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# Broken Promises: The Coming Global Pension Crisis



**RWC Equity Income**

Investor letter Q3 2017

## The problems with pensions: what has caused them and what happens next?

In this edition of our quarterly letter Ian Lance looks at one of today's largest and yet least discussed issues: the extent to which different types of pensions across the globe are underfunded.

After identifying the factors that led to this situation, he examines the potential implications of trying to deal with the shortfall and concludes they could have a very deflationary impact.



### Portfolio Managers

Ian Lance, Nick Purves and John Teahan have managed funds together for over 10 years. Their loyalty and experience is leading within the industry and has awarded them a number of accolades. Ian, Nick and John joined RWC Partners in 2010 to establish the Equity Income team and now manage c. £3.5 billion for their clients.

The team's approach fully integrates conviction led, value-based stock selection with a distinctive and technical approach to stabilising assets, with the aim of delivering investment solutions that both grow investors' assets and protect the purchasing power of capital and income.



## Broken Promises: The Coming Global Pension Crisis

In most countries around the world, advances in healthcare are allowing people to live longer, which is a development to be celebrated. A natural consequence of this, however, is that people will spend longer in retirement and the levels of provision required to look after them will need to be increased. This objective has been made harder by the actions of central banks who have deliberately reduced the prospective return on the types of lower risk assets favoured by pension funds. Rather than confront these issues, however, society (politicians in particular) appear to be ignoring them in the hope that the problem will either go away of its own accord or erupt on someone else's watch (can you recall any discussion of this issue in the recent UK election?). Unless urgent action is taken, there is a possibility we are sleep walking towards a global pensions crisis which will have significant financial, social and political implications.

### What type of pensions are we talking about?

Before starting this discussion, it may help to remind ourselves of the various different types of pensions that are available. Firstly, in the UK for instance, there is the basic state pension to which those who have paid national insurance are entitled. Then there are public employee pensions which are available to those who have worked for the government or a local authority such as teachers and policeman. These are typically defined benefit schemes in which the employee is guaranteed a certain amount at retirement and which usually grows in line with inflation. The costs and risks of providing it reside with the pension fund and ultimately therefore the state.

Next we have company pension plans which historically have been defined benefit but because of the strain that these put on many corporate balance sheets, many are now closed and defined contribution plans offered instead. In this instance a certain amount is paid into a fund (usually by both the company and the employee) and the risk sits with the employee.

Finally there are private pensions where the individual has set up a plan themselves that they pay into and therefore they bear all the cost and risk.

### How big a problem is the underfunding of pensions?

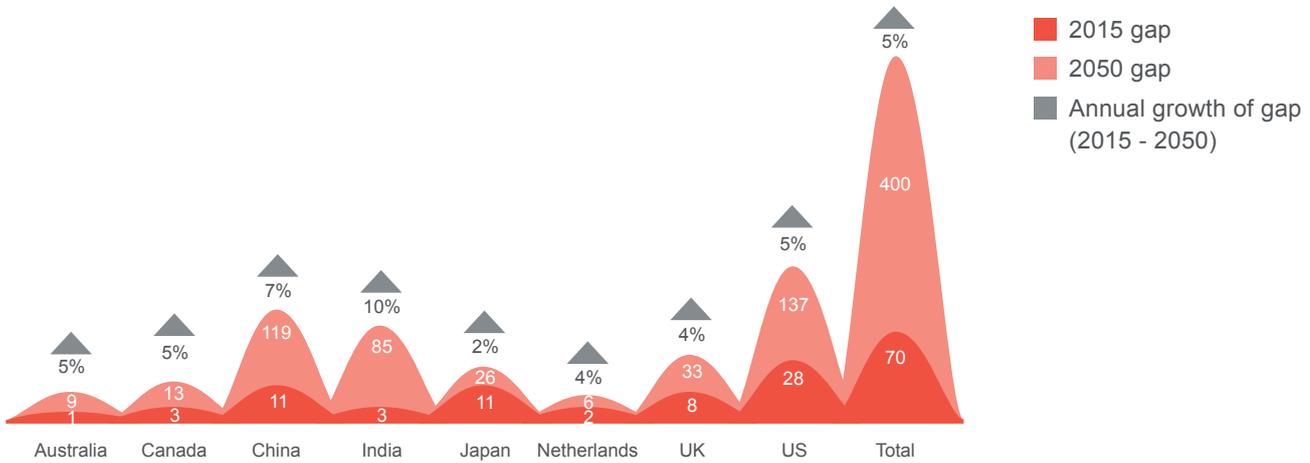
According to analysts at Citigroup<sup>1</sup>, the total value of unfunded or underfunded government pension liabilities for twenty OECD countries is a staggering \$78 trillion. Citi estimate that for the twenty OECD countries, the average level of unfunded government pension liabilities was 190% of GDP, which compares with average government debt in the same cohort of countries of 109%.

