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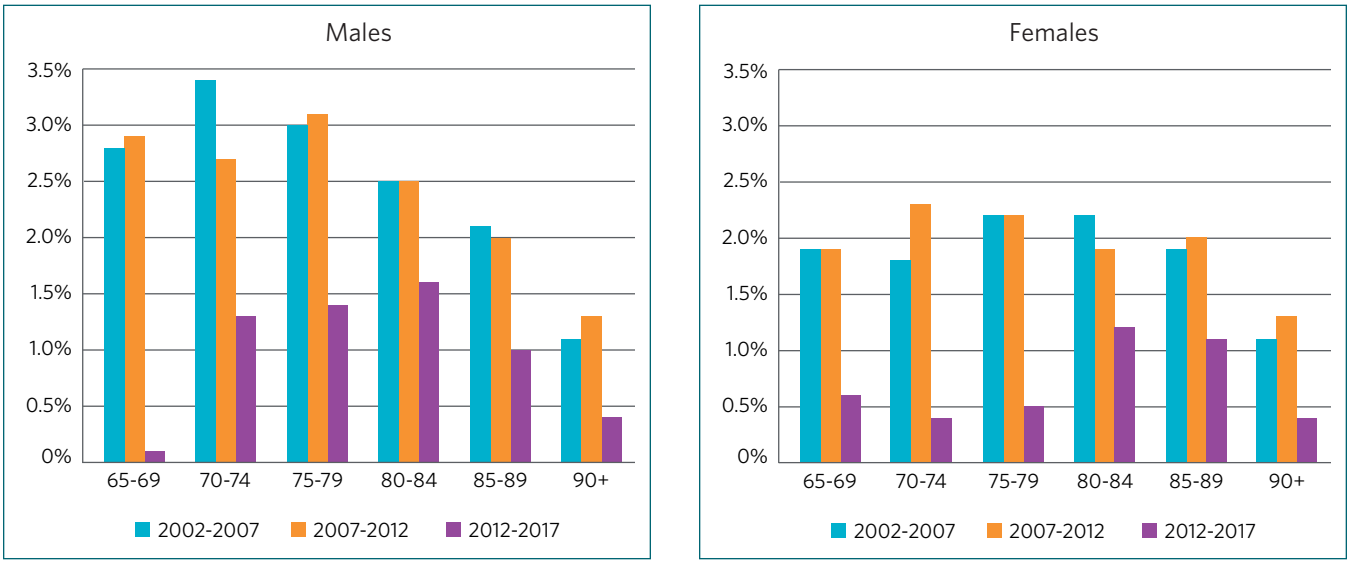
Slowdown in life expectancy increases for Canadians raises retirement planning and funding questions

By Paul Grant, FIA, ACIA

On September 20, 2018, the Chief Actuary at the Office of the Superintendent of Financial Institutions released the latest mortality experience factsheet for Old Age Security (OAS) recipients in Canada. This factsheet showed that the pace of observed increases in life expectancy for OAS beneficiaries has slowed over the past 15 years. In this article, we review the potential impact of the slowdown on employer-sponsored pension plans, as well as Canadians' retirement planning needs, and the possible impact if longevity begins to accelerate again.

Figure 1. Average annual decrease in mortality rates by age group



Latest statistics

OAS beneficiary life expectancies have been rising over the past 15 years, and they continue to rise. However, the pace of those increases has been slowing. The average life expectancy of a 65-year-old male in the OAS population increased by 2.3 months in the five-year period from 2003 to 2007, by 2.3 months in the period from 2008 to 2012, but by only 0.9 months in the period from 2013 to 2017. Figure 1 shows decreasing mortality improvements for older Canadians over approximately the past 15 years.

What has caused the slowdown?

Similar trends have been observed in the British and America populations. Actuaries in Canada and abroad had anticipated a slowdown in mortality improvements from the high levels seen in the early 2000s. Rapid gains in retiree life expectancy in the 20th century were explained by reduced prevalence of smoking and significant improvements in cardiovascular disease prevention and treatment. It was unlikely that these trends would be sustained in the future.

Furthermore, the data showed a "golden cohort" of people born between 1925 and 1945 who seemed to enjoy more rapid improvements in life expectancy during their lifetimes than generations born before or after them. It has been suggested that this effect arose from their avoidance of major conflict, healthier early childhood diets, and the expansion of public health systems after World War II, amongst other factors. It has been noticed that this "golden cohort" effect was wearing off as this generation aged and that it would ultimately fall to zero as this group disappears from the population.

