

## THE TIME HAS COME TO REVISIT SOLVENCY FUNDING RULES<sup>†</sup>

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### SUMMARY

Canadians are not fond of hearing news about people losing their hard-earned pensions because their employer misused the money. The thought of some Working Joe or Jane being deprived of a pension, after a lifetime of working for a company, is naturally repugnant. That is why regulations around defined-benefit pension plans are designed to force employers to keep their pension funds sufficiently solvent. But there are many ways to achieve that end and, while the rules that Canadian companies must follow might serve to help preserve pension savings, they also be very expensive — to employers and regulators — compared to other policies that can do the same thing. In fact, more flexibility in the rules might even make it easier for companies to offer richer pension benefits to employees than they already do.

Some of Canada's outdated pension-funding rules have created the opposite problem: There are now pension plans that are actually overfunded if one assumes the company and the plan will continue. That means money the sponsoring companies could be using to hire more workers, to offer employees better pay and benefits, or to invest, is tied up in pension coffers. The problem lies in the divergence between a "going-concern" valuation — which assumes that the plan continues indefinitely — with the more prescriptive "solvency" valuation that is central to Canadian regulations. It examines funding adequacy if one assumes the employer is going to go out of business (even if the vast majority of large employers are at any given time at no risk of that). In the days when fixed-income returns were lucrative, companies relied on pension fund investments to top up the funds, reducing sponsor contributions to unsafe levels. The solvency rules required plans that were reaping higher returns in the stock market to continue making some contributions to their plans. Back then, the gap between a going-concern valuation and a solvency valuation was small, and so the rules were not an unacceptable burden.

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Those rich returns are gone. Now, that gap between valuations has grown dramatically. In B.C., for example, a recent analysis found that when using a going-concern evaluation, 75 per cent of 143 defined-benefit plans registered in the province in 2015 had at least 100-per-cent funding, while the median funding ratio was 124 per cent. Using a solvency model, the median funding ratio was instead estimated to be a much lower 85 per cent. Closing that gap would require onerous pension contributions. More importantly, the contributions it triggers might never be needed to cover benefits.

Quebec is the first province to recognize that pension-funding rules need to be revisited and made more responsive, with new rules coming in that will reduce the unnecessary burden on employers while also adapting to changes in the economic environment. Ontario is showing signs that it will take steps in the same direction. Regulators everywhere should be revisiting pension rules to: remove the solvency-valuation requirement for well-funded plans, while allowing the regulator to assume a worst-case scenario in the uncommon case where they believe it to be warranted; to develop a method to rate the credit risk of a plan; to be less stringent and more realistic about plan liabilities (by allowing some types of liabilities to use a longer amortization period); but still restricting plan changes for underfunded plans. The result would not only reduce the cost and work of over-regulating well-funded, well-run plans, while freeing up cash . By reducing pressure on the cash flow for sponsors, and adding more flexibility, the policymakers will ultimately make defined-benefit pension plans more sustainable. They might even see defined-benefit plans making a comeback among employers who found heavy contributions enough to drive them out of the DB world.

## OBJECTIVE

This paper provides an overview of the issues surrounding solvency funding requirements in the regulation of defined benefit (DB) pension plans. The pages that follow examine the way in which regulation can best

- a) protect plan participants (consumers) against losses driven by decisions that are not within their control; and
- b) aid plan sponsors in responsibly managing their pension plans, including preventing fraud and egregious mistakes.

As always, those regulations should, to the extent possible, attempt to enhance the efficiency of the economic system delivering the pension. Reviewing the funding standards offers one of the most promising channels through which any jurisdiction acting alone can encourage the continuation of DB plan coverage for its citizens.

## FUNDING DEFINED-BENEFIT PENSION PLANS

A wide range of approaches can be used to fund a defined-benefit pension plan. “Pay-as-you-go” funding used to be common: where an employer would just continue to hand out pension cheques after someone leaves in the same fashion as it did while they were working. This worked unless a company ran into financial difficulties. The heartbreaking image of a hard-working “Joe Public” who had put a lifetime into a company only to end up with none of the promised pension was socially unacceptable. To reduce the problem, both “carrot” and “stick” approaches have been employed. Income tax laws were changed to offer a carrot: namely, the addition of significant tax-deferral advantages for advance funding (with some limitations on maximum deductions). For the “stick,” minimum funding standards were developed and backed by the threat of losing the tax advantages associated with registered plans.