In another study by the World Economic Forum<sup>2</sup> the authors looked at publicly available data on the level of funding of government and public employee systems, the funding of employer-based systems and the levels of individual pension savings across eight countries. They then compared this to expectations of average annual retirement income needs and life expectancies. The results of this study are shown in Figure 1; the retirement savings gap was estimated to be \$70 trillion in 2015 and is forecast to grow by 5% each year reaching a staggering \$400 trillion in 2050.

1 The Coming Pensions Crisis: Citi GPS, March 2016

2 We'll Live to 100 – how can we afford it? World Economic Forum May 2017

**FIGURE 1:**  
SIZE OF THE RETIREMENT SAVINGS GAP (USD TRILLIONS)

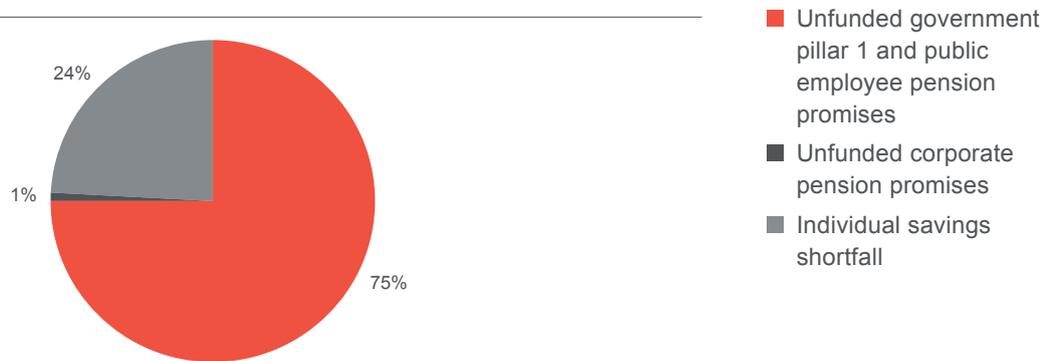


Source: Mercer analysis

It is also worth noting that of the \$70 trillion gap for 2015, over three quarters of that was associated with unfunded government-provided pillar one pensions and pensions promised to public sector employees.

Unfunded corporate pension promises only represent 1% of the total whilst a shortfall in individual savings makes up 24% (see Figure 2).

**FIGURE 2:**  
BREAKDOWN OF 2015 RETIREMENT SAVINGS GAP (\$70 TRILLION)



Source: Mercer analysis; more details can be found in the Appendix

Again it helps to put these figures in perspective by taking an example. The US retirement savings gap is growing by \$3 trillion each year which is five times the annual US defence budget and 15% of current

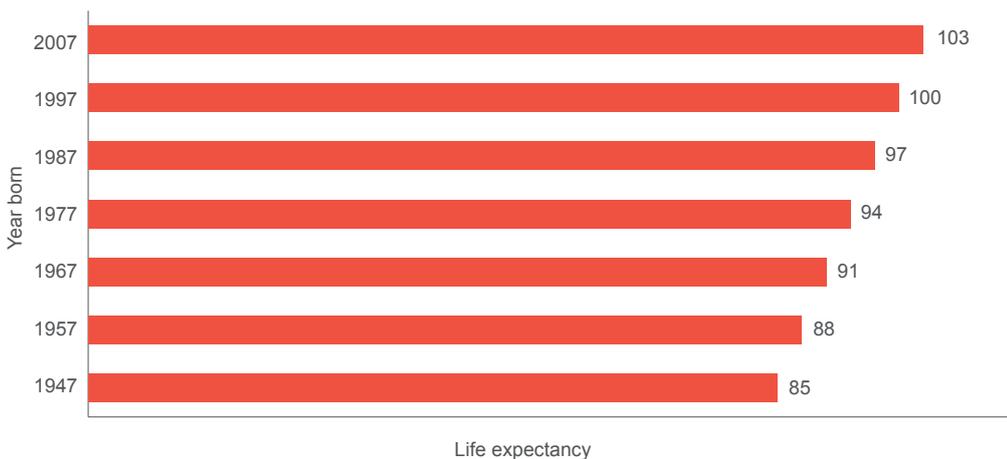
US government debt of \$20 trillion. The latter figure is less than the current US retirement savings gap of \$28 trillion (projected to grow to \$137 trillion by 2050).

