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SUPERVISING DEFAULT INVESTMENT FUNDS



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SUPERVISING DEFAULT INVESTMENT FUNDS

ABSTRACT

This paper aims to address how to ensure that default funds are well designed, in the sense of suitable for the members who are placed in them, and how to identify the factors that need to be considered in designing a default investment option. The goal of the paper is to identify factors that should be addressed in determining the composition of investment governance, strategy and asset allocation and charges of a default option, in particular when this is left to the discretion of the trustee/ governing board of the fund. The paper does not intend to investigate the design of a model default portfolio with quantitative settings.

Keywords: pension, supervision, supervisory authorities, default, investment funds

JEL codes: G23 G32

SUPERVISING DEFAULT INVESTMENT FUNDS

Introduction

Defined contribution (DC) pension plans around the world increasingly allow members some degree of choice about how to invest the contributions into their plan. Typically a range of investment funds are offered to them and they may choose one or more. Many DC plans also have a default option into which the member's contributions are automatically placed if the member does not actively choose a fund.

As Madrian and Shea (2001) point out, default funds bring a number of benefits, especially if they are designed to reflect the needs of the particular pension plan's members. As most plan members have limited financial knowledge,¹ defaults simplify complex savings decisions, which in turn may encourage higher participation rates.

Indeed, as many individuals are either unable or unwilling to engage with decisions related to their pensions, it is generally the case that high percentage of plan members end up in the default option (see Table 1). Differences in the numbers of participants in the pension system who make an active choice depends on a range of factors (from the number of choices offered, to the average age of participants in the system etc.).² One reason, which Choi et al (2009), amongst others, point out, is that individuals tend to perceive the default as an endorsement of a particular course of action by the plan sponsor and / or provider – the so called 'endorsement effect.'

¹ See OECD project on financial education – www.financial-education.org

² See (Tapia and Yermo 2007). NB the outliers in this table come from Eastern European systems introduced in the late 1990s. Many members of these systems made active choices when they were first introduced, often opting away from the conservative (0% equity) default to more risky funds – which was not illogical given the age of individuals in the system. Following equity market declines during the 2000s, members then switched to less volatile options. In other words, the active choice of members away from the default fund was often not in their best interest. Italy is also a special case, as argued in section 2 of this paper and more extensively in Rinaldi (2011).

Table 1: Percentage (on average) of Members Enrolled in Default Funds

Region	Country	% Members Enrolled in Default Fund
Latin America	Chile	60%
	Peru	99%
	Mexico	99%
Europe	Estonia	12%
	Latvia	15%
	Sweden (PPM)	92.5%
	Italy	25%
	UK	60-100% ³
Other	USA	80% ⁴
	Australia ⁵ NB% of assets invested in default funds	42%

Source: IOPS Members

As previously argued both by IOPS and the OECD (Antolin et al 2010), the design of default investment options in DC pension plans is therefore of critical policy relevance. The fact that the majority of plan members may well end up in the default fund means that the choice and design of the default will be a crucial determinant of members' subsequent retirement income. The establishment of default investment options is part of the so-called *Roadmap for the good design of defined contribution pension plans* approved by the OECD Working Party on Private Pensions in June 2012; see OECD (2012). In their IOPS working paper on information to members of DC pension plans, Rinaldi-Giacometti (2008) stressed the potential informative role of default options: "*a well designed system of default options is a powerful method of conveying information, and authoritative advice, on the options that should best suit members in normal conditions*". Similarly, Byrne et al (2007) point out: "*Put simply, well-chosen default funds will benefit members, and poorly chosen default funds will impose a cost on uninformed members.*" They argue that as there is a wide variation in the type of default offered which is not explained by the different characteristics of plan membership, and because these different styles of default can generate very different outcomes individuals effectively face a 'lottery' in terms of future retirement income.

This paper aims to address how to ensure that default funds are well designed, in the sense of suitable for the members who are placed in them, and how to identify the factors that need to be considered in

³ See (DWP 2010)

⁴ See Byrne et al (2007)

⁵ APRA (2012), '*Annual Superannuation Bulletin: June 2011*'

designing a default investment option.⁶ The terms ‘well designed’, and ‘suitable’ are meant to be judged according to whether they provide members with a appropriate / adequate pension (balancing risk and return considerations). The goal of the paper is to identify factors that should be addressed in determining the composition of investment governance, strategy and asset allocation and charges of a default option, in particular when this is left to the discretion of the trustee/ governing board of the fund.

The paper does *not* intend to investigate the design of a model default portfolio with quantitative settings. Much work has been done (by the OECD amongst others) looking at how the different styles of default options perform (e.g. life cycle vs. balanced funds).⁷ However, there has been little investigation as to how default options should be chosen – which is the focus of this paper.

I. Default Funds in Practice

1. Types of Default Fund

Default funds tend to fall into the following categories:

Conservative fund – as default funds aim to serve those less able or willing to engage with their pension fund, they are often designed to be conservative funds, which expose members to little risk. This means that they are mostly/only exposed to low risk assets such as bonds, with very few or no equity investments. The challenge for these funds is whether too little risk is being taken and whether they can generate adequate retirement incomes.

Guarantee fund – in a similar vein to conservative default funds, a fund with some form of guarantee may be offered as the default. This would involve a guaranteed (though limited) return, which could be a capital (or no negative return) guarantee. In addition to the challenge mentioned for conservative funds, a specific challenge for these funds is the cost of the insurance (e.g. derivatives).

Balanced fund – these are funds which automatically rebalance their holdings towards a target asset mix that remains constant over time. For example, a fund might target a 60%-40% mix of stocks and bonds; periodically, the fund sells some of the holdings of the asset class that has outperformed over the period, and uses the proceeds to invest in the asset class that has underperformed as to keep the mix of stocks and bonds in the portfolio on target (Viceira 2010).

In practice the definition of what is ‘balanced’ can vary widely both between and within countries, and there have been issues around the application of this label. For example, the UK Association of British Insurers (ABI) changed the labelling of fund names in 2011 as the terms ‘cautious’ and ‘balanced’ were found to be misleading. The term ‘Balanced (up to 85% equity)’ has now been replaced with ‘Managed Mixed Investment 40-85% Shares’ (ABI 2011). Likewise, the Investment Management Association (IMA) has placed funds previously labelled ‘cautious’, ‘balanced’ and ‘active’ under the ‘Mixed Investment’ heading with differentiation then given according to their equity content (all Balanced funds falling in the ‘Mixed Investment 40-85% equity basket’).⁸ Balanced funds in Slovakia provide an example of how ‘reality’ and ‘labels’ may not coincide as these funds may by law hold up to 50% in equities, but their

⁶ Other issues related to default choices made on behalf of pension plan members – such as automatic enrolment into the fund, default contribution rates and default product choices within the decumulation stage – are not considered in this paper. For discussion of these issues see (Choi et al 2009).

⁷ For example, see (Antolín et al 2010), (Blake, Cairns, and Dowd 2001), (Booth and Yakoubov 2000), (Hibbert and Mowbray 2002), and (Choi, Laibson, and Madrian 2009).

⁸ Financial Times 30/11/2011 ‘IMA Renames Cautious Sector’ <http://www.ft.com/intl/cms/s/0/fb33df40-1b44-11e1-8b11-00144feabdc0.html#axzz1toUF97QA>

actual allocation to the asset class is in effect less than 1%.⁹ The other issue with these funds is that they are too general and may not truly reflect any participants' needs (with the benchmarks set by industry and not necessarily reflecting members' objectives).

Life-cycle fund – these funds also rebalance automatically towards a target asset mix. However, this target asset mix does not stay constant over time; instead it becomes increasingly conservative over time until it reaches a certain target date, at which point the target asset mix remains constant. For example, a hypothetical life-cycle fund with a target date set in 2045 and a five-year 'glide path' might start with an initial target mix of 90% in stocks and 10% in bonds. The fund will automatically rebalance its holdings towards that target during the first five years of life of the fund, at which point the target mix becomes 85% in stocks and 15% in bonds; every five years the stock allocation in the target mix decreases by five percentage points, and correspondingly the allocation to bonds increases by five percentage points, until in year 2045 the target mix becomes 20% in stocks and 80% in bonds and stays there thereafter (Viceira 2010). Viceira (2010) supports the use of life-cycle funds as defaults, arguing that: "*under plausible characterizations of labor and income uncertainty, human capital arguments provide support for the age-based asset allocation strategies that life-cycle funds follow. It also provides a rationale for adopting these funds as default investment choices in pension plans.*" In addition to human capital arguments, the mean-reversion behaviour of equity returns is also mentioned as a reason for using life-cycle funds as default investment options.¹⁰

Life-cycle funds are often considered as suitable defaults as the default section should be appropriate for participants not only at the time of joining the plan, but also throughout their careers and even during retirement (Pimco 2012). As with balanced funds, the issue with life-cycle funds is that the label can be applied to a wide range of instruments, with different 'glide paths' (for example some ending up with a low level of equities, some still relatively high) resulting in very different investment and risk profiles.¹¹ Meanwhile, Booth and Yaboubov (2000) discuss how, as life-cycle funds entail more risk than may be realized (such as to falling interest rates, rising annuity prices, inflation, duration mismatch etc.), a balanced fund (i.e. diversified portfolio of real assets) may offer better protection (providing diversification and interest rate protection).

Bodie and Treussard (2007) also argue that deterministic target date funds are optimal for some investors, but not for others, with suitability depending on the investor's risk aversion and human capital, whilst Cairns, Blake and Dowd (2009) argue that deterministic lifecycle strategies, although easy to understand and implement, can be highly suboptimal, since they do not take into account either the degree of risk aversion or the correlation over time between the plan member's salary and the stock market. However, these comments would in principle apply to any default option, and they do not overcome the need to have an appropriate default in place in cases where the individual is unable and/or unwilling to make an active investment choice taking into account his own preferences and circumstances.

⁹ In effect these are 'guaranteed' funds due to amendments to the country's pension legislation made in 2009.

¹⁰ In the presence of mean reversion, the equity allocation would also need to vary depending on expected long-term stock returns. Hence, the glide path of the life-cycle fund would not be preset, but rather vary dynamically.

