The Explanatory Memorandum relating to Article 10 of the Dutch Pensions Act 2007 says (translated):

'In a CDC scheme too, therefore, one of these three forms of (declining) risks will always be present for the members of a pension scheme, based on the content of the pension scheme (and not on the basis of the name) and the communication about this with the participants, it will be necessary to assess the type of pension scheme’

In other words, if the pension agreement qualifies the CDC scheme as an uitkeringsovereenkomst, it is a DB scheme.

Only a premieovereenkomst is treated, under Dutch law, as a ‘special investment fund’ for Dutch VAT exemption purposes. As noted above, this exemption is narrower than the meaning given to ‘special investment fund’ in the ATP case.

However, it would follow from the ATP case that all Dutch CDC schemes should be treated as ‘special investment funds’ for VAT exemption purposes whether classified as a uitkeringsovereenkomst or a premieovereenkomst.

In the UK HMRC has accepted that DC or money purchase schemes are ‘special investment funds’ - see ‘Revenue and Customs Brief 3 (2017): VAT – treatment of pension fund management services’. It would follow that this treatment, if UK legislation enables CDC schemes to be introduced in the future, would include UK CDC schemes (subject to any post Brexit changes in UK law).

3. Protection of accrued rights under a Dutch pension scheme

3.1 Protection against reducing accrued rights

Article 20 of the Dutch Pensions Act includes protection for accrued rights but does not prevent those accrued rights being amended in accordance with the terms of any reserved rights to do so (or in accordance with any mandatory obligation on the pension fund to do so). Articles 76, 78, 83 and 134 of the Dutch Pensions Act allow for pension rights of beneficiaries to be restricted or reduced (i.e., they are not fixed).

Under the memorandum and articles of association (or Pensions Regulations) of the Stichting (and Article 134 of the Dutch Pension Act), provision will be made for benefits to be reduced if the scheme is underfunded and cannot recover its Minimum Required Funding Level (see below) over a recovery period (currently on average, depending on the facts, 5 years).
The Articles of Association (or Pensions Regulations) of the Stichting must contain information about the possibility of benefit reductions in accordance with Article 134. In the context of good governance, it is important to adequately inform the (former) participants that accrued entitlements and rights can possibly be reduced.

Where benefits are cut, this is a uniform reduction applied to:

(a) all pensions in payment,

(b) all deferred pensions, and

(c) all accrued pensions.

There is an initial permitted 5 year recovery period before any cuts to accrued pension benefits (including those in payment) have to be made. Thereafter cuts to accrued benefits in payment (including those in payment) have to be made on a uniform basis over a 10 year period to bring the value of the scheme’s liabilities back in line with the value of the scheme’s assets to at least the Minimum Required Funding Level.

Article 134 of the Dutch Pensions Act says as follows:

“1. A pension fund may only reduce acquired pension entitlements and pension rights if:

a. the technical provisions and the minimum funding requirements are no longer completely covered by assets;

b. the pension fund is not able, to cover the technical provisions and the minimum funding requirements by assets within a reasonable term without disproportionately comprising the interests of scheme members, deferred beneficiaries, pensionable persons, other entitlement beneficiaries or the employer; and

c. all other available steering instruments, with the exception of the investment policy, have been deployed as developed in the short-term recovery plan referred to in Article 140.

2. A pension fund will inform the scheme members, deferred beneficiaries, pensionable persons and the employer in writing concerning the resolution to reduce pension entitlements and pension rights.
3. The reduction referred to in the first paragraph may not be effected earlier than one month after scheme members, deferred beneficiaries, pensionable persons, employer and supervisory body have been informed thereof.”

3.2 Points to note on protection of accrued rights

Under this approach, the Stichting, prima facie, cannot (in principle) become insolvent for its pension liabilities because it has a mechanism for “balancing its books”.

In other words, there is no equivalent restriction, under Dutch law, to Section 67 of the UK Pensions Act 1995 which prevents a reserved power to amend benefits to “balance the books” from adversely affecting accrued rights. The court case of Aon Trust Corporation Ltd v KPMG decided that Section 67 of the Pensions Act 1995 prevented a power in the scheme’s governing documentation to reduce benefits for a deficit in the scheme to balance the books from being used. The Court of Appeal held that the exercise of such a power would adversely affect accrued rights which was prohibited by Section 67 of the Pensions Act 1995.