## What factors have caused the looming pensions crisis?

### 1. Increasing life expectancy

Due to improvements in diet and healthcare, life expectancy has been increasing by one year every five years (see Figure 3) which means that the average baby born in 2017 can expect to live to 100 years.

**FIGURE 3:**  
INCREASING LIFE EXPECTANCIES, UK



Source: www.100yearlife.com

Pension funds were designed to provide for people who might retire at 65 and die in their eighties but the reality today is that people who retire at 65 can now expect to live to 90 and hence require 25 years

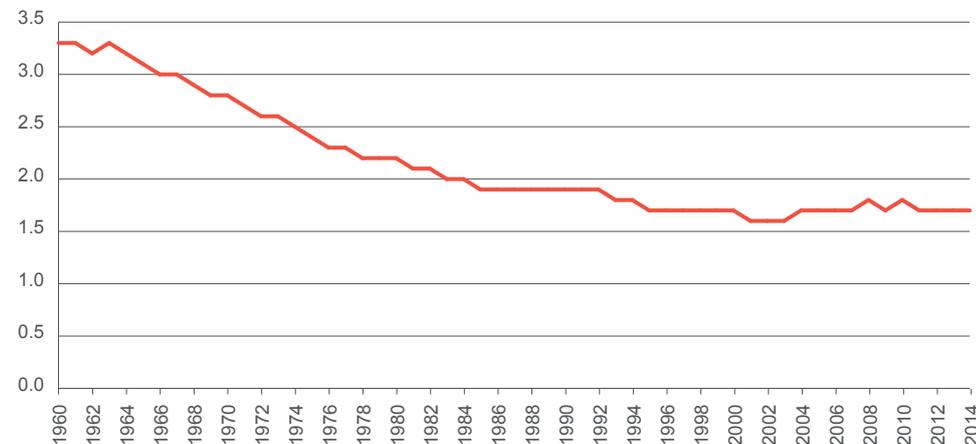
of funding. This figure will increase in the future as longevity improves and people will actually spend nearly as much time in retirement as they will in work.

### 2. The birth rate is falling

Two thirds of the world's countries now have fertility rates near or below replacement rates.<sup>3</sup> Such a decrease in fertility rates may be due to changes in

the labour market where more women are entering the workforce and due to the introduction of modern contraception.

**FIGURE 4:**  
FERTILITY RATES: TOTAL CHILDREN PER WOMAN IN OECD



3 Economic and Social Implications of Aging Societies by S Harper 2014

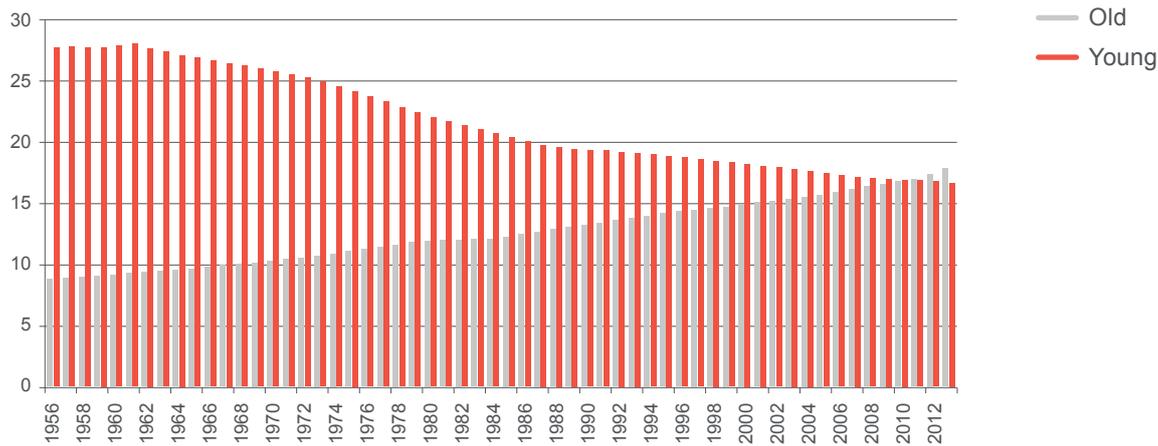
Without any changes to the retirement age or the birth rate, the global dependency ratio (the ratio of those in the workforce versus those in retirement) will fall

from 8:1 today to 4:1 by 2050. The way this will impact major countries is shown in Table 1.