¹¹ As Viceira (2010) discusses: "*For plan participants whose labor earnings are not too volatile and not highly correlated with stock returns, life-cycle funds are better default investment choices than life-style funds, money market funds, or pure stock funds. However, making a single life-cycle fund for each retirement horizon is the only choice available to plan participants might not be optimal if there is heterogeneity in the risk tolerance or in the human capital characteristics among plan participants. In particular, participants with a very low risk tolerance or highly uncertain labor earnings are likely to be better off with life-cycle funds which are heavily tilted toward inflation-indexed bonds. Thus offering two sets of life-cycle funds, one with more aggressive equity allocations and another one with more conservative asset allocations might improve the overall welfare of the population of plan participants.*"

Box 1. PPM Sweden¹²

The default fund for the Swedish pension system includes a premium pension component which allocates 2.5% of payroll tax for pension contributions (out of a total of 18.5%) to an individual investment fund that operates on a DCbasis. Individuals can choose between a wide range of funds (over 600), but for those who do not make a choice, they are assigned a government run default fund – known as the AP7 fund.

Originally, the AP7 fund stated its objective as “*People who do not have a fund manager, for whatever reason, should receive the same pension as others – that is our goal.*” AP7 therefore sought to mirror the investment strategy of those who do choose, rather than providing a conservative default and offering non-choosers a higher level of protection – which many default options implicitly if not explicitly see as their goal.

The investment time horizon of the fund is 25 years (their target investor is a 42 year old). The initial portfolio allocation was 65% foreign equities, 20% Swedish equities and 14% Swedish inflation-linked bonds (with inflation linked bonds and Swedish equities later reduced to allow for an allocation to private equity and hedge funds). Though high in international and Swedish equities, these allocations were lower than for the average of funds actively chosen by members.

Reasons given for selecting the AP7 fund mostly related to not wanting to make a choice (48% of respondents to questionnaire in 2004). However 13% chose the fund as they believed it to be safe and secure.

Following the financial and economic crisis, when the performance of the AP7 fund was criticized and hit by its high equity holdings, the default fund was restructured to a life-cycle approach in 2010. However, the equity allocation remains high for much longer than in many private sector funds. The fund remains 100% in equity until age 55 and then switches 3% a year into bonds, so that at age 75 the portfolio is 2/3 equity 1/3 bonds.

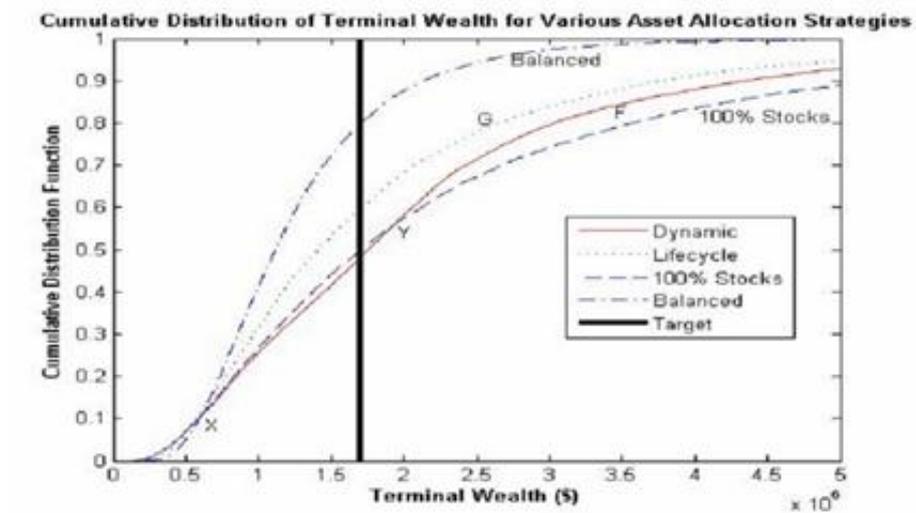
Dynamic life-cycle – a variation or development of the life-cycle approach is what is known as a ‘dynamic’ life-cycle strategy. This evolves beyond simple age to consider other factors when switching between assets – notably the level of the balance in the fund, which some research claims is equally important (as the size of the portfolio rises over time as contributions mount up).¹³ Deterministic switching rules are replaced with strategies which dynamically alter the allocation between growth and conservative assets based on cumulative portfolio performance relative to a set target (Basu, Byrne, Drew 2009). A degree of flexibility is introduced in terms of the timing and amount of assets switched so that, for example, large amounts of one asset are not sold into or just after a sharply declining market. Also if the target level of the fund has been achieved, funds can be switching into lower risk assets to ensure that balance is ‘locked in.’¹⁴

¹²See (Weaver 2004) and IPE 4/11/2009, ‘AP to launch new products following overhaul’ http://www.ipe.com/news/ap7-to-launch-new-products-following-overhaul_33183.php?s=AP7

¹³ See (Basu and Drew 2009) and (Basu, Byrne and Drew 2009). The importance of the size effect is, however, challenged in (Pfau 2010).

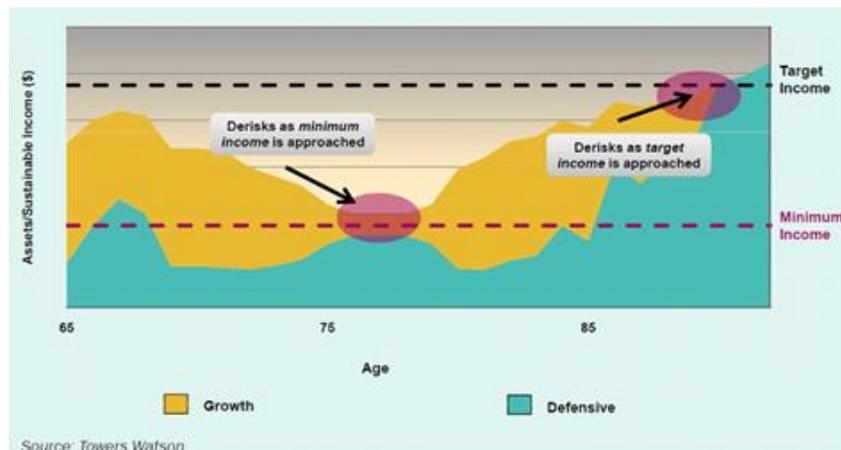
¹⁴ QIC, and Australian superannuation provider, is one example of a fund which uses such an approach – see QIC (2010) ‘*Dynamic Lifecycle Strategies*’ <http://www.qic.com.au/assets/PDF/Red-Papers/Dynamic-Lifecycle-Strategies.pdf>

Figure 1



Source: (Basu, Byrne, Drew 2009)

Figure 2: Illustration of Dynamic Life-cycle Strategy¹⁵



2. Setting Default Funds

Which of the previous type of fund to offer as the default by a pension plan can be decided in different ways. Either the default fund is set by law, or restrictions on the type of fund maybe in place. Alternatively, the choice is left to the plan provider, although the pension authorities may provide guidance on what type of fund they deem appropriate.

i. Default Fund Regulation

In mandatory systems, where vulnerable members of society are required to join a pension fund, protection of members needs to be of a high standard, particularly as these systems often provide

¹⁵ (Towers Watson 2011), “Dynamic Lifecycle Strategies” View March 2011 <http://www.towerswatson.com/australia/research/4066>

subsistence rather than additional retirement incomes. As the systems are mandatory, they cover a wide range of individuals, including those with limited education levels, and therefore the numbers ending up in the default option tend to be high. Consequently, as a high degree of protection is required, and as the default is effectively being set for the population as a whole, default options in these systems are normally established by law.

As these need to provide a high degree of safety, they tend to fall into two categories – either life-cycle/ age based defaults or a conservative default (see Table 2).

Table 2: Default Provider /Fund

	Default Provider	Fund Choice	Default Fund
Chile	Chile (automatic enrolment into lowest cost provider – switching allowed after 2 years)	5 funds 5-80% equity limits – with bands+ life-cycle restrictions	Life-cycle based
Czech Republic - valid from 2013	Provider chosen by a participant	4 funds (0%/10%/40%/80% equity limits)	Government bonds fund (0% equity)
Estonia		3 funds – 0%/ 50%/80% equity limits	Conservative fund (0% equity)
Hong Kong	Provider chosen by employer (Beginning 1 November 2012, employees are allowed to transfer their MPF accrued benefits relating to their own mandatory contributions to a scheme of their own choice once per calendar year.)	41 schemes with fund choice ranging from 3 to 26 funds. On average, each scheme offers 11 funds. Each scheme must offer a conservative fund (0% equities)	No default specified by law. Each scheme has a default fund (or combination of funds), chosen by the trustee and set out in its governing rules.
Mexico	Selected by supervisory authority based on net returns	5 funds 0-30% equity limits + life-cycle restrictions	Life-cycle based
Peru		3 funds – 10%/45%/80% equity+ life-cycle restrictions	Life-cycle based
Hungary	Selected by supervisory authority based on lowest cost	3 funds – 10%/ 40%/100% equity limits	Conservative fund (10% equity)
Latvia		3 funds – 0%/ 15%/30% equity limits	Conservative fund (0% equity)
Slovakia ¹⁶	Must chose provider to join system	3 funds – 0%/ 50% /80% equity limits 4 th fund – index pension fund (stock index tracking)	Conservative fund (0% equity) – until end 2012

¹⁶ Since January 2008 the members are not enrolled to the mandatory system automatically, the new labour market entrants can enter into the mandatory system only by making an active choice of the provider (within 6 months of joining the labour market). Previously (2005 - end 2007) with automatic enrolment, people could freely choose a provider within one month of their entry into the labour market, or were allocated to the lowest cost provider/s on an automatic basis (selected by the Social Security Agency based on conservative fund fees).

In a similar vein to mandatory systems, where individuals are automatically enrolled into a pension plan (i.e. rather than having to actively choose to join their firm's occupational pension plan, individuals are signed up automatically and then have the choice to opt out), the default fund is particularly important and are usually be set by law.¹⁷ As with mandatory systems, the default is either a conservative or a life-cycle fund.

The automatic enrolment system in New Zealand, known as Kiwisaver, requires a conservative fund as the default option. The Inland Revenue automatically (and randomly) assigns employees who do not make an active choice to one of six default providers and the default investment option which they offer is required by law to have no more than 25% in 'growth assets' – i.e. shares or property (St. John et al 2011).