However, the recent slowdown is more dramatic than anticipated. The OAS report does not get into the possible reasons. However, the slowdown in life expectancy improvements in many western countries has led to speculation that it may be correlated with lower real income growth and rising insecurity following the global financial crisis in 2008-9. The opioid epidemic, increased prevalence of the flu, dementia, reduced ability to sustain and repeat the positive effects of prior cardiovascular intervention, and other factors have also been cited.

What does it mean for employer-sponsored pension plans?

OAS recipients are a broader population than the population in employer-sponsored pension plans. OAS recipients include those who were out of the workforce during their working years as well as those who were self-employed or marginally employed. A strong correlation exists between life expectancy and affluence, so OAS trends may not be reproduced in workplace pension plan populations. The smaller size of the employer-sponsored plan population and more diffuse data sources also make the OAS results difficult to conclusively replicate for employed populations.

Most employer-sponsored defined benefit pension plans are funded on assumptions that already assume a significant future reduction in mortality improvement rates. If this reduction turns out to be happening faster than expected, there could be a slight improvement in funding levels. However, barring a reduction in life expectancy, this impact would be small compared to the effects of investment returns, contribution rates, and interest rates.

It is also possible that longevity increases could accelerate again, which could have a larger impact on pension plans. Medical interventions such as immunotherapy, genetic therapy, nanotechnology, or biological drugs, as well as medical improvements from "Big Data" and artificial intelligence could potentially cause life expectancy increases to accelerate once again.

More speculatively, some theorists have suggested a future where aging itself can be halted or reversed. The lifespan of certain species of worms has already been extended more than fivefold using genetic techniques in the laboratory. This idea may seem far-fetched, but the pace of change could rapidly increase in our lifetimes. The impact could go far beyond the impact from people giving up smoking in the 20th century. Whether the technology is developed, on what timeline, and how quickly it becomes available to the masses, will be critical to the impact on pensions.

On the more pessimistic side, the impact of climate change, resistance to antibiotics, opioids, obesity, and rising inequality could be dramatic in the other direction. The important point is that the future will not be a repeat of the past. Things could change in ways we have never experienced and most of us cannot even imagine. Even a return of life expectancy improvements to the levels seen in the early 2000s could reduce funding levels by at least 10% and put many fully funded defined benefit plans back into deficit. It should be noted that a 10% impact on funding from longevity expectation changes is hardly unprecedented – many plans have seen improvements to that extent in the last decade.

Those relying on private savings or employer-sponsored capital accumulation plans for retirement income face even greater uncertainty. Although macro trends will be an influence, variation in life expectancy at an individual level is almost impossible to predict. There is evidence that Canadians underestimate their exposure to longevity risk. Refer to our recent *News & Views* article on Canadians' retirement risk perceptions and strategies, which noted that most respondents to a recent survey underestimated their personal life expectancies, undervalued life annuities, and did not understand the cumulative impact of inflation.

Employees need to plan for their retirement needs and consider the risk of outliving their funds. Employers can support their employees through access to guidance, education, advice and trusted capital decumulation strategies, including annuitization.

Comment

Mortality improvements have been slowing in the national population, but why and what this means for employer-sponsored pension plans, particularly over the long run, is unknown. While there is no short-term pressure to change funding assumptions, each defined benefit pension plan sponsor should be considering its sensitivity to longevity risk and its ability to bear it, together with the potential implications for itself and its members. The long-term future is highly uncertain, and longevity risk could still be material. Plan data analysis, future scenario modelling, and exploring risk mitigation or transfer strategies could be well advised at the current time. It is better to do this analysis now, from the current position of funding strength for many plans, than later. There is no guarantee that the better news for pension plans over recent years in investment returns, interest rates, and possibly mortality experience will continue.

For individuals financing their own retirement or relying on employer-sponsored capital accumulation plans, the risks are even greater. Employers should consider what support they can provide in educating employees about longevity risk and possible decumulation strategies.

FSCO Issues Administrative Monetary Penalties Guideline

On November 13, 2018, the Financial Services Commission of Ontario (FSCO) issued a guideline that summarizes legislative provisions respecting Administrative Monetary Penalties (AMPs) under the *Pension Benefits Act* (the Act) and outlines the process that is to be followed for the imposition of AMPs. It also outlines how a person subject to a proposed AMP may dispute the proposed AMP and how AMPs are to be paid.