**TABLE 1:**  
IMPACT OF CHANGING GLOBAL DEPENDENCY RATIO

	% of population 65+ in 2015	% of population 65+ in 2050
Globally	8%	15%
China	12%	24%
Europe	17%	26%
Japan	26%	33%

**FIGURE 5:**  
G7 COUNTRIES: OVER 65 AND UNDER 15 AS % OF TOTAL  
Old (>65) vs Young (<15) as % of population in G7 countries



Source: OECD, 1956-2012

### 3. Baby boomers heading towards retirement

There are currently 75.4 million baby boomers in the US (about 26% of the population) that have reached or will reach retirement age between 2011 and 2030, and many of them are public sector employees. In a 2015 study of public sector organisations nearly half

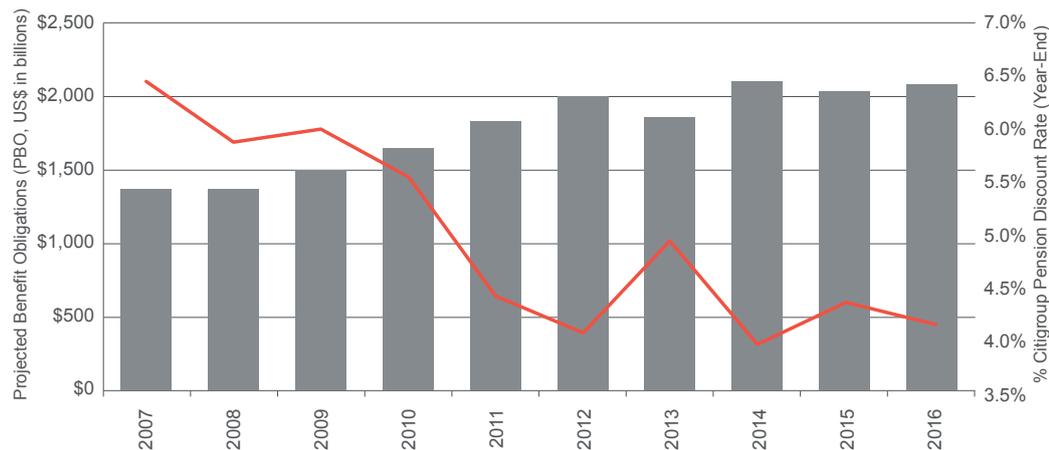
said they could lose 20% or more of their employees to retirement within the next five years. Local governments are particularly vulnerable with 37% of local government employees at least 50 years of age in 2015.

#### 4. Low interest rates

The liabilities on pension funds are the net present value of future obligation discounted back to today using the AA corporate bond yield. As these

yields have crashed to all-time lows (following the extraordinary intervention in the market by central banks), so the liabilities have increased dramatically.

**FIGURE 6:**  
S&P 500 – PBO & PENSION DISCOUNT RATE



Source: Factset, HOLT, 2007 - 2016

#### 5. Low returns on financial assets

Investment returns in recent years have been significantly lower than long run averages as seen in

Table 2. This has meant that the assets in pension funds have not increased at the same rate as liabilities.