Likewise in Italy, the auto-enrolment system (requiring future flows of severance pay contributions - known as *Trattamento di fine rapporto* or TFR– to be paid into a pension fund) stipulates a conservative default. The Italian experience is an interesting one, as it reinforces the importance of default funds. In his analysis of the Italian auto-enrolment experiment, Rinaldi (2011) has argued that one of the reasons why only a low number of workers automatically enrolled into the new system was the suboptimal design of the default fund (along with other structural factors)¹⁸. This was set by law as guaranteeing the return of the contributions paid plus a yield 'comparable' to the revaluation rate of the TFR – i.e. an annual yield of 1.5% plus $\frac{3}{4}$ of the inflation rate. This very conservative default option is said to offer limited opportunity for out-performance vs. the existing TFR system. The default is also criticized as giving no recognition to the different time horizons available to workers of different age - i.e. the default can be seen as particularly unsuitable for the young. Rinaldi argues that "*the message implicit in the default options set up by law was not of confidence in the ability of pension funds to provide in the long-run, investing workers' money in the financial markets, a superior performance to that ensured by the TFR.*" More in general, Rinaldi concludes that: "*Default options are important not only because they gently force individuals to 'take' the right decisions, but also as complements to education and information efforts, because they convey advice in a simple and effective way.*"

By way of contrast, the National Employment Savings Trust (NEST), one of the choices for UK employers under auto-enrolment,¹⁹ which is phased in from 2012-2018, has selected a target date fund structure, though based on its own research rather than a set legal requirement. The structure of the glide-path in the target date funds is, however, interesting. Individuals will be invested in one of NEST's 46 retirement date funds which are based on three investment phases: *foundation phase* (conservative allocation for around 5 years); *growth phase* (a diversified portfolio aimed at delivering returns above inflation and those offered by savings products, over up to a 30 year period); *consolidation phase* (shifting into less risky assets around 10 years from retirement).²⁰

¹⁷ For further information on automatic enrolment, see the chapter on 'Coverage of Pension Systems: Evidence and Policy Options' in the 'OECD Pensions Outlook 2012' (OECD 2012).

¹⁸ In 2007 Italy implemented the automatic enrolment of all private-sector workers in pension funds through the payment of the flow of TFR contributions (about 7% of gross salary) . However, most workers opted out and kept their TFR contributions being paid in favour of the severance pay arrangements. At end-2007, membership in pension plans had increased to 3.4 million, up 1.2 million with respect to the previous year, but still a fraction of the Italian workforce (about 22 millions): of the new members , around three quarters per cent opted out of the default investment option.

¹⁹ Where members are enrolled automatically into a scheme in the UK, conditions laid out under Section 17(2) of the Pensions Act 2008 must be satisfied. This states that members need to express an investment choice. This requires a default option to be available. There is no default provider, though the scheme has to meet qualifying requirements.

²⁰ See NEST website www.nestpensions.org.uk

Figures 3-5: NEST Default Funds

NEST Retirement Date Funds - objectives

Target investment returns in excess of inflation after all charges over the long term

Foundation

- > Unaccustomed to savings
- > Loss aversion - high
- > Risk capacity and risk need - low
- > **Target CPI**

Growth

- > Risk appetite, and risk capacity - medium
- > Risk need - high
- > Sensitive to extreme shocks
- > Maximise performance
- > **Target CPI + 3%**

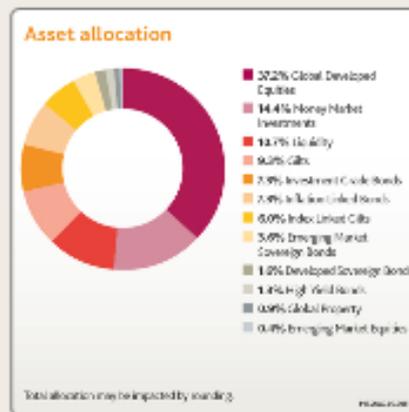
Consolidation

- > Preserve a retirement income
- > Match annuity prices
- > Convert to a suitable annuity option
- > Cannot take severe losses late in the journey

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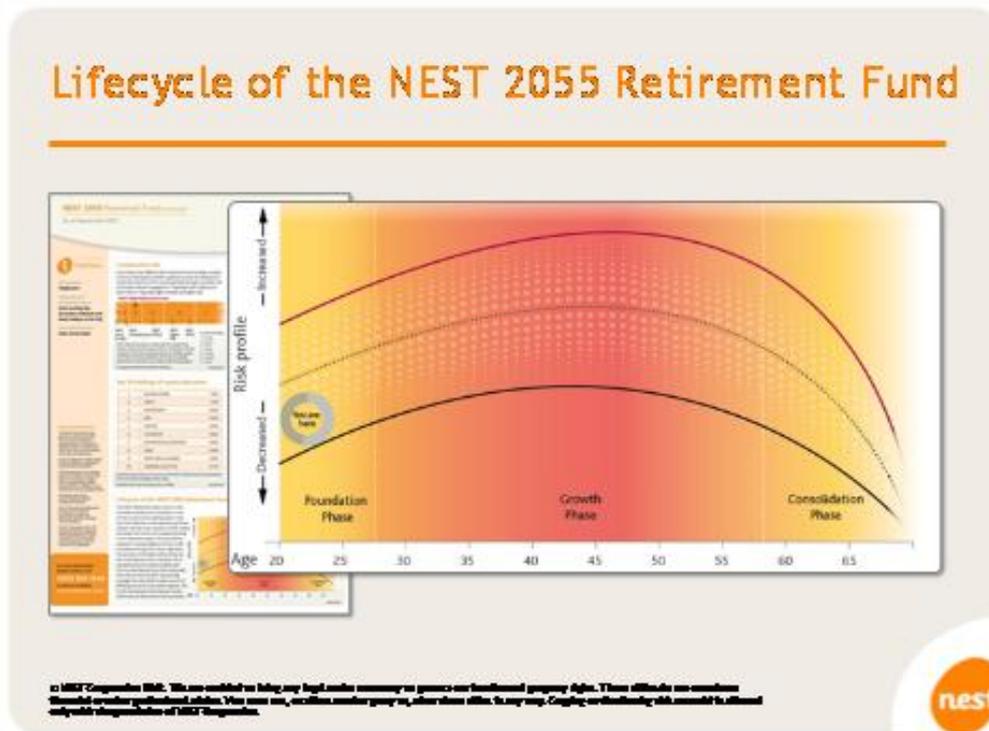
nest

Diversified asset allocation - growth phase



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Source: NEST

This structure was chosen as appropriate based on extensive market research under taken by NEST of its likely members.²¹ NEST has an obligation to accept *any* employer, no matter how small, which means that it is likely to attract a high proportion of smaller employers that are not attractive financially to other major providers and schemes. NEST established that a significant proportion of their membership were likely to be from lower income brackets, with limited financial capability and little interest in engaging with the scheme – hence the importance of the default fund. Crucially, they also recognized that their target group would be more risk averse than the average of the working age population, despite being younger, and had a particular dislike of investment losses, being willing to sacrifice returns to avoid these. This research is interesting in terms of informing the debate on the appropriateness of default funds in general. However, the context of NEST’s strategy is relevant. The primary goal is to ensure that once employees are auto-enrolled they stay in the scheme, therefore the explicit strategy is to avoid significant volatility in the early years (under full compulsion this would not be an issue).

ii. *Default Fund Restrictions*

Alternatively, rather than establishing a set default fund by law, the pension authorities may lay down restrictions on the type of default fund which plan sponsors can establish as the default in their plan.

For example, for the Department of Labor in the USA has broadly defined the category of funds which may be used as a default - i.e. life cycle funds, balanced funds or managed accounts (see Box 2). In

²¹ See (NEST 2009) ‘*Building Personal Accounts: Designing and Investment Approach- Key Finding of the Public Consultation*’ <http://www.nestpensions.org.uk/schemeweb/NestWeb/includes/public/docs/investment-consultation-response.PDF.pdf> and DWP report on individuals’ attitudes to risk: <http://statistics.dwp.gov.uk/asd/asd5/rports2007-2008/rrep550.pdf>

practice, since the introduction of this legislation, target date, life-cycle funds have increasingly been used as defaults (Viciera 2010).

Box 2. Legal Defaults in USA²²

The type of investments that qualify as default investment alternatives are established under ERISA (US pension) legislation. Plan fiduciaries that comply with this regulation are not liable for any loss that occurs as a result of such investments (i.e. so called 'safe harbor' rule). Plan fiduciaries remain responsible for the selection and monitoring of the qualified default investment alternative.

The Department of Labor directed that regulation provide guidance on the appropriateness of designing default investments that include a mix of asset classes consistent with capital preservation or long-term appreciation or a blend of both.

Consequently the Department of Labour has identified 3 categories of investment alternatives that it determined appropriate for achieving meaningful retirement savings over the long-term for members who, for one reason or another, do not chose their own investments.

1. Investment fund, product or model portfolio that applies generally accepted investment theories, is diversified so as to minimize the risk of large losses, and is designed to provide varying degrees of long-term appreciation and capital preservation though a mix of equity and fixed income exposure based on the participant's age, retirement date (such as normal retirement age under the plan) or life expectancy – *i.e. life-cycle or targeted retirement date funds*. The regulation does not stipulate the balance between risky and conservative assets, but states that a default fund should provide some level of capital preservation.
2. Investment fund, product or model portfolio that applies generally accepted investment theories, is diversified so as to minimize the risk of large losses, and is designed to provide varying degrees of long-term appreciation and capital preservation though a mix of equity and fixed income exposure consistent with the target level of risk appropriate for participants of the plan as a whole (i.e. not required to take into account the age of an individual participant, but rather focus on the participant population as a whole) – *i.e. balanced fund*. For prudent selection and monitoring, fiduciaries would take into account the diversification of the portfolio, the liquidity and current return of the portfolio relative to the anticipated cash flow requirements of the plan, the projected return of the portfolio relative to funding objectives of the plan, and the fees and expenses attendant to the investment. In terms of demographic factors, the plan only knows the age of members and therefore only has to consider this factor to be in compliance with the law.
3. investment management service with respect to which an investment manager allocates the assets of a participant's individual account to achieve varying degrees of long-term appreciation and capital preservation through a mix of equity and fixed income exposures, offered through investment alternatives available under the plan, based on the participant's age, target retirement date (such as normal retirement age under the plan) or life expectancy – *i.e. managed account*.

The Department of Labor notes that investments in money market funds, stable value products and other capital preservation investment vehicles may be prudent for some participants or beneficiaries even though such investments themselves may not generally constitute qualified default investment alternatives for the purpose of the regulation (although many funds currently use these as their default). They may, however, form part of the default investment portfolio. These are excluded as default funds as Department of Labor does not believe they will deliver favourable returns over the long-term.

A fiduciary does not have to undertake an evaluation as to which of the qualified default investment alternatives provided for in the regulation is most prudent for the participant or the plan. Fiduciary must prudently select and monitor any fund etc. within any category of quality investment alternative. As for choosing specific default product – general fiduciary duties apply (including consideration of costs).