Background

AMPs became possible under the Act effective on January 1, 2018. AMPs are monetary penalties imposed directly by FSCO for non-compliance with specified provisions of the Act. A hearing is only provided if the person subject to the proposed AMP chooses to dispute the AMP. AMPs expand the enforcement options and tools available to FSCO to regulate registered pension plans in Ontario.

There are two types of AMP:

1. A general AMP is issued by FSCO in a discretionary amount based on non-compliance with substantive provisions of the Act or failure to comply with obligations assumed by way of an undertaking to FSCO. Criteria determining the amount of a general AMP include the degree to which the contravention was intentional, reckless or negligent, and the extent of harm or potential harm to others resulting from the contravention.

2. A summary AMP is a fixed penalty issued by FSCO based on late regulatory filings, such as late filing of an Annual Information Return, valuation report, Investment Information Summary, plan amendment or amendment to a Statement of Investment Policies and Procedures. Summary AMPs are subject to prescribed daily penalties of $100 or $200 for each day of non-compliance.

For individuals, the maximum AMP is $10,000 per contravention or failure to comply. For corporations or other groups such as board of trustees, the maximum AMP is $25,000 per contravention or failure to comply.

The Guideline states that the formal plan administrator remains ultimately accountable for the administration of the pension plan and investment of the pension fund, and is not relieved of those responsibilities by delegating to third party providers. The Guideline further states that FSCO may also impose AMPs on other entities besides plan administrators, such as pension fund trustees.

FSCO's process for issuing an AMP

The process for issuing an AMP differs slightly for general and summary AMPs. A general AMP will be issued via a Notice of Intended Decision (NOID), although it is likely that FSCO would issue warnings and give opportunities for issues to be corrected before taking such a step.

A summary AMP for a missed deadline will follow a more specific process. If regulatory filings are late or incomplete, FSCO will automatically send two compliance letters (first the Letter of Warning and second the Letter of Proposed Action) to plan administrators. The Letter of Warning will be sent within a week or two of the overdue filing and appears to give the plan administrator a set amount of time to correct the issue without an AMP being issued.

Once a Letter of Proposed Action is issued, FSCO will give the person/entity a reasonable opportunity to make a written submission that the AMP should not be issued. A written submission must be made within 15 calendar days of the Letter of Proposed Action, which should explain mitigating circumstances and why no penalty should be levied.

Some examples of mitigating circumstances may be the result of:

- significant disruption to the computer system due to virus attacks, fire, or flood; and
- business disruption caused by an industrial action, natural disaster or state of emergency.

Situations that will normally not be considered as mitigating circumstances include:

- staff changes or absences;

- minor computer problems, partial system disruption, lack of system backup or contingency plan; and
- office closures.

FSCO will review the submission and determine whether an AMP should be issued.

Disputing an AMP

The person who has been issued an AMP will receive the NOID setting out details of the contravention, the amount of the AMP, payment requirements, and the process and deadlines to request a hearing before the Financial Services Tribunal (FST). There is a 15-day time limit to request a hearing before the FST.

The FST may, by order, direct the Superintendent to:

- Make the intended decision pursuant to the NOID;
- Vary the decision in the NOID (e.g., reduced or higher AMP or vary payment requirements); or
- Substitute its opinion for the Superintendent (e.g. order no penalty or add AMPs).

Paying an AMP

AMPs cannot be paid out of a pension fund, regardless of the plan type. This includes multi-employer and jointly sponsored pension plans.

Payments are to be made within 30 calendar days after the person receives the invoice or as specified in the order of the Superintendent (if no FST hearing is requested). If a hearing is requested, then payment is due 30 calendar days after the matter is concluded or such time as specified in the order and invoice relating to the order. Interest is applied on non-payments of AMPs.

After 90 days of non-payment, the overdue AMP may be sent to a collection agency. FSCO can also file the order with the Superior Court of Justice, and that it may be enforced as if it were an order of the court.

Funds collected from AMPs are directed to the Ontario government's consolidated revenue fund.

Comment

The release of the Guideline provides more certainty about FSCO's process for issuing AMPs, although it is still unclear as to how strictly such process will be applied. Plan administrators should be aware of the risk of receiving an AMP for non-compliance, and particularly for late regulatory filings. They should ensure that such deadlines are met and, if they cannot be met, that an extension can be obtained in line with FSCO policy.

New Quebec government to abolish pre-existing "orphan clauses"

The Quebec Minister of Labour, Employment and Social Solidarity has stated that the new Quebec government intends to force the elimination of "orphan clauses" (i.e. differences in treatment with respect to eligibility for pension plans or other employee benefits based solely on the date of hire) between current and new employees. The Minister also said that there will be an announcement in due course. On December 5, 2018, all deputies supported a motion in the Quebec National Assembly to completely eliminate all orphan clauses with respect to pension plans or other benefits.