**TABLE 2:**  
COMPOUND ANNUAL RETURNS

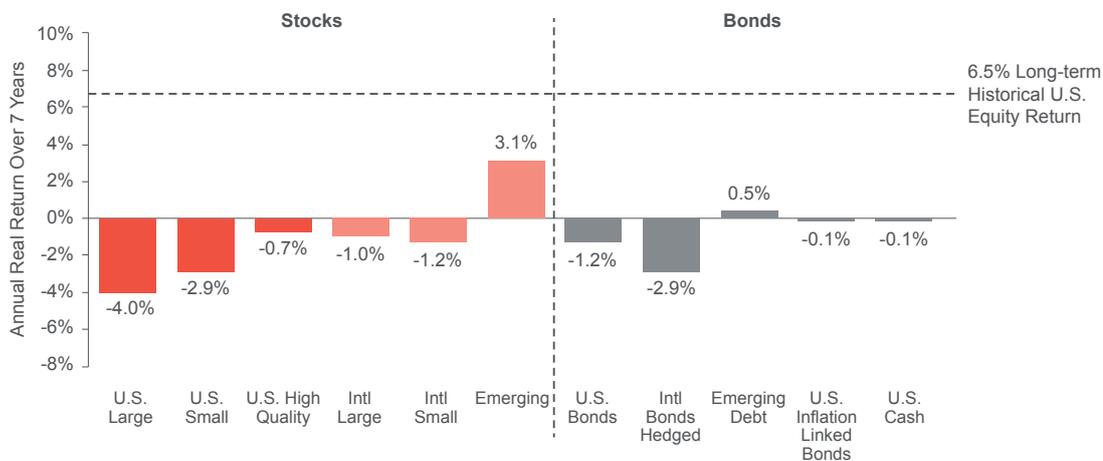
	1978-2017	2000-2017
US 10 year Treasury Bonds (coupons reinvested)	6.25%	3.7%
US 30 year Treasury Bonds (coupons reinvested)	6.65%	4.07%
S&P 500 Index (dividends reinvested)	9.05%	4.45%

Source: Goldmoney Research

The prospective returns are also very low as a result of central bank intervention in financial assets. In particular, the rate of return available on the types of low risk assets favoured by pension funds are less than the likely rate of inflation, which reduces the ability of the fund to make a real return on its existing assets and hence leads to the need for further contributions.

It is worth adding, however, that the return assumptions used by many corporate and public employee pensions are still way too high as they reflect long-run average returns on assets rather than the likely returns implied by today's elevated valuations. Looking at the chart of forecast returns from GMO in Figure 7, there is no combination of assets which will provide the 6-7% required returns that most pension funds need.

**FIGURE 7:**  
GMO 7-YEAR ASSET CLASS REAL RETURN FORECASTS



Source: GMO, May 2017

## 6. Low savings rates

People are simply not saving enough to fund their retirement. It is estimated that in order to fund a reasonable level of income in retirement, 10-15% of an average annual salary needs to be saved. The current figure is closer to 5% in most countries. This is particularly relevant in a defined contribution world.

According to a recent YouGov survey, almost half of the UK's millennials have no pension provision whatsoever with 44% of 18-34 year olds saying they are not saving anything at all compared with a fifth of 35-54 year olds.<sup>4</sup>

4 CityAM, 21 June 2017

## What happens next?

Healthy retirement systems contribute positively towards creating a stable and prosperous economy because if consumers have confidence that their promised benefits will be met, they are more likely to

consume and spend through both their working and retired years. Once this confidence is lost, people will make changes to their life styles which can negatively impact the economy.

### 1. Many people in retirement are going to have to cut back their expenditure to ensure their pension lasts

Whilst this applies less to those who have already retired on index-linked defined benefit pensions, these people will become a smaller percentage of retirees in the future. Those relying on DC pensions or their own savings are likely to struggle, as the following example shows.

The baby boomers in the US are currently retiring and have an average \$1.1m net worth with which to support themselves. We know, however, that these averages are heavily skewed by the wealth concentration of the wealthiest 1% and if we look at the median retiree, the picture does not look so good. They have \$180,000 net worth on which to survive,

which includes all their assets including their house. Within this is \$45,000 of directly held equities and \$15,000 of equities within their pension scheme. We can make a couple of observations from these figures, firstly, the retiring baby boomers are likely to be net sellers of equities, and secondly they are going to have to live a pretty frugal existence if they expect to live for 25-30 years on \$180,000 of savings. A survey by the Insured Retirement Institute last year noted that only 24% of baby boomers were confident they would have enough money to last their lifetimes, down from 37% in 2011, despite a booming stock market. This is likely to be a deflationary force on the economy.

### 2. Reduced levels of retirement benefits

Where the plan sponsor is unable to make up the shortfall, they will have to reduce the benefits paid to current retirees. This is already starting to happen in the US where some schemes are literally running out of money to pay their members.