Whether the employee has a claim against the employer if there is a reduction in benefits in the Dutch DB or CDC scheme in this underfunding situation will primarily depend on the applicable terms of the contract of employment (including any collective bargaining agreement) applicable to the employee in question (ie. the Pension Agreement).

It is possible that the terms of the Administration Agreement between the employer and the Stichting may make provision for additional payments in this situation (or the funding agreement may just be limited to an agreement to pay contributions for a specified period and to agree, thereafter, separately, the contributions to be paid for another specified period).

4. Application of the IORP Directive to CDC schemes

A Dutch “pensioenfonds” is treated, under Dutch legislation, as a regulatory own fund (falling within Article 15 of the IORP II Directive) because it is treated as providing a guarantee of benefits and cover against biometric risk – even though the benefits may be reduced to reflect underfunding (Van Meerten, 2008, 2009). This means that, under Dutch legislation, the “buffer” capital requirements for a regulatory own fund specified in Articles 16-18 of the IORP II Directive are applied. Under the “Financieel Toetsingskader” or “FTK”, a pension fund must value its assets and liabilities at fair value. These provisions
are transposed into Dutch law by the Dutch Pensions Act, Articles 125a-150 which provides for the Financial Assessment Framework.

Article 13(5) of the IORP II Directive says that the home Member State:

‘May make the calculation of technical provisions subject to additional and more detailed requirements, with a view to ensuring that the interests of members and beneficiaries are adequately protect.’

The Dutch legislation referred to above as implemented by De Nederlandsche Bank (the “Dutch Central Bank”) has set out in a prescriptive manner the way in which discount rates are to be determined (under the FTK), ex article 134 of the Dutch Pensions Act.

In particular under the FTK, it is necessary to use a discount rate for determining the value of future “nominal pension benefits” (ie. excluding conditional revaluation and conditional indexation) based on the “Ultimate Forward Rate” (ie. the risk free rate derived from the capital markets applicable to the expected duration of the pension in question). This is the rate used within The Solvency II Directive (Directive 2009/138/EC [recast]) for insurers who are also supervised by the Dutch Central Bank.

The pension fund must set its funding requirements so that:

“The probability of the pension fund having less assets at its disposal than the amount of the technical provisions within a year is reduced to 97.5%”

This particular requirement will feed into the risk management process of the pension fund and the investment strategy of the pension fund. There are 2 funding tests that apply to the pension fund:

(a) the fair value of the assets of the pension funds is equal to at least, in summary, 104.2% of the amount of its pension obligations (this would not include future conditional revaluation or conditional indexation) valued using the Ultimate Forward Rate as the discount rate – call this the “Minimum Required Funding Level”.

(b) that the fair value of the assets of the pension fund is equal to at least its capital requirement (based on its risk profile): approximately 125% (for an average pension fund) of the amount of its pension obligations (this would not include future conditional revaluation
or conditional indexation) valued using a discount rate which depends on the risks involved in its assets and the liability profile of the pension fund – call this the “Higher Required Funding Level”.

The Higher Required Funding Level is relevant to whether the pension fund can grant conditional revaluation and conditional indexation (see further below). The amount by which the Higher Required Funding Level exceeds the Minimum Required Funding Level can be viewed as a further “solvency buffer”.

Where the funding level of the pension fund has fallen below the Minimum Required Funding Level, the pension fund must submit a recovery plan to the Dutch Central Bank which increases the funding position of the pension fund back to the Minimum Required Funding Level within a fixed 10 year period.

If the funding level has not recovered on 5 subsequent consecutive annual valuation dates from the valuation date showing that the Minimum Required Funding Level is not met, then accrued pensions (ie. both in payment and not yet in payment) are to be reduced on a proportionate basis spread over period of 10 years.

Conditional revaluation and conditional indexation cannot be granted during any period when the funding level of the pension fund is below the Minimum Required Funding Level.

Where the funding level of the pension fund is at least 110% of the Minimum Required Funding Level but not above the Higher Required Funding Level, then conditional indexation may be granted on a proportionate basis.