Effective June 11, 2018, the former Quebec government barred the adoption of new orphan clauses, but orphan clauses that existed before June 11, 2018 can continue to apply. Refer to the July 2018 edition of *News & Views* for more details.

According to the announcement, the exemption for pre-existing orphan clauses will be abolished. Orphan clauses in collective agreements regarding pension plans and employee benefits would be eliminated at the time of renegotiating these agreements. The application of this prohibition to non-unionized environments is not clear.

This development would apply to all employee pension and benefit plans offered to Quebec employees, other than employees who are federally regulated.

Comment

If the Quebec government chooses to go ahead with this proposal, it could have a significant impact on employers with provincially regulated employees in Quebec who have closed their defined benefit pension plans or any other benefit program to new employees. Such employers would be faced with the choice of either reopening their plans to new employees, and likely to current employees who were excluded from such plans, or with ceasing to continue to offer legacy plans to their longer-standing employees.

The situation is still developing and is subject to actual legislation being drafted and introduced in the National Assembly. There is no timeline for a Bill, but it will likely not be introduced for at least several months. We will monitor this situation and continue to advise you of future developments.

CAPSA issues draft revised electronic communications guideline for pension plans

On November 1, 2018, the Canadian Association of Pension Supervisory Authorities (CAPSA) issued for public comment a newly revised draft *Guideline No. 2 – Electronic Communications in the Pension Industry* (the Draft Guideline). The purpose of the Guideline is to provide a set of principle-based industry standards and best practices for pension plan administrators to adopt, in conjunction with legislative requirements, as part of their electronic communications (i.e., e-communications) framework. The Draft Guideline will replace the 2002 version of the same document.

Forms of member consent

The Draft Guideline encourages the use of e-communication as a default option for exchanging information with members, where permitted by legislation, or at least to recognize deemed consent by members to e-communication. However, some jurisdictions require express consent of plan members.

Where the pension legislation permits deemed consent, the designation of an information system to the plan administrator is enough to provide for deemed consent.

The list of information required to be provided to members at the time of either deemed or express consent, has been reduced. CAPSA simply states that the member must be informed that they have the right to revoke consent.

Presentation of information

The Draft Guideline now only specifies that the e-communication "must mirror the content of the paper copy". This differs from the previous version which required that the electronic document be in the "same or substantially the same form as the written document" and effectively permits the information to be presented in a different way electronically versus a printed document.

Security and provision of information electronically

The Draft Guideline states that e-communication is presumed to be provided when made available on an information system that the recipient has designated to receive, and is capable of being retrieved and processed by the recipient (for example, by sending an email). If documents are to be posted on a website, the plan administrator must notify recipients of the release of such information and the relevant details of how to access this information. Confidential information should only be accessible by means of a password or other unique identification system.

CAPSA also advises plan administrators to consider and implement, on an on-going basis, a protocol to protect the security of information that is sent and retained, and a protocol to retrieve lost or corrupted data.

Comment

Much has changed since the release of the original version of the Draft Guideline. Technology has developed and a number of Canadian jurisdictions have adopted legislation respecting e-communications in pension plans since 2002 and, where legislation exists, it must be complied with.

The Draft Guideline provides welcome updates to the previous guideline. In particular, the language respecting consent as a default option and deemed consent is useful. It is also useful to recognize that often information will be posted on a member website rather than being sent directly.

Unfortunately, in some cases, the legislation is more restrictive than the Draft Guideline. It is to be hoped that such legislation will be updated in the future taking into account the final version of the Draft Guideline.

The deadline for public submissions on the Draft Guideline was **December 13, 2018**.

2018 Ontario Economic Outlook and Fiscal Review

On November 15, 2018, the new Ontario government released the 2018 Ontario Economic Outlook and Fiscal Review (the Economic Outlook) and introduced Bill 57, the *Restoring Trust, Transparency and Accountability Act*, 2018. The Economic Outlook and Bill 57 include a number of items relating to pension and benefit plans.

Variable benefits regulation

The government intends to follow through with plans to permit defined contribution pension plans to pay variable benefits directly to retirees. A description of proposed regulations was released in March 2018 and described in the April 2018 edition of *News & Views*. In addition, Bill 57 will amend the *Pension Benefits Act* (the Act) to permit 50% unlocking of pension benefits when a variable benefit account is created within a pension plan. 50% unlocking is already permitted when funds are moved to a Life Income Fund, so this amendment will help make variable benefit accounts a viable alternative to Life Income Funds.