“Without a taxpayer bailout, Chicago’s police pension fund won’t have enough money to pay benefits to

retirees in 2021, according to a projection by Local Government Information Services (LGIS), which publishes Chicago City Wire. At the end of 2020, LGIS estimates that the Policemen’s Annuity and Benefit Fund of Chicago will have less than \$150 million in assets to pay \$928 million promised to 14,133 retirees the following year.”<sup>5</sup>

5 MishTalk~ Mish's Global Economic Trend Analysis 23rd June

### 3. Those working will have to pay more into their pension

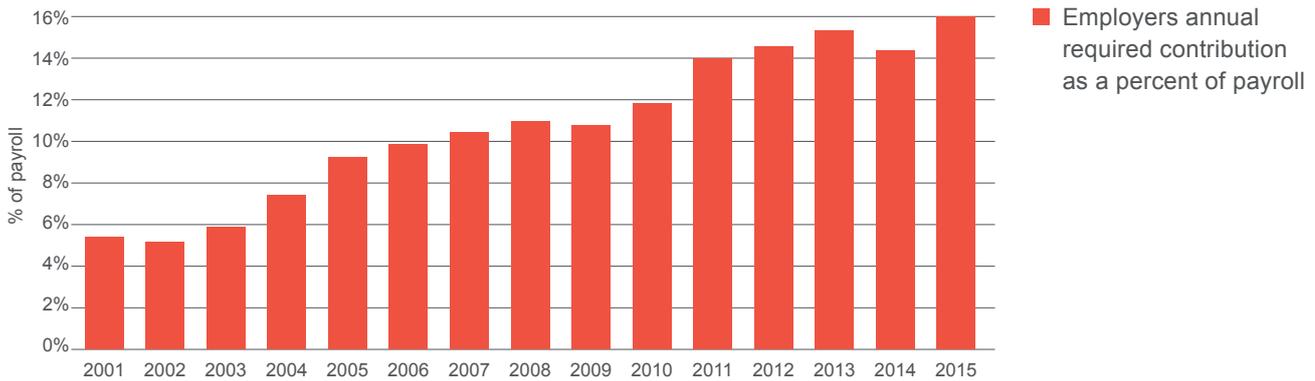
Contributions into pensions from both companies and employees are likely to have to increase to make up the shortfalls as Figure 8 shows. Again, this money

will need to be diverted from other sources with likely implications on expenditure.

**FIGURE 8:**

#### MOUNTING BILLS

Public employees are seeing a bigger chunk of their pay going toward pension payments



Source: Public Plans Database, 2001 - 2015

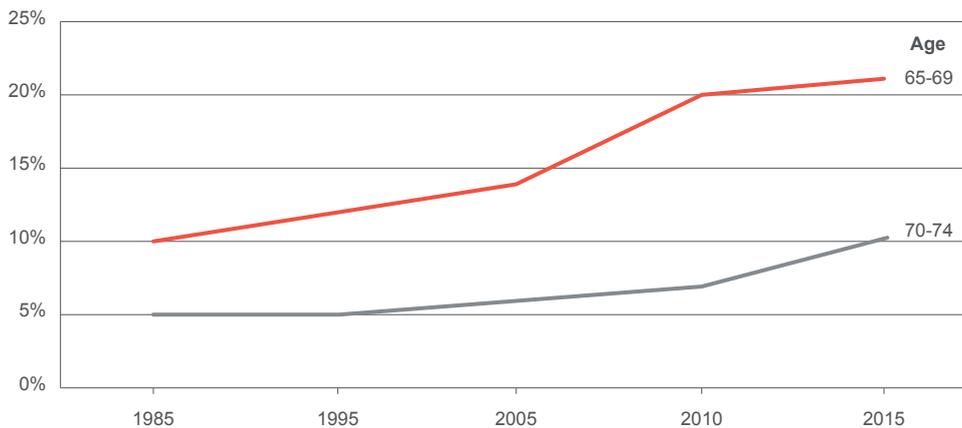
### 4. People will have to work longer

Many people are going to have to accept that they do not have sufficient funds to retire at 65 and will simply have to go on working past their expected retirement date. This has already started to happen as Figure 9

shows, and at some stage will have implications for those entering the workforce who may find it harder to get a job.