In The Netherlands it is the benefits that are reduced rather than the employer that has to pay. The exception is where the employer:

(a) has agreed under its Administration Agreement (or funding agreement) with the Stichting to make good the shortfall (which would not be the case in multi-employer (this term is used in the sense of employers operating, for example, in the same industry sector but where those employers are not in the same corporate group) traditional defined benefit schemes or in the case of CDC schemes), or

(b) has agreed, directly or indirectly, with its employees under the contract of employment (or Pension
Agreement) to procure that a particular level of benefits are provided, in which case the employee would have a right for breach of contract to claim damages. This happened in the case of Pensioenfonds Alcatel-Lucent/Alcatel-Lucent (Dutch Supreme Court on 10th June, 2016), ECLI:NL:HR:2016:1134, NJ 2016/450.

Because the way in which the “books are balanced” in a Dutch pension fund is, ultimately, based on not granting future conditional indexation and, if necessary, on reducing accrued pension rights, there is no corresponding provision (or need) for powers of a Pensions Regulator to impose additional funding obligations on the employer or associated or connected persons.

5. Protection of pension benefits on an employer’s insolvency in The Netherlands

5.1 Amount of claim on the employer

The Stichting will claim on employer for any arrears of contributions payable under the Administration Agreement (or funding agreement) in place between the Stichting and the employer.

The Stichting will rank as an unsecured creditor for contributions falling due for payment prior to the insolvency of the employer. Until the employer’s participation in the pension scheme is terminated by the trustee in bankruptcy, contributions falling due for payment after insolvency are claims on the assets held by the trustee in bankruptcy which will be paid out ahead of liabilities relating to periods prior to the date of insolvency of the employer.

The Dutch Employee Insurance Agency (the “Uitvoeringsorgaan Werknemerverzekeringen” or “UWV”) will take over the employer’s obligation to pay pension contributions in a situation where the employee would otherwise lose his or her pension rights because of the employer’s non-payment of the pension fund contributions. This type of payment would be covered for the period of no longer than 1 year. This legislation gives effect to Directive 80/987/EEC (on Protection of Employees in the Event of the Insolvency of their Employer) which was, in turn, replace by Directive 2008/94/EC (the “EU Insolvency Directive”).

There is no Dutch equivalent to Section 75 of the UK Pensions Act 1995 which imposes, where a defined benefit pension scheme is in deficit, on the happening
of certain trigger events, a statutory debt on the employer equal to the pension scheme deficit (which has to be calculated on a “buy-out basis”, i.e. the cost of insuring the defined benefit benefits of the members with an insurance company).

Benefit obligations of pension scheme are adjusted so as to match available assets of pension scheme (ie. so the pension scheme continues to pay benefits).

Unless the employer has agreed to make up the deficit under its Administration Agreement (or funding agreement), there is no substantive claim on the employer by a Stichting (reflecting that any underfunding results in not granting (or reducing) future conditional indexation and, if necessary, reducing the members’ accrued pension rights (whether or not in payment).

5.2 Pension Protection Fund?

Under Dutch legislation, no provision is made for a Pension Protection Fund as member benefits reduce on a pro rata basis to make good any underfunding whether before or after employer insolvency. The Stichting can, of course, become insolvent for its ‘normal’ (ie. non-pension) liabilities. For further analysis as to whether the duty, under Dutch law, for a pension fund to reduce its pension liabilities to “balance its books” is compatible with the correct transposition of Directive 2008/94/EC, see Van Meerten (2016) and also Section 5.3 below

Reliance, instead, is placed on the strict funding standards for delivery of the nominal pension benefits (with the additional solvency buffer and with the conditional revaluation and conditional indexation serving as further buffers where that is part of the benefit design).