²² See (DOL 2007)

Default funds in the US are increasingly managed in a life-cycle fashion using target date strategies. Pimco (2012) have done an interesting analysis into whether the way these funds are structured is appropriate for a default fund. Pimco asked a range of consultants how much they thought members of the fund could afford to lose, yet still retain the likelihood of replacing at least 50% of final pay – i.e. what is their *loss capacity*. The estimates were less than 5% for 65 year olds, 10-20% for 45 year olds, and over 30% for 25 year olds. Pimco’s model came to similar conclusions.²³ Pimco then compared these estimated loss capacities with the implied loss capacity embedded in the market average glide path of US 401(k) default funds. At age 65, this was over 11% - significantly above the estimated 5%, implying that the default funds are inappropriately structured as on average they are much riskier than their members actually have capacity to bear.

Table 3: Outcome-based Risk Budget vs. Market Average

Years to retirement					
12/31/2011	40	30	20	10	0
Consultant est. loss capacity	>30%	30%	20%	10%	5%
Pimco portfolio est. loss capacity VaR 95%	23.1%	21.6%	17.4%	9.8%	6.1%
Market average implied loss capacity	25.7%	24.7%	22.1%	17.1%	11.6%

Source: (Pimco 2012)

Likewise, in the UK since 2005 some form of life-cycle asset allocation is required for stakeholder pensions²⁴ – though how these are applied can differ in practice (despite the fact – as Byrne et al point out - that these defaults, being offered to the whole marketplace rather than tailored to a specific group of employees, must be suitable for the average employee in the economy) – see following table.²⁵

²³ The assumptions used are: starting salary \$50,000; real annual wage increase 1%; saving rate schedule 6% years 1-10, 7.3% years 11-20, 7.9% years 21-30, 9.8% years 31-40; an employer match of 3.5%; annuity rate of 6%; 12 month loss period; confidence interval 95%).

²⁴ Stakeholder pension plans are personal pension plans established under set criteria (e.g. fees cannot exceed 1.5% AUM). They designed to be easily understood and accessible.

²⁵ See (Byrne et al 2007)

Table 4: Number of Default Fund Life-cycle Profiles, December 2006

Final-Year Allocation	Years to Retirement When Life-Cycle Switch Starts						Total
	5	6	7	8	10	15	
75% Bonds/25% Cash	13	2	3	1	5	—	24
100% Bonds	1	—	—	—	12	—	2
100% Cash	<u>3</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>1</u>	<u>4</u>
Total	17	2	3	1	6	1	30

Note: One fund, not shown in the table, was a “target date” fund, in which the manager managed the risk level with a specified year of retirement (e.g., 2040) in mind.

Source: (Byrne et al 2007)

iii. *Guidance on Setting Default*

By way of contrast, in some countries (for example across much of Europe)²⁶ the default option is not set by law but is left to the pension provider or pension plan sponsor or trustees to choose. This is usually the case where private pension savings are voluntary, and therefore where the characteristics of the membership of the pension plan can differ from the nature of the population as a whole. For example, members of voluntary pension plans tend to have higher incomes.²⁷ The plan sponsor may therefore be the best place to decide what default option is best suited to the needs of their plan members.

Plan sponsors are not only free to decide the default option in voluntary systems. They are also given this discretion in some mandatory systems as well. However, where this is the case, the systems tend to allow for a wide range rather than a limited number of providers. For example, the superannuation system in Australia is mandatory but the type of default fund – and indeed whether to offer one at all – is left up to the trustees of the pension plan. Any fund that is offered as a ‘workplace fund’²⁸ must have a default option, which will be determined by the trustees of the pension plan based on the membership profile. Typically the investment strategy has the majority of assets invested in growth assets. Allocations to listed equities are usually 60% or more, and there are several funds that have alternatively pursued significant allocations to private market assets (e.g. 30%+).²⁹

²⁶ The European Insurance and Occupational Authority (EIOPA) is currently undertaking a survey of default funds in European pension systems. In its on-going work, it is noted that most pension schemes in Europe have multiple investment options but in many jurisdictions the number or form is not prescribed. Normally either the provider (in the case of contract based provision) or the trustee board/ scheme management will decide the type and number of investment options (subject to rules around diversification, proper advice etc.). The regulator is rarely involved in the design of the default though may issue guidance. Life styling is a feature of many defaults, though some schemes do offer different defaults (e.g. age-related or different segments of the workforce – though this is not very common). It may be difficult to apply general EU-wide rules on defaults and fund choices as the amount of risk a member can bear is very specific to both countries and individual member. Comments taken from a presentation made by The Pensions Regulator to the IOPS Technical Committee, 22nd October, 2012.

²⁷ See OECD work on pensions coverage in Pensions Outlook 2012 (OECD 2012).

²⁸ This is not an official characterisation but refers to a fund that is offered by the employer as the pension fund for enrolment if the employee does not nominate another fund.

²⁹ These are typically not however, leaving the remainder in fixed interest, there is still some exposure to listed equities. Frequently, for example, allocations to infrastructure are ‘funded’ by reducing fixed interest exposure.

Table 5: Asset Allocation Australian Superannuation Default Funds

Table 18 Asset allocation of default investment strategy					
Year end June 2011					
Entities with more than four members					
	Corporate	Industry	Public sector	Retail	Total
<i>(\$ million)</i>					
Australian shares	9,949	49,420	30,207	18,754	108,330
International shares	7,874	37,069	27,787	15,814	88,542
Listed property	806	2,068	3,358	3,091	9,324
Unlisted property	1,774	16,104	6,665	1,923	26,467
Australian fixed interest	4,093	8,705	9,350	15,522	37,671
International fixed interest	2,147	10,957	5,642	4,644	23,389
Cash	1,983	9,025	9,821	10,645	31,474
Other assets	2,390	27,079	15,729	5,615	50,813
Total default strategy assets *	31,016	160,429	108,559	76,007	376,011
Total assets	58,432	250,677	210,635	369,743	889,487
<i>Proportion of assets</i>					
Australian shares	32%	31%	28%	25%	29%
International shares	25%	23%	26%	21%	24%
Listed property	3%	1%	3%	4%	3%
Unlisted property	6%	10%	6%	3%	7%
Australian fixed interest	13%	5%	9%	20%	10%
International fixed interest	7%	7%	5%	6%	6%
Cash	6%	6%	9%	14%	8%
Other assets	8%	17%	15%	7%	14%
Total	100%	100%	100%	100%	100%

* Funds may have more than one default investment strategy, in which instance the largest default strategy is generally reported. Where there is no default strategy, funds may report the strategy of the largest option or the strategy of the whole fund.

Source: (APRA 2012)

Likewise in the Mandatory Provident Fund (MPF) system in Hong Kong, legislation does not mandate any default fund arrangement. When a member does not make an investment choice in an MPF scheme, his/her MPF contributions will be placed in a default fund designated by the trustee of the MPF scheme, which is specified in the offering document/constitutive documents of the MPF scheme. As of September 2012, most of the designated default funds were either mixed assets funds (i.e. funds with varying percentage of investment in equities) or MPF Conservative Funds (i.e. funds without any investment in equities).

In some cases where the choice of default fund is left to the pension plan provider or sponsor/ trustee, the pension supervisor or other relevant authorities provide guidance on how to choose an appropriate default fund.

This is the case in the UK where, aside from Stakeholder Pensions and schemes with automatic enrolment, there is no legal requirement to set a default fund,³⁰ (although Department of Work and Pensions (DWP) Research³¹ found that 80-90% of employers do offer a default and around 60-100% of employees select the default fund).The default option is set by the plan provider, sponsor or employer (usually with advice from a pension consultant) – at least in the case of larger employers.³²

However, the government ministry in charge of pensions, the DWP, has provided guidance on setting a default option for pension plans into which members are automatically enrolled (see following Box 3).

Box3. UK Guidance on Setting Default Option for Auto-enrolment³³

The scheme's default option should be designed with the likely membership profile in mind and should follow the standards set out below:

Objective: The default option should have a high-level objective, which explains in broad terms what the default option aims to do and the strategy it will use in order to achieve this aim; this should be reflected by its name. The overall objective should cover a simple description of the how the investment strategy will manage risk, including what it aims to achieve for member outcomes.

Suitability: In terms of its investment strategy and asset allocation, the default option should, as far as is reasonable, take account of the likely characteristics and needs of employees who will be automatically enrolled into it.

Affordability: The default option should be appropriately and competitively priced for active and deferred members and charges should not be excessive in relation to the services being provided, taking into account the characteristics of each particular scheme. A breakdown of the overall charges, including scheme charges, fund charges, expected or actual adviser charges and/or consultancy charges, should be clearly disclosed and should consider members' needs. The effect that these charges will have on members' outcomes should be made clear.

Managing Risk – Asset allocation and investment strategy: As with any DC pension scheme, individuals in the default option will be exposed to investment and other risks. Thought should be given to managing risk to achieve the best outcome for members. The default option's investment strategy should manage these risks through the appropriate and diversified allocation of assets. Risk should not be considered in isolation. The investment strategy should reflect the overall objective of the default option and the balance between risk and the potential for growth. The investment strategy should take into account, on reasonable grounds, the retirement profile of members (i.e. number of years from retirement age). Members should not be locked into the default option.

The UK guidance also outlines that it should be clear which party is responsible for deciding on the suitability of the default option for the membership, designing the default, monitoring performance of funds within the default,

³⁰ The provider or trustee board decides the type and number of investment options, and must obtain and consider proper advice before undertaking an investment. There are requirements around diversification and a statement of investment principles (setting out the balance of investment proposals, risk of expected returns etc.).

³¹ See DWP (2010)

³² The PensionsDCisions 2010 survey of defaults notes that the dependence on consultants for setting default funds is higher in the UK than in the USA – see (PensionDCisions 2010).

³³ See (DWP 2011a) The TPR have also noted that they would like to see clear disclosure literature for fund members and individual member engagement informing members of when life-styling starts so that they can make a choice on whether it is the right time for them.

communicating information about the default to members and reviewing and /or changing the default.

The guidance also lays out factors which could be reasonably expected to have an adverse impact on the appropriateness of the default fund:

- Change in charging structure
- Consistent under/ over performance of funds
- Significant change in employer structure or member demographics
- Significant changes in financial markets or economy
- Significant changes in legislation

The National Association of Pension Funds (NAPF) in the UK, in conjunction with the UK Pension Regulator,³⁴ has also issued guidance on the setting of default options as part of their '*Principles for Investment Governance of Work-based DC Pension Schemes*'.³⁵ These state that decision makers should:

- Allow appropriate time for design, review and monitoring of the default strategy as compared with other investment options;
- Ensure there are clearly defined strategic objectives for the default strategy in terms of the levels of risk and returns inherent in achieving the desired outcomes for members;
- Ensure the membership data on which the default strategy is based is as robust and detailed as is practical;
- Ensure the design of an appropriate default strategy considers, as far as is possible, the needs of the broad membership, including:
 - risk and return (net of fees/costs)
 - its position in relation to all other investment options
 - members' expected term to retirement
 - members' attitude to risk
 - the expected format and structure of their retirement benefits

³⁴ The Principles were developed by the Investment Governance Group (IGG) - a joint industry and government forum which was established following a National Association of Pension Funds review and government consultation into the Myners Principles. It is chaired by the Pensions Regulator and is intended to implement an industry led framework for the application of revised Myners principles and will focus on improving the way pension schemes are governed and investment principles are implemented and disclosed.