**FIGURE 9:**

#### PERCENTAGE OF PEOPLE OVER 65 STILL WORKING



Source: Department for Work and Pensions UK, 1985-2015

## 5. Public sector bodies will have to reduce benefits, increase taxes or make cutbacks elsewhere

State and local pension funds in the US are now estimated to be underfunded by \$1.9 trillion due to a combination of extravagant promises, poor investment results and a failure to contribute enough cash to the plans, but even this figure assumes they will make significantly better returns in the future than they have in the recent past. A report by Joshua D. Rauh<sup>6</sup> suggests that the liability-weighted average expected return used by systems in 2015 was 7.6%, which seems very optimistic. Using a discount rate closer to the government bond yield suggests that US public pension funds are underfunded to the tune of \$3.85 trillion and that this is a near term issue for a number of cities. Big pension deficits have already contributed to the bankruptcy of several US cities including Detroit. Some states are worse off than others with Illinois, New York, New Jersey, Ohio, Pennsylvania, Texas all in poor condition when it comes to unfunded pension liabilities. However, “the granddaddy of them all is California”, says Lawrence McQuillan author of California Dreaming; Lessons on How to Resolve America’s Public Pensions Crisis. “We have anywhere up to \$750 billion unfunded public pension debt at the state and local government level. ... It’s a massive problem here.”

Mr Rauh’s report also highlights that contributions into the funds are inadequate.

“Government contributions to pension systems amounted to 4.9% of the total own revenues of state and local governments in fiscal year 2015, and the vast majority of state and local governments claimed balanced budgets. However, the true annual ex ante, accrual-basis cost of keeping pension liabilities from rising is 12.7% of state and local revenues, or 18.2% of tax revenue. Even contributions of this magnitude would not begin to pay down the trillions of dollars of unfunded legacy liabilities.”

The truly scary point about US public sector pensions is that they are in this condition after strong returns from all asset classes, which does raise the question of: ‘what would they look like post a correction?’ Some scenario analysis from Moody’s was featured in a recent edition of Pensions and Investments.

In its report, Moody’s ran a sample of 56 plans with \$778 billion in aggregate reported net pension liabilities through three different investment return scenarios. Due to reporting lags, most 2019 pension results appear in governments’ 2020 financial reporting, Moody’s noted. The plans had \$1.977 trillion in assets.

Under the first scenario, with a cumulative investment return of 25% for 2017-2019, aggregate net pension liabilities for the 56 plans fell by just 1%. Under the second scenario with a cumulative investment return of 19% for 2017-2019, net pension liabilities rose by 15%. Under the third scenario with a 7.2% return in 2017, -5% return in 2018 and zero return in 2019, net pension liabilities rose by 59%. In 2016, the 56 plans returned roughly 1% on average and would have needed collective returns of 10.7% to prevent reported net pension liabilities from growing.

The future for US public service pensions does not look good, as Rob Arnott of Research Affiliates commented recently:

“**Bottom line ... US public service pensions are toast. One of three constituencies gets nailed.**

1. **The taxpayer (keeping in mind that the affluent are mobile!);**
2. **The current and/or future pensioners (private-sector pensions are now far less generous than public pensions ... there’s an inequity here!); or**
3. **The public services that are on offer to our citizenry, net of sunk costs from servicing past generations.**

**Most likely, it’ll be a blend of the three.”**

ROB ARNOTT, RESEARCH AFFILIATES

<sup>6</sup> Hidden Debt, Hidden Deficits: How pension promises are consuming state and local budgets

## Conclusion

'Unfortunately, longevity has been increasing, but nations, employers, local governments and individuals have not put aside enough to meet their commitments and a crisis is coming. Indeed, it is arriving now. Social security systems, national pension plans, private sector pensions and individual retirement accounts are unfunded or underfunded across the globe. Government services, corporate profits or retirement benefits will have to be reduced to make any part of the system work. This poses an enormous challenge to employers, employees and policymakers all over the world. In many ways, the math is simple. The solutions are not.'<sup>7</sup>

The financial issue is daunting but straightforward; money to plug these underfunded pensions will have to be made available from other sources and

the numbers are so large that this is likely to have a deflationary impact. What is more difficult to forecast are the social and political implications of the public sector cutting services or increasing taxes in an environment where many people appear to be tired of austerity. Those who have spent a lifetime working in the public sector will feel they are entitled to the full pension that they were promised and will rightly be incensed if this promise is broken. On the other hand, younger generations are likely to resent being forced to pay for the retirement of a generation that they feel have already had a much easier life than they do. It is easy to see the inter-generational conflict which appeared during the referendum and the election getting worse in the future.

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*Can you afford to Reach 100?* by John Mauldin 3 June 2017

*Pensions – Stuck in a Hole* – Credit Suisse HOLT 17 May 2017

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<sup>7</sup> The Coming Pensions Crisis: Citi GPS, March 2016

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