The analysis is that there is no requirement to have a pension protection fund in order to comply with Article 8 of the Insolvency Directive where there is no legally binding obligation on the employer to make good any deficit in relation to the pension scheme (as would be the situation for a Dutch industry wide defined benefit pension scheme or a Dutch CDC scheme). Different considerations, outside the scope of this article, may well apply in a case where the employer has agreed in legally binding terms to make good the deficit in the pension fund and has become insolvent

Instead, benefits are reduced where the assets of the pension fund are insufficient to cover the liabilities of the pension fund after allowing for the recovery mechanisms referred to above. This, in part, is a function of the employer having no mandatory obligation under Dutch legislation to make up a deficit in the pension fund in contrast to the position in the UK. Under the
funding regime for defined benefit schemes in Part 3 of the Pensions Act 2004, the employer, in relation to a defined benefit pension scheme, has a statutory obligation to pay contributions to make good the deficit in a defined benefit basis (ie the amount by which its technical provisions exceeds the value of the pension scheme’s assets) coupled with Section 75 of the UK Pensions Act 1995 which imposes, in certain circumstances, a statutory debt on the employer – as discussed above.

The reason for this conclusion is that the solvency or insolvency of the employer is not related to whether benefits are or are not reduced. That said the ECJ has not drawn such a clear distinction in its analysis- see Hogan v Ireland (C-398/11) at paragraphs 22 to 27.

It is worth pointing out that the ECJ noted in its judgment in Hogan that Article 8 of the Directive gives rise to a general obligation to protect the interests of employees. It is possible to extrapolate the reasoning in Hogan on the position in Ireland to The Netherlands in a case where there is an insolvent employer at the time of when there is a sufficiently large deficit that the nominal level of benefit has to be cut below 50% of its original level (Van Meerten, 2016). However, it is more difficult to bring conditional revaluation and conditional indexation into the scope of Article 8 protection.

The counter argument to the extrapolation of the Hogan reasoning is that benefits in the Irish scheme were only reduced on its winding up (which often occurs on employer insolvency-albeit not always so). In contrast the benefits in a Dutch DB or CDC scheme are potentially reduced every time there is an annual valuation and the scheme continues whether or not the employer is solvent.

As a practical matter, it should be noted that, given the strict funding requirements and the pro rata basis on which benefits are reduced as between those in receipt of pension and those not yet in receipt of pension, it seems unlikely (although theoretically possible) that the level of reduction to a member’s accrued pension benefits (whether or not in payment) would ever be greater than 50% (the threshold identified in the Robins (C-278/05) and Hogan decisions of the Court of Justice of the European Union and further confirmed by that Court in Grenville Hampshire v. The Board of the Pension Protection Fund, see 5.3 below).

In contrast, because of the legally binding obligations of the employer to make good the deficit in UK defined benefit pension schemes (imposed by Part 3 of the Pensions Act 2004 and Section 75 of the Pensions Act 1995 and, possibly,
Robins and Grenville Hampshire decisions of the Court of Justice of the European Union referred to above have resulted in UK legislation which makes provision for a Pension Protection Fund (and, following the Grenville Hampshire decision, a need for further adjustments to the level of compensation provided by the UK Pension Protection Fund established under the UK Pensions Act 2004, pt 2 which, together with associated secondary legislation, makes provision for the Pension Protection Fund to take over the assets of the defined benefit pension scheme of an insolvent employer which is not funded to a level sufficient to provide the minimum required benefits, and to pay compensation at least the minimum level required by the Robins and Grenville Hampshire cases.

That said, the impact of the financial crisis on traditional Dutch defined benefit pension schemes has included the following: the average cut in pensions during the financial crisis was 2-6%; some schemes’ pensions had to be cut by *grosso modo* 20% (although this can be done gradually over a 10 year period; Blake, 2016). In other schemes there has been no conditional indexation granted for many years. This is a consequence of the change from an average nominal coverage ratio (the Minimum Required Funding Level) of these pension funds of around 150% (before the crisis) to the average of around 95% in 2013 (Van Meerten, 2016).