Enabling electronic designation of beneficiaries

Bill 57 includes amendments to the Act which would explicitly allow administrators of pension plans to permit electronic beneficiary designations for pension plan death benefits. Such electronic beneficiary designations will be subject to the requirements of future regulations.

Permitting buy-out annuity purchases in respect of surviving spouses

Bill 57 will provide discharges for purchases of buy-out annuities in respect of surviving spouses in receipt of a pension. Previously, the Act only provided discharges in respect of former and retired members. This will apply to past and future annuity purchases, provided regulatory requirements are met. Refer to our May 2018 edition of *News & Views* for more details on buy-out annuities in Ontario.

Non-residency unlocking from pension plans

Bill 57 will amend the Act to permit pension plans to offer unlocking of pension benefits for pension plan members who are non-residents of Canada for income tax purposes, subject to spousal waiver if there is a spouse. Non-residency unlocking has already been available to owners of locked-in retirement accounts in Ontario, but has not been available to pension plan members.

OHIP+ and Ontario drug benefit program reform

On January 1, 2018, Ontario introduced OHIP+ Children and Youth Pharmacare, which made eligible

prescription drugs (for more than 4,400 drug products) free for anyone under age 25 with OHIP coverage.

The Economic Outlook states that, starting in March 2019, persons under age 25 will be required to receive reimbursement from their private drug plans. OHIP+ will continue to provide coverage to those who are not covered by private drug plans.

The government will also review the Ontario Drug Benefit Program for potential reforms.

Mental health and addictions

Partly in order to obtain matching funds from the federal government, the Ontario government has made a commitment to spend $1.9 billion over 10 years on mental health and addictions services. The aim of these funds would be to facilitate:

- reductions in wait times for patients;
- faster access to mental health and opioid addiction treatment services;
- an enhanced approach to addictions treatment and rehabilitation services through the new Consumption and Treatment services model; and
- the expansion of the scope, coverage and locations of Rapid Access Addiction Medicine (RAAM) clinics, for individuals with substance abuse issues that require specialized addiction medicine support, in communities of high need.

The $1.9 billion dollar commitment replaces prior Ontario government's promise of $2.1 billion over four years, as discussed in the April 2018 edition of *News & Views*.

Employer health tax

Under the 2018 Ontario Budget, the previous government had proposed exploring measures to limit the Employer Health Tax (EHT) exemption for small businesses. However, the current government has confirmed that it is not moving forward with these proposals.

Workplace Safety and Insurance Board review

In September 2018, the Workplace Safety and Insurance Board (WSIB) announced a reduction to the average WSIB premium rate effective January 1, 2019. The average rate would decrease from $2.35 to $1.65 on every $100 of insurable payroll, which represents a nearly 30% cut to the premium. This resulted from the elimination of the WSIB's unfunded liability.

The government intends to launch a review of the sustainability of the workers compensation system, which would include an assessment of its efficiency, governance and rate predictability for employers.

Comment

Some of the measures announced in the Economic Outlook and Bill 57, such as the cancellation of planned EHT rule changes and the previously announced WSIB premium rate decreases, will be welcome developments to Ontario employers. The release of the long-awaited variable benefit regulations and the proposal to explicitly permit electronic beneficiary designations for pension plans would be welcome news to pension plan administrators. The extension of buy-out annuity rules to pension plan survivors will also be helpful to defined benefit pension plan administrators in Ontario.

There remains some uncertainty over the Ontario government's plans with respect to pharmacare and OHIP+. Although the Economic Outlook was clear that OHIP+ would cease to be the first payer for children and young adults with private drug insurance, it did not reiterate the government's previous statements that it would continue to be the second payer for such individuals where private coverage does not cover some or all their drug costs. The review of the Ontario Drug Benefit could also affect Ontarians who rely on public drug coverage.

National consultations on enhancing retirement security in Canada

On November 22, 2018, the federal government released a consultation paper inviting public comment on proposed approaches for enhancing security in the retirement income system. The consultation was promised in the 2018 federal budget in response to recent cases of company insolvencies, which have disrupted pension, wage and benefit entitlements for workers and retirees. The consultation paper proposes varied options relating to federal pension legislation, corporate governance and bankruptcy and insolvency law.

Pension Options

The following options would affect pension plans regulated under the federal *Pension Benefits Standards Act, 1985* (the PBSA).