³⁵ See Principle 4 *Appropriate Default Strategy* <http://www.thepensionsregulator.gov.uk/about-us/principles-igg-dc.aspx#s3722>

- ensure that investment fees/costs are reasonable and competitive given the performance expectations of the strategy

The reaction of the UK pension industry to the government issuing such advice is interesting to note. The DWP's survey on the topic (DWP 2010) found that many pension providers and intermediaries interviewed were unclear about the need for DWP to issue guidance on default funds at all, and felt that, in relation to the design of default options, it was unnecessary and undesirable for DWP's guidance to attempt to alter market outcomes, since current practice was producing a good range of choice of default options for employers (though some studies dispute this conclusion).³⁶ Many participants had concerns that guidance that was overly prescriptive on the design of default options could stifle competition and innovation in the market, to the detriment of members. Similar concerns were raised by the National Association of Pension Funds (NAPF) on making the guidance too prescriptive.³⁷ Such concerns have also been raised regarding issuing regulation at the European level.³⁸

The DWP survey therefore recommended that the guidance should concentrate on high-level principles and processes to guide providers in the design of defaults, and that the guidance should be process driven, rather than being prescriptive about outcomes. With respect to investment design and management, it was felt that default options should reflect certain characteristics, the most important of which being the use of de-risking close to retirement (with lifestyle strategies seen as generally appropriate),³⁹ and some diversification of investments. Most participants also felt that passive management of default options was most appropriate (with caveats for particular asset classes) and that fees were not a major problem and did not need to be capped (see later discussion).

The DWP did, however, make recommendations regarding the governance of default funds, suggesting that more detail could be provided around the frequency of reviews, their format, and what would trigger an automatic review, in addition to better information to allow employers and plan members to compare the performance of their default with that of other providers in the market place.⁴⁰

³⁶ See (Byrne, Harrison and Blake 2007)

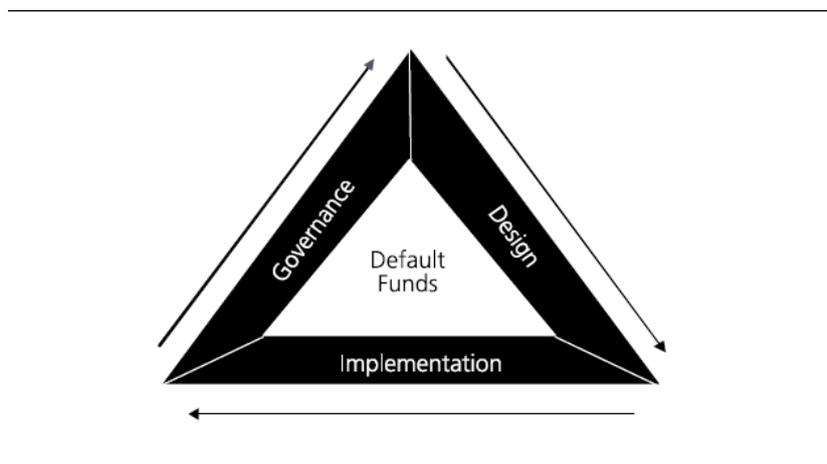
³⁷ See NAPF response to (DWP 2010) http://www.napf.co.uk/PolicyandResearch/DocumentLibrary/~media/Policy/Documents/0169_Offering_a_default_option_for_defined_contribution_automatic_enrolment_pension_schemes_a_NAPF_response_to_the_DWP_consultation.ashx

³⁸ As discussed in footnote 25, EIOPA are currently researching the issue of default funds and will publish findings in 2013.

³⁹ The survey notes that while it was recognised that target-date funds can have particular advantages (particularly around ease of communication for members and implementing switches closer to retirement), a couple of issues were raised. Firstly, a number of providers commented that it is very costly to set up target-date funds; secondly, those who have or are considering launching target-date funds are not considering a fund for every year – instead, the funds are likely to be based on five-year intervals, e.g. a 2020 Fund, a 2025 Fund etc.

⁴⁰ APRA's guidance on managing investments and investment choice includes (APRA 2006), which could equally be applied to default funds, also stresses the importance of monitoring. It should be noted that previous APRA guidance will be replaced by Prudential Standards for Superannuation which are currently being drafted – see <http://www.apra.gov.au/Super/Pages/Prudential-Standards-for-Superannuation-April-2012.aspx>

Figure 6: Continuous Governance Approach



Source: DWP

On a related note, the DWP survey also recommended working towards more consistent risk ratings across pensions investments, inconsistencies were found in how the risks of individual funds are rated, along with the inconsistencies in how individuals' risk preferences are assessed.

In practice, a wide range of default options are offered by occupational pension plans in the UK. In terms of investment strategy, the DWP survey found that most providers have a preference for some diversification of assets, with use of de-risking (typically a lifecycle strategy) as the member approaches retirement. Most providers prioritised maximising exposure to equity returns as long as possible before switching investment into less volatile asset classes, such as cash and bonds, as the member gets closer to retirement. In practice, this meant implementation of a lifecycle strategy for most providers.⁴¹

The most common method of implementing lifecycle strategies was to begin with 100 per cent investment in a global equity fund, moving to a final allocation of 75 per cent bonds and 25 per cent cash (to align fund with annuity assets and pricing) – with the switch typically starting five to ten years before retirement. Some providers were moving towards using a diversified fund of alternative asset classes (e.g. a Diversified Growth Fund) up to the period when switching commences. The DWP report did note that the way in which lifecycle strategies are implemented can vary quite significantly – and indeed note a trend for increasingly differentiation in default funds. For example, the 2010 PensionDCisions DC Sponsor Default Survey found that most plans still use a 100 per cent allocation to equity funds as the default (though there is a trend to switch to a diversified growth strategy), but that regional allocations within equity strategies varied significantly, with allocations to UK equities varying by between 32 and 63 per cent.⁴²

Meanwhile, the DWP report notes that an increased use of 'target-date' funds was reported by some providers.⁴³ Others highlighted the use of alternative approaches. For example, one provider was noted as

⁴¹ A 2008 National Association of Pension Funds (NAPF) survey also found that 89% of schemes reported using a lifecycle strategy for their default option.

⁴² See (PensionDCisions 2010)

⁴³ According to the DWP report, target-date funds, popular in the United States, are an approach to lifecycling which switch the investments from more volatile to less volatile assets (relative to how members are drawing their benefits) based on the switches being completed by an expected retirement date, for example the '2020

considering offering funds that use derivatives to guarantee that the return on the fund cannot fall below a certain level, but at the same time restricting the potential upside returns on the fund, whilst another provider offers a fund which moves a member's investments into safer asset classes when investment performance meets a predetermined level). The report mused that the on-going difficult market environment may be a factor causing providers to reconsider their approaches to management of default options.⁴⁴

There is, however, some debate as to whether the default funds offered are appropriate and meet members' needs. Though the industry response to DWP guidance on the issue of defaults (DWP 2010) claims that a good range of default options is generally being offered to employers, research by the Pensions Institute (Byrne, Harrison and Blake 2007), disputes this assumption. Their research outlines how 69 per cent of the pension experts they surveyed said that the typical investment arrangements in UK DC pension plans do not meet most members' needs – despite the fact that many members may actually assume that that default has been chosen to meet their specific needs.

Other surveys have raised similar concerns, suggesting that default funds on offer are inherent 'mediocre' or 'middle of the road' and are not serving most members well.⁴⁵ This is particularly the case for the outdated 'set and forget' default funds chosen by smaller employers during the 1990s and early 2000s, which maintain high charges (up to 1.5% total expense ratio) and high equity asset allocations (80-100%) with limited or no life-cycling mechanism. This contrasts with newer providers offering low cost, target date funds.⁴⁶

The DWP (2011b) have also noted that the design of the default depends largely on when the trustees last formally reviewed the fund's objectives and design (this not having been done recently by many smaller employers, leaving their default out of line with current practices, not having taken the membership profile into account and typically invested 100% in equities). Where the fund had been set up in the last few years there was more variation and the design of the default had usually taken account of factors such as: trustees' views as to their workforce attitudes to risk; employee turnover; contribution levels and salary; job role and industry sector; and the age profile of the employees. Though most defaults were structured as life-cycle funds, those set up more recently were seeing the transition periods to less risky assets take place earlier.

The lack of governance at DC default investment funds has also been highlighted as a concern. Only one-third of directing set their default strategy with the intention of providing a good retirement outcome for members (one-quarter not even aware of this goal and a further quarter with only the loose goal of maximizing returns), one-third failing to regularly review the performance and suitability of their default investment fund, with around 40% not having reviewed the fund for more than two years (16% having no

fund'. Whereas in normal lifecycle the switches are carried out at member level, with target-date funds the switches are carried out for all members at the same time across the whole investment fund. An advantage of target-date funds is thought to be that they can be easier to communicate to members than traditional lifecycle funds. For larger schemes, implementing 'lifecycle' switches at a fund level, as for target-date funds can be more efficient than implementing switches at a member level, as occurs in typical lifecycle strategies.

⁴⁴ In the 2010 DC Sponsor Default Survey, over 50% of pension plans stated that they were considering changing their default in light of the current market environment (up sharply on the 20% reported in 2009). See (PensionsDCisions 2010).

⁴⁵ See the recent survey by Standard Life which raised similar concerns – Financial Times 1/6/2012 'Millions of Pensions Stuck in the Slow Lane'

⁴⁶ See 'Where's TRP Steer on Default Funds?', Financial Times 1/7/2012

idea when this was last done).⁴⁷ The DWP (2011) also noted the rather ‘ad hoc’ nature of default fund governance (particularly with smaller employers).

II. Factors to Consider when Setting / Assessing a Default Fund

Drawing on the experience of and guidance provided by IOPS Members outlined above, the following are suggested factors which should be taken into consideration when setting a default option from a pension provider/ sponsor/ trustees perspective, or when assessing the choice of default fund and its appropriateness as a pension supervisor.