It is worth noting that some unexpected outturns can occur on pension scheme mergers in The Netherlands. An example of such an outturn arose in the Dutch case of *Verantwoordingsorgaan Tandtechniek vs The board of Pensioenfonds Tandtechniek*. In this case it was calculated that the reduction of the rights of the participants in total was, in order to equalise the coverage ratio of the merging pension funds, above 40%. The latest reduction was 9.3% (Boschman, 2018). Under the Dutch Pensions Act there must be balanced representation of interests (Article 105). This requirement applies to a merger of pension funds. So on a merger this leads to a requirement that there should be equal coverage ratios and that the merger should not be detrimental to specific groups of participants. A difference in funding ratios should therefore be removed in any case, if balanced representation of interests is to be achieved preventing adverse effects for specific groups of participants. Perhaps not the result expected by the members of the better funded pension scheme.
5.3 The application of the cases of Robins, Hogan and Hampshire to CDC schemes

Based on the analysis in 5.2 above, these cases should have no application to CDC schemes where the employer obligation is limited to paying no more than the contributions it has agreed to pay to the pension scheme (and where there is an automatic and regular mechanism for balancing the target benefits with the available assets).

Article 8 of the Insolvency Directive would be limited, in its application to this type of scheme (as with an individual DC scheme), to any arrears of employer contributions at the time of the employer becoming insolvent. As noted at the start of this article, there remains uncertainty, at the time of writing, as to the exact relationship between the UK and the continuing member states of the EU after 29th March, 2019. However, if there is a transitional period until at least 31st December, 2020, the current UK legislation dealing with the exit of the UK from the European Union specifically preserves all EU legislation in force on 29th March, 2019 as it applies to the UK (the European Union (Withdrawal) Act, 2018). That said, it should be noted that there is no obligation to follow CJEU decisions, under the UK. European (Withdrawal) Act 2018, after 29th March, 2019 nor are CJEU decisions declaring the meaning of existing EU law after 29th March, 2019 to have direct effect in the UK. Instead, decisions of that type will be a matter for the UK’s Supreme Court.

It should also be noted that it would be open to the UK Parliament, at any time after 29th March, 2019, to amend EU legislation in force on 29th March, 2019 (and saved as part of UK law by the European Union (Withdrawal) Act 2018. That said, the ability to do so would be constrained by the terms under which any transitional period is agreed and recorded in the exit treaty.

6. What does Article 13 of the IORP II Directive mean?

6.1 Legislative constraints

Any legislation enabling an IORP to provide a CDC scheme in an EU member state will need to have regard to the IORP II Directive and Article 13(2) of that Directive which provides that:

‘The home Member State shall ensure that IORPs operating occupational pension schemes, where they provide cover against biometric risks or guarantee
either an investment performance or a given level of benefits, establish sufficient technical provisions in respect of the total range of such schemes.’

Article 13(4) goes on to provide:

‘The calculation of the technical provisions shall be executed and certified by an actuary or by another specialist in that field, including an auditor, where permitted by national law, on the basis of actuarial methods recognised by the competent authorities of the home Member State, according to the following principles:

(a) the minimum amount of the technical provisions shall be calculated by a sufficiently prudent actuarial valuation, taking account of all commitments for benefits and for contributions in accordance with the pension arrangements of the IORP. It must be sufficient both for pensions and benefits already in payment to beneficiaries to continue to be paid, and to reflect the commitments which arise out of members' accrued pension rights. The economic and actuarial assumptions chosen for the valuation of the liabilities shall also be chosen prudently taking account, if applicable, of an appropriate margin for adverse deviation’

These provisions – already laid down in the transposed IORP I - are transposed into Dutch law, on a quantitative basis by the Dutch Pensions Act, Articles 125a-150 which provides for the Financial Assessment Framework (the “Financieel Toetsingskader” or “FTK”). Article 15(4)(b) IORP I is transposed into UK domestic legislation via the Occupational Pension Schemes (Scheme Funding) Regulations 2005, Regulation 5(4)(b) on a more or less cut and paste basis. Article 13(4)(b) of the IORP II Directive is in substantially the same terms as Article 15(4)(b) of IORP I Directive. Article 13(4)(b) of the IORP II Directive reads as follows:

“(b) The maximum rates of interest used shall be chosen prudently and determined in accordance with any relevant rules of the home Member State. Those prudent rates of interest shall be determined by taking into account:

(i) the yield on the corresponding assets held by the IORP and the projected future investment returns;
(ii) the market yields of high-quality bonds, Government bonds, European Stability Mechanism bonds, European Investment Bank (IEB) bonds or European Financial Stability Facility bonds, or;

(iii) a combination of points (i) and (ii);”

However, if the IORP does not provide cover against biometric risks or guarantee an investment performance or a given level of benefits, there is no requirement to establish “sufficient technical provisions”. It also follows that the requirement to establish “maximum rates of interest” which are “chosen prudently” does not apply. In other words, it could be open (unless domestic legislation of a Member State imposed additional requirements) for a CDC scheme to use an interest rate to determine the present capital value of its target benefits which is based on a best estimate rate of the projected future investment returns of the assets held by the CDC scheme.