1. **Solvency reserve account (SRA):** to eliminate pension deficits, a defined benefit (DB) pension plan sponsor could remit solvency special payments into an SRA. Once the plan is in surplus, the employer could be permitted to recover portions of their special payments from the SRA, however such withdrawals would not be permitted to create a funding deficit.

2. **Pension funding relief criteria**: an employer seeking DB solvency funding relief from the Minister of Finance could be required to comply with certain specified criteria or conditions (e.g., a condition to prohibit dividend payments while under pension funding relief).

3. **Transfers to self-managed accounts on plan termination**: in order to avoid permanently reduced benefits when annuities are purchased from a DB plan that is terminated in an underfunded position, retirees could have an additional option to transfer their reduced pension, as a lump sum, to a personally managed locked-in saving plan. Some losses could be recouped by future investment returns; however, this option may also expose retirees to even further loss derived from investment risks in the market.

4. **Clarify benefit entitlements on plan termination**: some plan sponsors have proposed amendments that make benefits conditional at plan termination, for example by providing indexing upon plan termination only if sufficient assets are available in the pension plan. Given that it has been suggested that current legislation is unclear, the PBSA could be amended to explicitly state that pension benefits cannot be made conditional based upon the continued operation of the plan. In the alternative, the PBSA could be amended to provide a DB pension plan the option to offer different benefits under different circumstances, taking into account plan-specific objectives such as sustainability issues.

Governance Options

The following options would apply to corporations registered under the *Canada Business Corporations Act* (CBCA).

1. **Restrictions on corporate behaviour**: dividend payments, share redemptions and executive compensation packages could be restricted when an employer has a large pension deficit.

2. **Increased corporate reporting and disclosure requirements**: in addition to prescribed annual reports provided to shareholders by corporations subject to the CBCA, the CBCA could be amended to require these corporations to prepare a further report on policies that relate to the interests of workers and pensioners, in order to strengthen corporate social responsibility toward these two groups.

Insolvency Options

These options would affect any corporation going into bankruptcy or restructuring under the *Bankruptcy and Insolvency Act* (BIA) or *Companies' Creditors Arrangement Act* (CCAA).

1. **Enhanced "look-back" period**: under the BIA, a court may set aside dividend payments or share redemptions made by an insolvent corporation within 1 year of the bankruptcy (the "look-back period"). An enhancement to the look-back period could allow a court to also set aside executive

bonuses and compensation increases. Notably, the proceeds of such funds could be used toward funding pension obligations; however, this option could create uncertainty for shareholders or executives that could be subject to retroactive claw-backs.

2. **Enhanced transparency in the CCAA process**: the CCAA could be amended to: a) limit the scope of initial orders at the outset of proceedings to increase the participation of pensioners and employee groups; b) enhance transparency by requiring creditors to disclose their real economic interests; and c) impose an express duty of good faith on all parties to the restructuring.

Comment

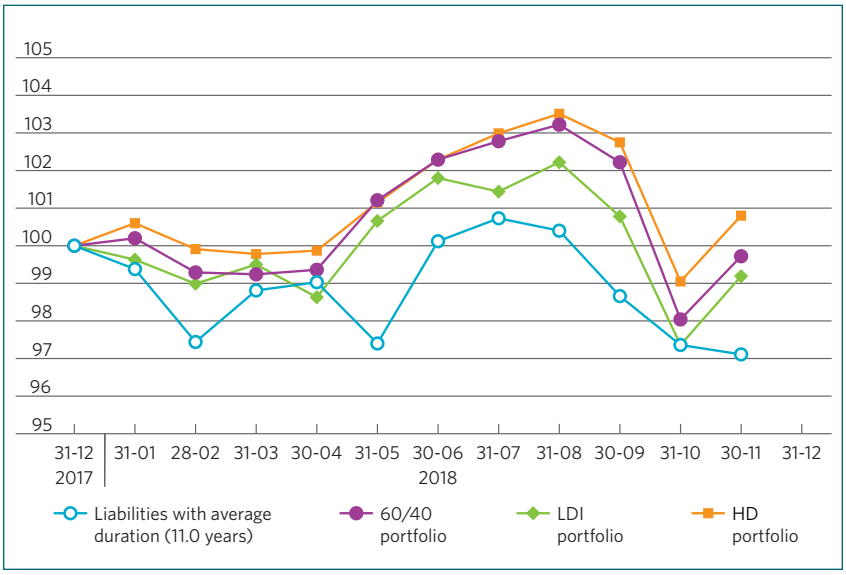
The proposed changes would vary in impact. The proposed changes to the PBSA would only affect federally regulated pension plans, while the proposed corporate governance changes would only affect corporations governed by the CBCA. Moreover, the proposed changes affecting the BIA and CCAA could potentially affect any corporation sponsoring a DB plan that goes into bankruptcy or reorganization.