1. Purpose of the default
2. Demographic nature of the membership /Risk Appetite
3. Investment objective / Investment Risk Tolerance
4. Liquidity and cash flow requirements
5. Diversification
6. Cost
7. Market / economic conditions
8. Governance

1. Purpose of Default

The first consideration when designing a default fund is the purpose it is meant to achieve. This involves a decision between protection and offering an adequate pension. The nature of the pension system as a whole will therefore need to be considered. For example, in mandatory systems where protection members (including those with low incomes and limited understanding of pensions) is key, a more conservative fund is generally seen as an appropriate default. In a voluntary system, where providing additional retirement income is the goal (and where members generally have a higher income and other forms of social protection to rely on), an investment approach which involves some higher risk assets may be seen as appropriate. The level of guarantees in the system, the nature of the investment restrictions etc. may also need to be considered. That said, life-cycle funds are generally designed to be appropriate for the broad mass of pension fund members and therefore may be considered suitable as the default in all types of pension system.

The nature of the payout phase will also be an important consideration. For example, where the accumulated balance of the DC fund is required to purchase an annuity, a default which results in a large holding of bonds (which match annuities) would be more appropriate. However, if the accumulated balance can be used for a programmed withdrawal, and therefore needs to continue to generate income for an extended period, a default which leaves some exposure to growth assets at retirement may be considered more appropriate.

⁴⁷ See ‘*Research Shows Lack of Governance at DC Default Funds*’ Actuarial Post <http://www.actuarialpost.co.uk/article/research-shows-lack-of-governance-of-dc-default-funds-3080.htm>

2. Demographic Factors /Risk Appetite

To quote the UK Guidance on defaults (DWP 2011a): *“The default option should take account of the likely characteristics and needs of the employees who will be automatically enrolled into it. It is likely that employees in the default fund will not be engaged in financial decisions. Decisions will need to be taken for them about their risk profile. As such, there should be an appropriate balance between the risk and return for the likely membership profile and the charging structure should reflect this balance.”*

According to the DWP research (DWP 2010), when thinking about overall objectives for default options, most pension providers interviewed said that their main aim was to match the investment strategy taken by the default option to the risk profile of the potential membership in the workplace. Specific issues that were considered when thinking about objectives for default options included the following:

- Selecting a default that is felt to be suitable for the majority of members;
- Meeting the requirements of the type of person who is going to use it;
- Trying to deliver on members’ reasonable outcomes and expectations;
- Establishing the objectives for the members and trying to meet these;
- Finding the most appropriate fund to cater for most risk appetites;
- Considering the default option within the general overall risk tolerances of the members; and
- Selecting a default option that is easily explainable to members.

Recent IOPS work on pension intermediaries⁴⁸ asked IOPS Members what factors pension intermediaries have to consider when assessing whether a product was suitable for an individual. Though different considerations do apply when setting a default fund (notably that the plan sponsor is not giving advice), similar factors, such as age, income etc., also generally apply when considering whether an investment option may be suitable as a default. However, as discussed in IOPS Working Paper No.17 (IOPS 2012 forthcoming), suitability is a less important concept for pensions as with most financial products the concept rests on the notion that if an individual does not understand a product they should not buy it (or be sold it). The problem with pensions is that people may *have* to buy one (i.e. systems are mandatory or quasi mandatory). Other control mechanisms rather than suitability requirements are often used - i.e. pension regulators / supervisors decide what is suitable and only allowing such products on the market. Indeed auto enrolment and the use of default options can be one way around suitability and appropriateness issues.

⁴⁸ See (IOPS 2012 –forthcoming)

As risk-tolerances are notoriously difficult to ascertain (even by individuals themselves, let alone their financial advisors or their employers/ plan sponsors),⁴⁹ demographic factors are usually taken as proxies, as these are the main drivers of risk tolerance. For example, the investigations of Hallahan et al⁵⁰ found that gender, education, income and wealth, age (though in a non-linear fashion), number of dependents and marital status are significantly related to risk-tolerance assessments.⁵¹

An interesting point to draw from the Pimco analysis (Pimco 2012) is that *loss capacity* and *risk tolerance* are not necessarily the same thing. For example, a 25 year old may have the capacity to recover from a 30% loss, but (s)he may not feel or believe that they can bear this much risk (loss aversion being a typical characteristic noted by behavioural economists). This in itself has implications for the way default funds are set up (and is why – as noted earlier - NEST has structured the fund to avoid defaults in early years).

It is generally accepted that funds with participants closer to retirement age should apply more conservative investment approaches as they have less time to recover investment losses.⁵² However, when determining the demographic characteristics of the fund should the average age be used, or the mean/ mode?

Income levels are generally taken as the main dictators of risk tolerance. However, should the consideration be for the ‘lowest common denominator’ (assuming wealthier and therefore more risk-taking members are able to make additional savings via other arrangements)? Alternatively, should the average / mean / mode wage be used as the setting?

In cases when a pension plan serves international members, issues of nationality may also come into play. For example if a plan has a large number of members working (and likely retiring) in a certain country, a default fund which has exposure to assets in the currency of that country may be seen as more appropriate.

Setting the appropriate default obviously becomes more difficult the more heterogeneous the membership of the fund. For example, superannuation funds in Australia originally were generally organised on an occupational basis, serving a group of workers in a particular company, many of whom would consequently have a fairly similar profile and needs. Industry funds, with a consequently broader membership, then developed, and many funds are now fully open, retail funds with an extremely diverse membership, which indeed can change over time (e.g. a new wave of members may join a fund once it has delivered good performance, with the new members having a potentially more ‘aggressive’ investment stance than the more long-standing members). Fitting the appropriate default for such a diverse, or indeed even contradictory, group of members can be challenging.

⁴⁹ Indeed Sholmo Bernatzi, for one, doubts whether it can be established at all due to behavioural economic factors – e.g. http://www.alliancebernstein.com/CmsObjectABD/PDF/Research_WhitePaper/R29284_Implications_013_1_WP.pdf

⁵⁰ See (Hallahan, Faff and McKenzie 2004)

⁵¹ Some argue that risk tolerance is not just difficult but impossible to ascertain. For example, behavioural economist, Sholmo Bernatzi (Bernatzi 2008), doubts whether it can be established at all due to characteristic human behaviour.

⁵² Though this hypothesis is not universally accepted – see references quoted in (Hallahan et al 2004).

3. Investment Objective and Investment Risk Tolerance

In addition to the broad objectives of the default outlined above, the risk tolerance of the fund needs to be taken into consideration – i.e. sponsors /providers need to determine the risks they are willing to take to achieve returns. This is naturally related to the risk tolerance of the membership.

APRA’s guidance on managing investments and investment choice (APRA 2006)⁵³ – which could equally be applied to default funds - addresses the issue of risk tolerance as follows: *“There is a strong correlation between risk and return. In setting the fund’s investment strategy, trustees must determine the acceptable level of possible risks and volatility of returns bearing in mind all the circumstances of the fund...As superannuation investments are long-term and markets often go through cycles, it would be appropriate for trustees to consider, and articulate, the risk tolerance for the occasional negative return in setting an investment strategy. For example, the strategy may be designed so that, on average, negative returns on overall investments are not expected to be incurred more frequently than once in x years.”*

In line with the broad objectives of the default fund outlined above, the investment objective of the fund also needs to be considered. Alternatively to thinking about risk tolerance in terms of portfolio losses, new measurements of risk within DC pension funds are trying to move away from short-term investment returns as it is argued that these are not appropriate measures for a pension fund – the goal of which is to provide a stable retirement income over a long-term time horizon. It is therefore suggested that long-term investment targets should be set, such as replacement rates. The default fund would then be assessed on its likelihood to achieve this target (which can be assessed by stochastic modeling) with the most appropriate risk level given the membership of the fund.⁵⁴

It may also be considered good practice to stress test the default portfolio to see if it meets this risk tolerance boundaries before it is implemented (for example, this is something which APRA are considering for their new Prudential Standards for Superannuation).

4. Liquidity and Cashflow

The default fund will also have to take into consideration the liquidity needs of the pension plan, as equity needs to be maintained between remaining and exiting fund members. This will depend on two main factors. First the age of the members and whether many are close to retirement, which means that the pension fund will have to pay out benefits (or lump sums). Secondly, whether individual choice is allowed within the fund, meaning that members can switch to another provider or switch between investment choices. If this is the case, liquidity to allow for these switches will be required. The amount can be based on historical precedent or by looking at similar funds.

APRA’s guidance on managing investments and investment choice includes (APRA 2006)⁵⁵ the following discussion on diversification – noting that when formulating strategies (which could also apply to choosing a default fund) trustees should consider:

- The desired liquidity;

⁵³ It should be noted that previous APRA guidance will be replaced by Prudential Standards for Superannuation which are currently being drafted – see <http://www.apra.gov.au/Super/Pages/Prudential-Standards-for-Superannuation-April-2012.aspx>

⁵⁴ For a discussion of this issue see IOPS Working Paper No. 12 (IOPS 2010).

⁵⁵ It should be noted that previous APRA guidance will be replaced by Prudential Standards for Superannuation which are currently being drafted – see <http://www.apra.gov.au/Super/Pages/Prudential-Standards-for-Superannuation-April-2012.aspx>

- The required amount of investment in cash or in assets readily convertible to cash without material loss;
- The expected timing, through cashflow projections, of investment income and contributions;
- The age profile of members and forecast inward contribution and outward benefit payments;
- Whether portability and choice of fund are available to members;
- Actual, contingent or expected expenditure, for example fees due under contracts with service providers, taxation, self-insured benefits on member exits etc.; and
- Procedures for managing liquidity, including contingency plan for dealing with a liquidity shortfall.

5. Diversification

Diversification is a particularly important aspect to consider for a default portfolio. Defaults are designed for those least able or willing to engage with their pension fund, and therefore should be designed to provide protection to such members. Diversification is an important way to provide such protection. Members who chose to invest their pension assets in a particularly type of fund (e.g. giving them exposure to emerging markets or commodities etc.) make an active choice to take on that specific risk and therefore to ‘give up’ the protection which diversified funds can offer. With default funds this protection remains vital.

This could include the pension supervisory authority requiring the governing board of the pension fund to justify why it considers an investment strategy to be diversified, while leaving individual boards to select assets as they see fit to meet their risk/return objectives. It could also list various actions which governing boards should undertake to demonstrate they have addressed diversification in both setting and implementing the investment strategy.

How should pension supervisor define suitable levels of diversification? There is no lack of what diversification means as prudential principle. However, there is little material on how to describe or define ‘adequate’ diversification on a principles basis. A general definition would involve the concept of multiple sources of risk and return with no factor dominant within measurements of total return and risk.

The International Association of Insurance Supervisors use a definition along these lines in their Insurance Core Principles - ICP 15 on Investments addressing diversification as follows:

“To mitigate the risk of adverse financial events, it is important that the insurer ensures that its overall investment portfolio is adequately diversified and that its asset and counterparty exposures are kept to prudent levels.