6.2 Biometric risks: why are they not “covered”

As noted earlier in this article “Biometric risks” mean risks linked to death, disability and longevity. “Cover” against “biometric risks” could, it might be argued, be provided by the CDC scheme since the aim of the CDC scheme is to allow its members to receive Target Retirement Income for their respective lives (although the amount of the Target Retirement Income can go up or down). However, the “cover” is not guaranteed.

If the cover is not guaranteed, then it is not cover in the usual sense of that word (e.g. being covered by insurance against a particular contingency by an insurance company is predicated on the basis that the insurance company will make a specified payment if the contingency occurs in respect of which there is a contractual right to payment).

If a wide interpretation of “cover” is to be given to that word, then an individual DC scheme from which income drawdown is being provided out of a member’s retirement account could also be viewed as providing cover against longevity risk; for example, if the formula used for determining the amount the member may drawdown in a year is derived from 1/(the member’s number of years of remaining expected life (e.g. if life expectancy for the member at age 65 is 25 years of remaining life, then you may drawdown 1/25 (or 4%) of your retirement account each year) from a longevity table with the member’s number of years of expected life being revisited periodically).
In the case of a Dutch CDC scheme, as explained in Part 3 above, there is no guarantee against any particular level of cover against biometric risk.

This conclusion is consistent with Article 15(1) of the IORP II Directive which says as follows:

“The home Member State shall ensure that IORP’s operating pension schemes, where the IORP itself, and not the sponsoring undertaking, underwrites the liability to cover against biometric risk, or guarantees a given investment performance or a given level of benefits, hold on a permanent basis additional assets above such technical provisions to serve as a buffer”.

The logic structure of Article 13 and Article 15 of the IORP II Directive is that:

- the sponsoring undertaking underwrites the liability to cover against biometric risk, or
- the IORP itself underwrites the liability to cover against biometric risk.

When, in fact, the member’s benefits are automatically adjusted (whether immediately or over a period of time) to match the target retirement income against the value of the assets of the IORP at any point in time, then the IORP is not providing cover against biometric risks.

6.3 Why is a given level of benefits not guaranteed

If, where a particular funding level is not met (calculated on a regular basis eg annually) mandatory legal rules require the level of benefits to be reduced (whether immediately or over a period of time), irrespective of the solvency of the IORP or the solvency of any sponsoring undertaking, it follows that the benefits provided in the pension scheme operated by the IORP are not guaranteed. In other words, the benefits provided under a Dutch CDC scheme are target benefits comprising 3 components:

- the target base level retirement income which is earned for a particular year of active membership,
- target revaluation of the base level, and
the target increases to the target accrued benefit once in payment.

Similarly, if the adjustment mechanism allows, instead of immediate adjustments, recovery periods to allow time to smooth short term market volatility, the benefit is still a target benefit (because if this recovery does not occur, benefits would then be reduced).

6.4 Do CDC schemes require a buffer?

In summary, the contributions paid by the employer and the member to an individual DC (or money purchase) scheme are allocated to the member’s retirement account (Van Meerten, E. Schmidt, 2017). Those contributions are then invested and the assets purchased with those contributions (e.g. shares or bonds – usually through a pooled investment vehicle such as an open ended investment company or unit-linked life policy) are allocated to that member’s retirement account. The member’s retirement account is reduced by fees and expenses charged to it. The member’s retirement account is increased by investment income earned and investment gains earned (and reduced by investment losses). In other words, there is as clear link between the contributions paid in and the amount available to the member at retirement to convert into retirement income.

