A look at how different countries deal with discount rates in pension plans

Michael McKiernan | October 4, 2016

For such a small number, the discount rate used by a pension plan can have a very significant impact on its funded status. Actuaries use the rate to determine the present value of the plan's future liabilities in order to check whether the fund has enough assets to meet its obligations as they arise. The smaller the rate, the higher the liability, and tiny adjustments up or down can mean the difference between a strong financial outlook and a shaky one.

In Canada, recent adjustments have all been in the downward direction, thanks to plunging yields on Canadian government bonds, the most important factor that goes into determining the discount rate of most pension plans here. In July, the Canadian 10-year bond yield sank below one per cent for a period, a development that worries Hugh Wright, chair of the board at the Association of Canadian Pension Management.

"Rates are at an all-time low, which means that liabilities are at an all-time high. The funding challenges are quite extraordinary for pension plans, unless something happens to immunize them from the effect of interest rates," says Wright, who's also chief executive officer at Halifax-based law firm McInnes Cooper.

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A 2011 study by the Organisation for Economic Co-operation and Development, which set out to compare the funding levels of public sector pension plans in various member states, shows how fine the margins can be. In an attempt to cut through the various rules used in each country, the study imposed a synchronized discount rate of 4.5 per cent on all of the plans surveyed.

For the Ontario Teachers' Pension Plan, one of the Canadian funds surveyed in the study, the common rate was just a fraction above the four per cent figure it used at the time, yet it ballooned its solvency position to a towering 107.5 per cent from the reported level of 90.5 per cent.

In the case of Canada's public service pension plan, the 4.5 per cent comparison discount rate was below the six per cent it used that year, turning a solid 104.9 per cent solvency ratio into a much shakier 80.8 per cent.

Canadian pensions benefited from interest-rate sensitivity during the last solvency crisis to hit here between 2011 and 2013, when discount rates reflected a spike in 10-year bond yields that wiped out deficits and propelled funding ratios into — or at least closer towards — the black. But the worldwide economic outlook suggests Canadian pension plans could be waiting a long time for a similar quick fix.

Discount rates abroad

Wright and his members can only dream of the discount rates used by public funds in the United States, where they've been consistently between seven and nine per cent for at least the last two decades, regardless of the prevailing interest rate. Public funds there are able to boost their rate by basing it on anticipated returns from their investment portfolios. However, the OECD report revealed the downside of such an optimistic view, concluding that the average funding ratio for state and municipal plans south of the border stood at just 61 per cent, based on the hypothetical 4.5 per cent discount rate.

Canadian discount rates have edged closer to the level used in the Netherlands, where the country's central bank has responsibility for setting the rate used by all pension plans. However, the current low rate in that country of 3.3 per cent has exacerbated a crisis, prompting it to reconsider its own vaunted pension system altogether.

Wright says Canada could be heading in the same direction, unless it finds a way to decouple discount rates from interest rates, even if that means injecting a greater element of risk into the valuation of pension obligations.

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"The best long-term assurance for plan members that their pension promises will be met is a thriving sponsor. If you end up imposing funding demands that impair the ability to invest in the medium and longer term, then that's going to ultimately impair the success of the business," says Wright.

Over the course of several decades, the Netherlands' pension system has become synonymous with quality. It's one of only two countries to achieve an A grade in the annual Melbourne Mercer global pension index, and the Dutch model has inspired pension reforms around the world in places as varied as New Brunswick, Britain and Wisconsin.

But inside the country, it's a different story altogether, according to Henriette de Lange, a pensions lawyer based near Utrecht in central Netherlands who has sat on the boards of several pension funds.

"Everyone outside is constantly telling us how great our system is, but the reputation of the pension system right now in the Netherlands is really bad. People have completely lost faith. Its image is even worse than the banks," says de Lange.

The country's notoriously tough solvency funding requirements, seen by many as key to the system's strength, are becoming more and more difficult to meet. In July of last year, when the Dutch central bank cut its ultimate forward rate — the number used as the discount rate by the country's pension funds — to 3.3 per cent from 4.2 per cent, Pensioenfederatie, the Federation of Dutch Pension Funds, estimated the move would add five percentage points to the average contribution rates of its members. At the same time, Dutch central bank figures show the average funding ratio of Dutch pension funds had fallen to about 102 per cent earlier this year from about 107 per cent at the time of the cut.

DISCOUNT RATES USED BY SELECT CANADIAN PUBLIC SECTOR PENSION PLANS

Ontario Teachers' Pension Plan: **4.8%** (noted as the plan's preliminary rate as of Jan. 1, 2016)

Alberta Local Authorities Pension Plan: **5.25%** (for 2016)

Colleges of Applied Arts and Technology Pension Plan: **5.7%** (for 2016)

Healthcare Employees' Pension Plan (Manitoba): **6.25%** (for 2015)

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"Right now, our liabilities are sky high," says Gerard Riemen, the federation's managing director, from his office in the Netherlands' administrative capital, The Hague. "This low interest rate environment is slowly killing our pension system."

The Dutch central bank's rules require all pension funds to meet a funding ratio of at least 105 per cent, and up to as much as 140 per cent, depending on the riskiness of their investment portfolios. Each one gets a recovery period of several years to get back to the required level, but if a plan can't convince the central bank it'll make up the shortfall in time, the Dutch shared-risk model will force it to cut benefits to existing pensioners.