The deadline for submission of public comments is **December 21, 2018**.

Tracking the funded status of pension plans as at November 30, 2018

This graph shows the changes in the financial position of a typical defined benefit plan with an average duration since December 31, 2017. For this illustration, assets and liabilities of the plan were each arbitrarily set at $100 million as at December 31, 2017. The estimate of the solvency liabilities reflects the new CIA guidance for valuations effective September 30, 2018 or later. The following graph shows the impact of three typical portfolios on plan assets and the effect of interest rate changes on solvency liabilities of medium duration.

The evolution of the financial situation of pension plans since December 31, 2017



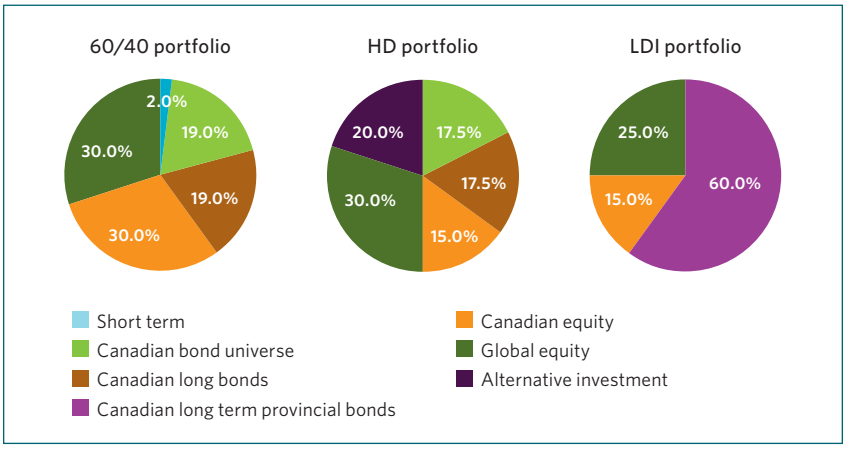
During the month of November, Canadian universe bonds, Canadian long-term bonds, Canadian long-term provincial bonds, Canadian equity markets, global equity markets (CAD) as well as alternative investments showed positive returns. With a return of 1.9%, the low volatility portfolio (LDI[1]) did slightly better than the highly diversified portfolio (HD) (1.8%) and the 60/40 portfolio (1.7%).

The prescribed CIA Annuity purchase rates decreased while the commuted value rates used in the calculation of solvency liabilities increased. As a result, the solvency liabilities decreased by 0.3% for a medium duration plan. For this type of plan, an investment in the 60/40, the LDI or the HD portfolio resulted in an increase of the solvency ratio.

[1] Liability driven investment

The table shows the impact of past returns on plan assets and the effect of interest rate changes on solvency liabilities of a medium duration plan, based on the plan's initial solvency ratio as at December 31, 2017. The graph shows the asset allocation of the three typical portfolios.

Initial solvency ratio as at December 31, 2017	Evolution of the solvency ratio as at November 30, 2018 for three different portfolios		
	60/40 portfolio	Low volatility portfolio (LDI)	Highly diversified portfolio
100%	102.7%	102.1%	103.8%
90%	92.4%	91.9%	93.4%
80%	82.1%	81.7%	83.0%
70%	71.9%	71.5%	72.7%
60%	61.6%	61.3%	62.3%



Since the beginning of the year, driven by negative returns in Canadian long-term bonds, Canadian long-term provincial bonds as well as Canadian equity markets, the 60/40 portfolio and the LDI portfolio returned -0.3% and -0.8% respectively while driven by positive returns in alternative investments the HD portfolio returned 0.8 %. The solvency liabilities fluctuated over that same period from -2.7% to -2.9% depending on the duration of the group of retirees. The variation in the plan's solvency ratio as at November 30, 2018 stands between 1.3% and 3.8%.

Please contact your Morneau Shepell consultant for a customized analysis of your pension plan.