It is useful to draw a distinction between diversification within a risk category and diversification between risk categories. Diversification within a risk category occurs where risks of the same type are pooled (e.g. shares relating to different companies). It is related to the statistical property that the volatility of the average of independent, identically distributed random variables decreases as the number of variables increases. Diversification between risk categories is achieved through pooling different types of risk. With respect to its investment portfolio, the insurer should ensure that it is diversified both within as well as between risk categories taking into account the nature of the liabilities. Diversification between investment risk categories could, for example, be achieved through spreading the investments across

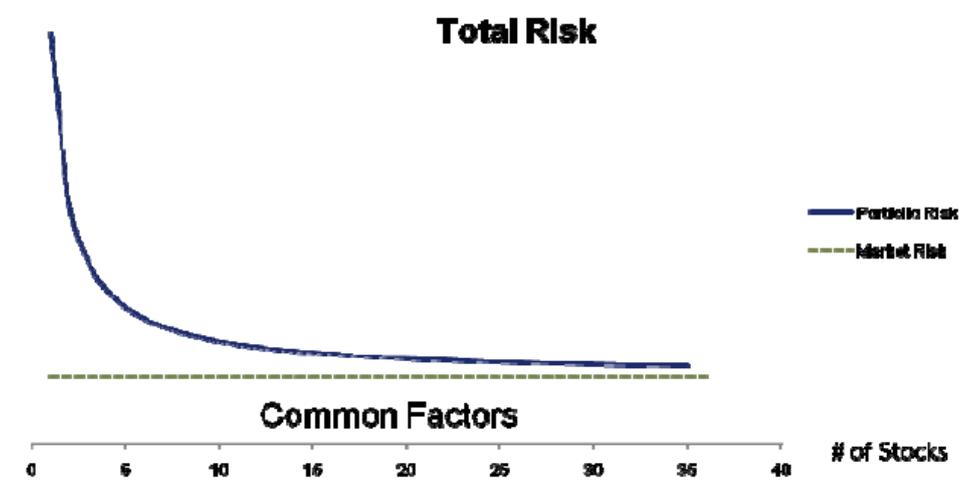
different classes of assets and different markets. To achieve diversification within a risk category, the insurer needs to ensure that with respect to a given type of risk the investments are sufficiently uncorrelated so that – through pooling of individual assets – there is a sufficient degree of diversification of the portfolio as a whole.

To ensure that its investment portfolio is adequately diversified, the insurer should avoid excessive reliance on any specific asset, issuer, counterparty, group, or market and, in general, any excessive concentration or accumulation of risk in the portfolio as a whole. As an example the insurer might consider its asset concentration by type of investment product, by geographical dispersion, or by credit rating.”

Some potential guidance for defining the concept could be drawn from the following:

- **Investment regulation:** in many IOPS member jurisdictions, investment concentration is limited to 5% of the fund or less being held in a single investment vehicle.
- **Tracking errors:** much work has been done on diversification in terms of tracking errors and benchmarking of portfolios. It is generally accepted that around 10-15 stocks provide adequate diversification to broadly replicate an index (with indeed very high numbers of holdings adding little diversification benefit).⁵⁶

Figure 7: Number of Stocks and Impact on Risk



Source: (Bender and Neilson 2010)

- **Stress tests:** One way to define or to measure diversification is through requiring default funds to be stress tested. Another supervisory approach may be to require stress testing of default portfolios to determine whether diversification is adequate.

⁵⁶ It should be noted that this is very much a rule of thumb and this issue is the source of much academic debate. See, for example (Bodie, Kane, and Marcus), which is the standard text for Chartered Financial Analysts (CFA). Moody’s also provide a discussion of the topic on the following: <http://www.efmoody.com/investments/diversification.html>

- **Non-financial factors:** factors which impact on a fund's approach to diversification – for example potential skewing to particular market sectors, such as civic and social infrastructure, by government persuasion or soft compulsion of the pension sector, would also be covered.
- **Own stock:** in IOPS jurisdictions it is also generally unacceptable for a fund to place assets in its own stock or skewed towards its own sector as a default.⁵⁷ The IAIS also consider this issue in ICP 15: *“The insurer should also ensure that its aggregate exposure to related entities is considered and that different types of exposure to the same entity/group are also considered e.g. equity investment in a reinsurer which is also providing its reinsurance cover.”*

Box 4. Definitions of Diversification from IOPS Members

Australia: APRA's guidance on managing investments and investment choice includes (APRA 2006)⁵⁸ the following discussion on diversification: Diversification to manage the risk and variability of returns involves spreading investments over a number of individual assets, asset classes (including property, fixed interest, cash, and equities), countries and/or investment managers. Diversification may also be achieved within each asset class, for example, investing in commercial and residential property, domestic and foreign equities, and long and short-term fixed-interest investments. Non-traditional assets, such as infrastructure, private equity and public-private partnerships, are acceptable in a diversified portfolio, provided the trustee has considered their expected return and diversification effect on the portfolio and can demonstrate appropriate expertise and process to manage such asset classes within a superannuation fund portfolio. The 'label' attached to an asset class such as 'hedge fund', may suggest a homogenous class, but trustees should be aware that the label may obscure the fact that a wide range of different tactics are employed by operators of such funds. A well-formulated investment strategy would not ordinarily provide that all, or a large proportion, of the fund's assets be invested in one asset (such as a single property) or a single asset class....However if, on a reasonable evaluation, investments of a particular fund do not display adequate diversification given the nature of the fund, the onus will be on the trustee to provide a justification, for example to APRA or to members, for these investments, including an outline of how they are viewed as consistent with the investment strategy. Where a trustee, in developing an investment strategy for a fund, determines that some concentration is permitted within the fund, the trustee should conduct due diligence that includes an independent market evaluation based on an arms-length transaction before acquiring the asset, or assets., the management of concentration risk includes assessment of the liquidity and cash flow requirements of the fund, and the extent to which future contributions and investment earnings could be used to reduce that risk. In the case of funds with a small balance, the benefits of diversification may be best achieved by investing in an investment vehicle established to hold a diverse portfolio (for example, a collective investment fund).

Chile: pension assets in Chile must be managed with due consideration to liquidity, concentration, risk and diversification as stipulated by the law0. In the case of Chile, diversification is determined by the use of quantitative investment limits with the objective of protecting the pension funds' investments from a number of factors. On the one hand there are limits that seek to achieve healthy management of the investments. This group includes maximum limits per instrument, group of instruments and issuer, which aim to guarantee either a minimum degree of diversification or differentiation of the different types of fund, according to the multi-fund scheme, and those directed towards limiting investment in securities that are non-liquid, those with no history, with a low risk rating or in firms with high ownership concentration. On the other hand there are investment limits designed to avoid the occurrence of potential conflicts of interest (e.g. limits with related issuers) or the possibility of the pension funds' acquiring a controlling interest in a company.

Czech Republic: prudential rules include minimum compulsory diversification set by law for voluntary and mandatory funds.

Mexico: CONSAR has been publishing on its web page since 2006 an indicator, called diversification index, with

⁵⁷ See (OECD 2010) *Survey of Investment Regulation of Pension Funds* <http://www.oecd.org/dataoecd/9/1/48094890.pdf>

⁵⁸ It should be noted that previous APRA guidance will be replaced by Prudential Standards for Superannuation which are currently being drafted – see <http://www.apra.gov.au/Super/Pages/Prudential-Standards-for-Superannuation-April-2012.aspx>

which the Commission aims to provide to the general public with information regarding the degree of concentration/diversification of the portfolios of each Siefire.⁵⁹ The indicator draws heavily on the Herfindahl-Hirschman index, and it is normalized to take on values from 0 up to 10, being 10 the value for the most diversified investment portfolio and vice versa. See Annex 1 for further details.

6. Cost

Costs and fees are particularly important for DC plans, as they reduce returns, the size of the accumulated balance and therefore the amount of retirement income which can be generated. Given that an annual management charge of 1% of funds under management can reduce accumulated assets by as much as 20%, (over a 40 year period) the impact can be substantial. Cost should therefore be an important consideration in selecting a default fund (particular as this is an issue which pension fund members are not aware of and therefore need 'protecting' from).⁶⁰

That said, it is interesting to note that in the DWP report on default funds in the UK (DWP 2010) most providers felt that costs were important but were not of the highest priority when it came to selecting an appropriate default option. In addition, many providers noted that costs were not a great consideration in the design process as long as they were reasonable. By way of contrast, a recent survey of pension schemes in the UK (undertaken by schemeXpert.com) found that the majority of schemes did believe that default funds should have as low a cost as possible, with an annual management fee of below 50 basis points seen as acceptable (though some respondents accepted that defaults making use of multi-asset funds can legitimately carry higher fees). Supporting these finding was another survey (by Towers Watson) which reports that over 50% of default funds in the UK charge 40 basis points or less (though this may well be higher for amongst smaller funds which may not be fully reflected in the sample).⁶¹

Transparency of costs is also an important issue as there is a big difference (possibly 0.2% vs. 2%) between an asset management charge (AMC) and a total expense ratio (TER), which members of a default fund may not understand.⁶²

The relationship between costs and performance needs to be carefully considered as the lowest cost funds is not necessarily the one offering the best returns and should not therefore automatically be considered as the appropriate default.

7. Market / economic conditions

Market and economic conditions differ across countries and across time. Therefore the default fund needs to be considered in light of such macro factors. For example, for pension funds operating in emerging economies with limited capital markets, government bonds may be the most appropriate default investment. Likewise, where an economy is dealing with high inflation levels, some form of inflation protection may be appropriate for the default funds. Default funds should also have enough flexibility to deal with changes in market conditions.

⁵⁹ A Siefire is a basic fund created as the vehicle to collect and invest the mandatory pension savings of workers with an individual account. Its acronym means Investment funds specialized in retirement savings.

⁶⁰ See IOPS Working Papers No. 15 on comparative information (IOPS 2011) and No. 12 on supervising DC pensions (IOPS 2010)

⁶¹ Survey see Financial Times 27/5/2012 'Most Schemes Favour Lower DC Pension Fees'

⁶² See previous and forthcoming IOPS working papers on costs and fees – www.iopsweb.org

8. Governance

As outlined in the advice provided by the UK authorities (DWP 2011a), the monitoring and adaptation of defaults should be an important part of pension fund governance. In addition, the governance structures and capabilities of the pension fund should also be taken into consideration when setting the default fund. If the knowledge and experience of the trustees / fiduciaries is limited, they should not set a default option which they do not understand and cannot monitor and oversee properly.