Louis Kuypers, a lawyer with the central bank, says the cut to the ultimate forward rate has led to a spike in work at his department around funds that fall below the 105 per cent threshold.

"There are already five pension firms that have to decrease their pension promise at the end of the year and there will be more to come," he says.

Despite pressure from pension sponsors and members at both ends of the age scale, Kuypers says there's no appetite within the government to move away from the ultimate forward rate, a number currently set by the central bank with what he suggests is a view of using "realistic" liability valuations that reflect actual market conditions.

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"There is a feeling that market valuation is a very important pillar of the way we look at pensions and that you should not interfere with that for short-term relief," says Kuypers.

But something has to give, according to Riemen. "We are really on the edge right now," he says.

In the end, the entire Dutch defined benefit pension system looks set to become a casualty of the funding crisis. Two years ago, Jetta Klijnsma, the Dutch state secretary for social affairs and employment, kicked off a nationwide debate seeking solutions to the pension problem. The issue appears set to feature heavily in a general election scheduled for early 2017, and by the time the dust settles, most observers expect a new model for Dutch pension plans with a defined contribution underpinning.

"You only get these discussions about calculating liabilities in a defined benefit scheme," says Riemen.

"In a defined contribution scheme, it doesn't matter, because the liability only arises in the payout phase. We don't really like defined contribution in the Netherlands, so what is in study now is somewhere in between. The starting point will be defined contribution, but with some of the characteristics of defined benefit."

Nova Scotia Public Service Superannuation Plan: **6.15%** (for 2015-16)

DISCOUNT RATES USED BY SELECT CROWN CORPORATIONS

Canadian Broadcasting Corp.: **5.8%** (for 2015)

Canada Post Corp.: **5.8%** (for 2015)

DISCOUNT RATES USED BY SELECT CANADIAN PRIVATE SECTOR PENSION PLANS

Royal Bank of Canada: **4.3%** (for 2015)

Telus Corp.: **3.9%** (for 2015); **4%** (for 2016)

CURRENT DISCOUNT RATES USED BY SELECT U.S. PENSION PLANS

California State Teachers' Retirement System: **7.5%**

New York State and Local Retirement System: **7%**

Sources: Pension plans' annual reports and other publicly available information, as confirmed by the funds themselves

Randy Bauslaugh, the Toronto-based leader of the national pensions, benefits and executive compensation practice at law firm McCarthy Tétrault LLP, doesn't favour the centrally mandated approach to discount rates taken in the Netherlands to date.

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"It wouldn't work for everyone, and we already have enough difficulty convincing employers that DB plans are a good idea," he says. "If you're prescribing too much, you turn more people away. If a larger fund can outperform smaller ones by actively managing its assets, why should it have a prescribed rate imposed on it?"

At the other end of the spectrum, a lack of regulation in the United States gives the sponsors of public pension plans a great deal of latitude when it comes to setting discount rates, with some states leaving the job up to local legislators. Truong Bui, a policy analyst at the Reason Foundation, a thinktank based in Los Angeles, says because public sponsors are able to set rates based on their own expectations for investment returns, they end up with much higher discount rates on average than U.S. private sector plans.

"Rate setting in the private sector is tightly regulated," he says. "Private plans must adopt the bond yield curve specifically prescribed by the secretary of the treasury."

Rob Bauer, a finance professor at Maastricht University in the Netherlands who has studied pension systems around the world, says politicians on the boards of U.S. public pensions have little incentive to support setting low discount rates, since highlighting gaping deficits that taxpayers will ultimately have to cover doesn't typically fit with their relatively short-term interests in winning the next election.

As interest rates have fallen, U.S. public pension plans have had to allocate funds to riskier investments in order to match the higher returns needed to keep discount rates and funding levels up, says Bauer. "That's fine, as long as you say to taxpayers who is underwriting that risk. But they don't; they sweep it under the carpet and don't talk about it."

The landscape in Canada

For Canadian pension funds that must calculate their funding ratios on a solvency basis, actuaries set the discount rate with reference to government bond yields, plus a premium depending on the cost of purchasing annuities. The size of the premium largely reflects rates set by the Canadian Institute of Actuaries, resulting in discount rates typically between two and three per cent, according to Joe Nunes, president of Windsor, Ont.-based Actuarial Solutions Inc.

A minority of larger funds in Canada, particularly jointly sponsored or public service plans, can exercise a greater degree of influence over their discount rates, because they're exempt from solvency funding rules and calculate funding ratios on a going-concern basis that assumes the plan will continue indefinitely, rather than winding up immediately. In those cases, actuaries, in consultation with management, set the discount rate based on the nature of the plan's investments and anticipated returns. In Canada, that can mean discount rates of about five or six per cent, depending on how bullish the plan sponsor feels about its investments, according to Nunes.

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He also notes setting the right discount rate is about achieving a tricky balance between past, current and future members of the plan. If a plan sets the rate unrealistically high, it'll appear to be in a better position than it actually is, creating a deficit that could require higher contributions in the future or smaller payouts if the sponsor ends up in trouble. Rates that are too low can also cause inequities by requiring higher contributions from current members than necessary, as well as tying up cash from employers that they could put to other uses.

"You have to be careful that you're not putting the costs on one generation at the expense of another," says Nunes.

New rules in Quebec have also switched its pension system to a form of going-concern valuation, a move Wright hopes Ontario will follow as part of its review of pension solvency rules. “We need to do away with the current risk-free rate, which imposes huge cost consequences on businesses and members, and establish something that is not so volatile,” he says.

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