The nature of an individual DC scheme is that it is not:

♦ providing cover against “biometric risk” in the accumulation stage (if the member’s retirement account is converted into a pension payable from the scheme, then it may end up providing cover against biometric risk and so care is needed as to whether any guarantee is provided from the scheme in this situation), and

♦ unless it is providing a guarantee of a given investment performance (e.g. a minimum capital guarantee or a minimum capital guarantee plus interest), the scheme is not providing a guarantee of given investment performance.

Similarly, the scheme is not providing a given level of benefits for the purposes of Article 15(1) of the IORP II Directive (assuming there is no guarantee of a given investment performance or other guarantee provided – again care is needed in dealing with the decumulation phase).
The alternative interpretation would be that it would be necessary for an IORP which just provided individual DC benefits to comply with the requirements of Article 15(1) of the IORP II Directive to hold a buffer.

As a matter of benefit design, it would be possible to establish a reserve or buffer within the CDC scheme to provide a smoothing mechanism to reduce the volatility of the adjustment to the target benefit or the particular components of the target benefit.

However, that reserve or buffer has to be financed out of the contributions paid in by the employer (and, if member contributions are required, by the member).

This has the consequence that some generations of members (particularly the first generations of members), would end up with part of the employers’ contributions (and, if members are required to contribute, their contributions) being used to provide the buffer. Other generations may find that no contributions are needed from them to finance the buffer because the buffer has already been established out of the contributions of other generations of members.

The answer to the question who does the buffer belong to is that it can be viewed as a collective reserve for the benefit of members from time to time of the scheme while the scheme is ongoing with the use of the buffer being determined in accordance with the rules of the scheme in question.

In a CDC scheme, as a matter of logic, there is no need for a buffer. However, if the CDC scheme is characterised as a “regulatory owned fund” for the purposes of Article 15(1) of the IORP II Directive, contrary to the authors’ views, then such buffer capital would be needed. Equally, there is nothing to prevent the member state’s own domestic legislation from imposing its own requirement as to whether a buffer should be held (where none is required by the IORP II Directive.

If you take the example of an insurance company, the shareholders provide the capital for the insurance company.

The reserves held by the insurance company over and above its technical provisions are there to support the guarantees given by the insurance company. If the reserves prove to be more than adequate, they can be released to the shareholders. Conversely, if the reserves are inadequate, then either of the business of the insurance company has to be reduced or the shareholders or other sources of capital for the insurance company (e.g. subordinated debt) have to provide funding to increase the level of the reserves back to the level required by the legislation regulating the insurance company in question.
7. Conclusion

The conclusion is that there is no requirement under the IORP I Directive or the IORP II Directive for a Dutch CDC scheme to hold a buffer as provided for in those Directives (e.g. Article 15(1) of the IORP II Directive), or to use prudent funding assumptions (e.g. best estimate assumptions could be used). By definition a prudent funding assumption has a “buffer” or “margin” built into it. That margin is not needed if benefits are self-adjusting under the terms on which they are granted.

That said, it remains a matter for The Netherlands to determine whether it wishes, or does not wish, to require a Dutch CDC scheme to hold a buffer or to specify particular funding requirements.

However, a point to draw out is that the funding requirements for a Dutch CDC scheme are not constrained by the IORP Directives.

It also follows that a UK CDC scheme established at a time when such a scheme would be within the scope of the IORP II Directive, would not fall within the scope of Article 15 of the IORP II Directive. Unless repealed by a subsequent UK Act of Parliament, the IORP II Directive would, assuming that it is transposed into UK domestic legislation, before the UK leaves the European Union, continue to apply unless and until amended by a subsequent UK Act of Parliament (see Sections 2 to 7 of the European Union (Withdrawal) Act 2018).

Existing Dutch CDC schemes are ‘special investment funds’ for EU VAT Directive VAT exemption purposes. The same should apply, subject always to Brexit related matters, if UK legislation is brought forward to enable UK CDC schemes.
Notes

1. European Union (Withdrawal) Act 2018 (UK), ss 2-7 as to authority for the position on the “exit date” – currently 29th March, 2019.


4. See for more details the explanation of the Dutch Central Bank (DNB, 2015) of this 5 year requirement: http://www.toezicht.dnb.nl/3/50-228388.jsp#


References


Kamerstukken II 2006-2007, 30 413, nr. C

Kamerstukken II 2017-2018, 34801, nr.3


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