Another factor to be considered is whether the actual strategy is implementable. One IOPS member noted that problems have been encountered when funds decide on a strategy but then lack the capabilities or infrastructure to implement it. APRA's guidance on managing investments and investment choice (APRA 2006)⁶³ discusses implementing investment strategies (which could equally apply to default funds) as follows: *"Implementation of the strategy involves further considerations such as the quantum of fund assets, the expertise of the trustees, the availability to the trustee of appropriate advice, administrative capabilities and the costs of managing investments. It may involve direct investment, indirect investment (for example, through collective investments), using investment managers or a combination of these approaches...Particular investment strategies may require processes to be put in place to manage particular exposures, such as foreign exchange exposure, asset valuation and unit pricing risk. (unit pricing controls are of critical importance and trustees should develop robust risk management processes to ensure that unit prices are calculated correctly)."* APRA's guidance also notes conflicts of interest issues as an important implementation consideration.

9. Communication

Default funds should also be simple enough for ordinary plan members to understand. Simplicity and ease of understanding is critical in the case of mandatory, quasi-mandatory or auto-enrolment arrangements, where a large number of members may lack the necessary level of financial literacy or good grasp of the options proposed.

One aspect of an appropriate default would indeed be communication, as, with the majority of members likely to end up in the fund, making sure they understand what is offered is important for helping members decide whether it is appropriate for them and whether they should indeed stick with the default or choose another option which more closely fits their needs.⁶⁴

III. Conclusions / Lessons Learnt

Two key trends within the pension realm are that DC funds spreading around the world and that individuals are increasingly being offered investment choices. However, these are often choices which they do not seem willing or able to make. Consequently, the default funds into which their contributions are placed become more important.

Though much research has been done into the performance of different types of fund (balance vs. life-cycle, different styles of life-cycle etc.), less thought has been given to how to choose an appropriate default fund for a particular pension plan. Byrne et al (2007), for example, conclude that more attention

⁶³ It should be noted that previous APRA guidance will be replaced by Prudential Standards for Superannuation which are currently being drafted – see <http://www.apra.gov.au/Super/Pages/Prudential-Standards-for-Superannuation-April-2012.aspx>

⁶⁴ For further information on information to be provided to DC fund members see IOPS Working Paper No. 5 (Rinaldi and Giacomel 2008)

needs to be paid to the design of default funds to make sure that they better reflect the nature of the plan membership. This would involve tailoring the fund for the requirements of the ‘average’ member, which in turn means that employers have to have an in-depth understanding of the characteristics of their particular employees and require providers to have access to that information.⁶⁵ They also argue that financial analysts and planners have an important role to play in helping pension providers and plan sponsors put appropriate default arrangements in place. Others suggest that having more than one default may be necessary.⁶⁶

Byrne et al (2007) also point out that some of the problems around default funds would diminish if the percentage of members relying on the default fund could be reduced – for example by providing a simpler and better framed and labelled range of investment options to encourage members to make an active choice. Not all problems would be solved however, for example, the timing issue around making active choices would still be an issue.⁶⁷ Indeed, default funds will always to some extent be a ‘middle of the road’ compromise, and members should be encouraged to think about whether the fund really is appropriate for them or whether another option would better suit their needs.

That said – defaults, even though not optimal, will generally be a better option for many individuals who, left to their own devices, will often make a choice which is harmful. For example, the Superintendency in Chile have analysed the 166,000 switches made within the mandatory system between 2008 and 2012. Preliminary results suggest that 50% of affiliates would have obtained a higher result not changing fund and 79% of affiliates would have been better off in the default fund.⁶⁸

The Pensions Institute (Byrne, Harrison and Blake 2007) recommend that regulators should encourage employers, trustees and advisers to take a greater fiduciary role in assisting members by protecting them through ‘safe harbour’ rules that restrict liability, provided due diligence has been performed. This would include selection of the default option and determining the nature of the information and advice that is provided to members. Their report address the fact that many participants also referred to some ‘bad press’ that lifestyle strategies (relating to these being too blunt, not matching members’ needs and being too difficult to communicate to members), though most still felt that life styling was still the most appropriate overall strategy for default funds (i.e. no better alternative has been identified).

⁶⁵ Choi et al (2009) point out that Defaults tend to be optimal when there is a large degree of homogeneity in individual preferences and when decision-makers have limited expertise.

⁶⁶ This is one of the recommendations in consultants Hymans Robertston’s report - *“The first of these is recognising that a one size fits all default fund is inadequate. Multiple default funds, based on different earnings bands and retirement income replacement rates, are a far better solution. Low earners, who will likely receive a higher share of their retirement income from the state, are almost certain to have different requirements and risk attitudes to high earners in the same scheme. To put them in the same default fund just doesn’t make sense if you are trying to reach retirement replacement income targets for each group.”* See ‘Research Shows Lack of Governance at DC Default Funds’ Actuarial Post.

⁶⁷ Hence, for example, work has been done in the UK around ‘teachable’ moments, (e.g. birth of a child, certain key birthdays) when individuals are more open to financial advice, and these points could therefore be used to encourage people to think about whether they are in the right option (default or otherwise) and whether they should switch fund. For further work on financial education and pensions see www.financial-education.org

⁶⁸ Taken from presentation made by Luis Figueroa, Intendent of Regulation, Superintendency of Pensions, Chile, at the OECD IOPS Global Forum on Private Pensions, held in Santiago, Chile on 24th October 2012 – see <http://www.oecd.org/daf/financialmarketsinsuranceandpensions/privatepensions/2012oecdipsglobalforumonprivatepensions.htm>

This paper lays out some of the basic factors which could be considered when assessing whether a default is appropriate for a particular pension plan – from the nature of the pension system, to the demographic characteristic of the plan members, to the plan’s liquidity needs. The IOPS encourages its Members to investigate whether the defaults offered by pension plans in their jurisdiction are appropriate, and to provide due guidance and assistance in their design where appropriate.

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ANNEX 1: DIVERSIFICATION INDEX MEXICO

Technical note on the Computing Methodology

CONSAR has been publishing on its web page since 2006 an indicator, called diversification index, with which the Commission aims to provide to the general public with information regarding the degree of concentration/diversification of the portfolios of each Siefore⁶⁹. The indicator draws heavily on the Herfindahl-Hirschman index, and it is normalized to take on values from 0 up to 10, being 10 the value for the most diversified investment portfolio and viceversa.

The Diversification Index (DI) is estimated for each Basic Fund (Siefore), using information of the investment portfolio at the end of the month. The inputs for the DI computation are: a) the number of different asset class (“buckets”) in which the portfolio has been allocated; and b) the proportion of the total portfolio that is allocated into each bucket (the weight of the bucket).

The DI is based in the Herfindahl-Hirschman Index (HHI) methodology with some little adjustments. Even though the indicator does not measure the changing correlations among different assets classes, and hence does not necessarily measure dynamically the financial diversification, the number of asset classes or “buckets” that are considered for the computation of the index was based on the analysis of all securities allowed in the investment regime under the lens of two variables: the historic correlations and common risk factors (duration, FX, fixed vs. variable coupons, etc.) and the expected credit worthiness under possible stressed scenarios. For example, bonds and equity are two asset classes that traditionally have shown the lowest correlations among the securities authorized in the investment regime, and hence one bucket was created for each. Also debt instruments issued by private issuers are mapped into another bucket, even though they might have the same cash flow structure that a government security. This is because under stressed market conditions the spread with their sovereign benchmark does not remain constant, and neither does their credit worthiness.

The defined buckets are:

- a. Domestic government debt issued in domestic currency
- b. Domestic government debt issued in foreign currency
- c. Domestic corporate debt
- d. Domestic bank debt
- e. Domestic semi-public sector debt
- f. Domestic stock
- g. Foreign debt
- h. Foreign stock

The first step consists of mapping each security in the investment portfolio into one of the different buckets. For this purpose the number of different buckets used by the Siefore is counted (N). Next, we compute the proportion (α_n) that each different bucket represents from the whole portfolio (all of these computations use market values), and then the HHI is calculated for each fund by aggregating the square of these proportions. The following formula shows this:

⁶⁹ A Siefore is a basic fund created as the vehicle to collect and invest the mandatory pension savings of workers with an individual account. Its acronym means Investment funds specialized in retirement savings.

$$HHI = \sum_{n=1}^N \alpha_n^2$$

Were:

N is the number of different buckets in which the portfolio is allocated.

and α_n is the proportion that the nth bucket represents from the whole portfolio market value.

The DI is computed after normalizing the values as follow:

$$DI = 10 * (1 - [HHI]^{N/3})$$

As the HHI values runs from 0 to 1, the DI takes values from 0 to 10. The exponent is divided by 3 in order to encourage the investment in more than three different buckets. Below is an example for Sifore 1.

DI for Basic Fund 1 (Sifore Básica 1)
(Value of the DI and percentage of the total portfolio)

AFORE	Diversification Index	Domestic issuers						Foreign issuers	
		Gubernamental		No Gubernamental			Equity	Debt	Equity
		Pesos	FX	Government own firms	Corporate issuers	Financials			
Metlife	9.7498	55.2	0.6	8.5	21.6	3.4	1.4	7.1	2.2
XXI-Banorte	9.7256	58.4	8.5	10.7	10.2	4.6	0.9	4.8	1.9
Bancomer	9.4302	65.3	1.0	9.5	13.7	1.9	1.7	5.0	2.0
Profuturo	9.3526	67.3	1.1	7.2	7.2	4.8	1.7	8.8	2.0
PensionISSSTE	9.3084	67.0	0.0	14.0	11.5	2.3	2.0	0.9	2.5
SURA	9.2590	68.4	0.2	8.3	11.0	5.1	0.8	4.0	2.2
Principal	8.8226	68.1	0.5	7.7	13.2	3.0	0.2	3.9	3.4
Invercap	7.3599	79.5	0.0	3.9	6.8	1.6	2.3	3.9	2.1
Banamex	6.8987	76.7	0.0	4.0	11.5	1.7	2.3	2.7	1.0
Inbursa	5.5716	76.8	0.0	7.9	13.3	0.8	0.0	1.2	0.0
Afirme	4.9033	80.7	0.0	11.2	5.3	0.4	0.0	2.3	0.0
Coppel	3.7424	83.1	0.0	7.1	8.4	1.4	0.0	0.0	0.0
Azteca	3.2948	88.4	0.0	1.8	0.0	0.0	2.5	7.1	0.3
Total	8.6557	68.3	1.3	9.1	11.5	2.9	1.5	3.6	1.9

Figures were computed with information at the May 30, 2012

The larger the value of the index the more diversified is the portfolio

CONSAR is analysing some modification to the methodology in order to include some new asset classes that were introduced into the investment regime during the last year.