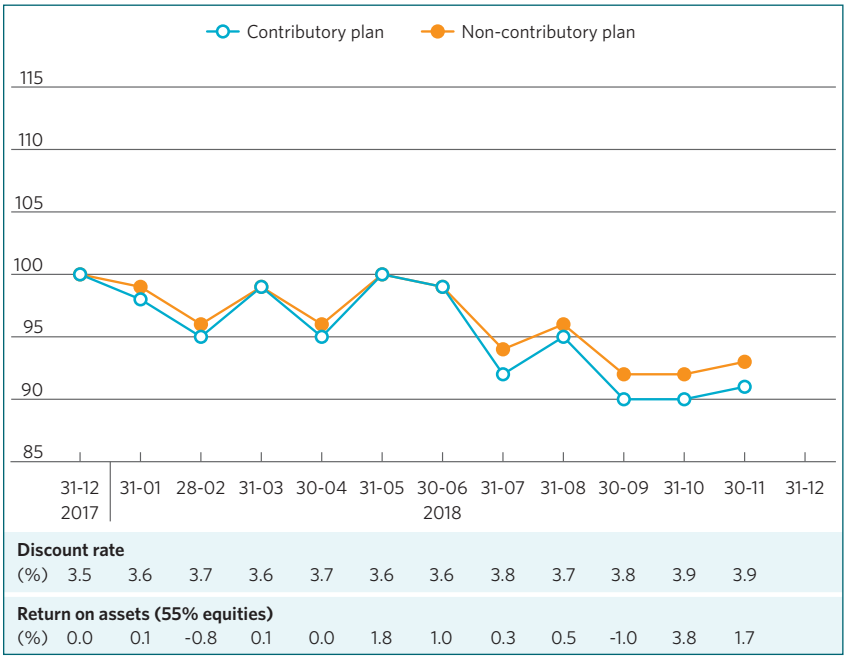
Comments

1. No consideration has been made for contributions paid to the plan or for benefits paid out of the plan.
2. Solvency liabilities are projected using the rates prescribed by the Canadian Institute of Actuaries (CIA) for the purpose of determining pension commuted values.
3. The underlying typical defined benefit plan is a final average plan with no pension indexing, including active and inactive participants representing 60% and 40% of liabilities, respectively.
4. Assets are shown at full market value. Returns on assets are based on three typical benchmark portfolios.

Impact on pension expense under international accounting as at November 30, 2018

Every year, companies must establish an expense for their defined benefit pension plans. The graph shows the expense impact for a typical pension plan that starts the year at an arbitrary value of 100 (expense index). The expense is influenced by changes in the discount rate based on high-quality corporate and provincial (adjusted) bonds and the median return of pension fund assets.

Expense Index from December 31, 2017



The table below shows the discount rates for varying durations and the change since the beginning of the year. A plan's duration generally varies between 10 (mature plan) and 20 (young plan).

Discount rate

Duration	December 2017	November 2018	Change in 2018
11	3.39%	3.77%	+38 bps
14	3.48%	3.85%	+37 bps
17	3.53%	3.91%	+38 bps
20	3.57%	3.94%	+37 bps

Since the beginning of the year, the pension expense has decreased by 9% (for a contributory plan) due to an increase in discount rates despite the low returns on assets (relative to the discount rate).

Please contact your Morneau Shepell consultant for a customized analysis of your pension plan.

Comments

1. The expense is established as at December 31, 2017, based on the average financial position of the pension plans used in our *2017 Survey of Economic Assumptions in Accounting for Pensions and Other Post-Retirement Benefits report* (i.e. a ratio of assets to obligation value of 93% as at December 31, 2016).
2. The return on assets corresponds to the return on the Morneau Shepell benchmark portfolio (55% equities and 45% fixed income), which reflects the average asset mix in our 2017 Survey.
3. The actuarial obligation is that of a final average earnings plan, without indexing (two scenarios: with and without employee contributions).

MORNEAU SHEPELL

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Morneau Shepell is the only human resources consulting and technology company that takes an integrated approach to employee well-being to meet health, benefits and retirement needs. The Company is the largest administrator of retirement and benefits plans and the largest provider of integrated absence management solutions in Canada. LifeWorks by Morneau Shepell is the leading total well-being solution that combines employee assistance, wellness, recognition and incentive programs. As a leader in strategic HR consulting and innovative pension design, the Company also helps clients solve complex workforce problems and provides integrated productivity, health and retirement solutions.

Established in 1966, Morneau Shepell serves approximately 24,000 clients, ranging from small businesses to some of the largest corporations and associations. With more than 4,500 employees in offices worldwide, Morneau Shepell provides services to organizations around the globe. Morneau Shepell is a publicly-traded company on the Toronto Stock Exchange (TSX:MSI). For more information, visit morneaushepell.com.

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