A range of actuarial cost methods were developed by the profession in order to accumulate assets to fund pension promises “in an orderly fashion.” Essentially, these cost methods offered an array of mathematical methods from which could be selected an approach to move a plan’s funding from zero per cent when a plan was first being formed to 100 per cent over the working life of an employee. The names attached to these various methods have changed over time, vary from country to country, and may be different depending on whether the subject is being discussed by an accountant or an actuary. However, the simple fact remains that all methods theoretically offer an infinite number of paths to get from zero to 100 and many are appropriate. Those that have the plan sponsor pay as much as possible as early as possible will maximize the extent to which the retirement benefit is being funded with investment earnings. Those that have the plan sponsor pay as little as possible until funds become absolutely necessary maximize the cash flow of the plan sponsor that can be used for other purposes. However, only a few of the full range of cost methods are permitted in Canada today. Those that maximize early funding have been deemed to shelter too much income from tax. Those that delay funding too long have been found wanting by those drafting accounting standards as not providing a sufficiently close match between when a cost is incurred and when it is recognized on a firm’s financial statements. One specific accrued benefit cost method (ABCM) is prescribed for accounting purposes.

The implementation of a chosen cost method produces contribution levels that are measured against the plan's specific liabilities. The report comparing the assets and liabilities is called an actuarial valuation. In the world of DB pensions, a plan sponsor hires an actuary to perform such valuations. The actuarial [Standards of Practice](#) recognize three primary types of valuations that an actuary may undertake when advising on the funded status or funding of a continuing pension plan:

- A going-concern valuation: the actuary assumes that the plan continues indefinitely. He or she selects either best-estimate assumptions or the best-estimate assumptions modified to incorporate margins for adverse deviations. The valuation considers all benefits of which the actuary is aware, including contingent benefits, payable under the pension plan.
- A hypothetical wind-up valuation: the actuary determines the funded status of a pension plan on the assumption that the plan is wound up at the calculation date. For this valuation, the actuary determines benefit entitlements on the assumption that the pension plan has neither a surplus nor a deficit. It must recognize contingent benefits that would be payable under a postulated scenario and may assume that the wind-up date, the calculation date and the settlement date are all the same. The hypothetical wind-up valuation may assume that benefits would be settled by the purchase of annuities regardless of any limitation of capacity in the market for group annuity contracts. It uses the market value of assets and an explicit assumption for expenses expected to be payable to wind up the pension plan.
- A solvency valuation: The actuary performs a specific hypothetical wind-up valuation using parameters required by law and specifying a wind-up date.

The latter form of valuation, the solvency valuation, was added to regulatory requirements in the late 1980s as a supplement to the going-concern valuation that had been used to that point for regulatory as well as management purposes. Anecdotally, the concern being addressed by this was that an extended period of high investment returns was reducing sponsor contributions to an unsafe level. Clearly that environment has changed and the shift in the environment to one of longstanding lower rates of return is an important reason for this review. Gone, along with high interest rates, are the days when there was little difference between solvency and going-concern results.

Background data have begun to emerge regarding the divergence between going-concern and solvency standards. The province of British Columbia has prepared what it calls a “snapshot” of DB plans in that province (Peters, 2017). Of the 143 DB plans registered in B.C. in 2015, 75 per cent had a funded ratio of at least 100 per cent when going-concern assumptions are employed; these same plans simultaneously produced a ratio of less than 100 per cent when the solvency assumptions specified in regulation are applied. More specifically, the median funded ratio was 124 per cent while the median solvency ratio was 85 per cent — a gap of more than 40 percentage points. Closing that gap can result in onerous pension contributions. More importantly, it can result in contributions that may *never* be needed to pay pension benefits. Thus the conclusion has been reached by this author that the time is right to revisit solvency funding rules.

## **POLICY OBJECTIVES**

Any review of a public policy needs to be conducted in light of the objectives the policy is trying to achieve. Funding requirements for pension plans are about managing the risk associated with the long-term financial commitments that pension plans entail. Generally, for continuing pension arrangements, the risk of future changes in DB plans lies with the plan sponsor — both upside and downside risk.

However, that turns out to be an overly simplistic statement when a DB plan is changed or especially if it winds up. If a pension plan stops receiving (or earning) new funds, there is a residual risk that the funds it has in hand will not be sufficient to meet all promises; this is often the case when a plan winds up. There really are only two possibilities if one wishes to avoid calls for government or other external bailout when a shortfall materializes:

- (1) the sponsor can put in more money, voluntarily or otherwise; or
- (2) the benefits paid to participants can be reduced in some fashion that allocates the available funds across active members and retirees.

The objective of funding requirements generally is to minimize this residual risk, i.e., the risk that promised benefits cannot be paid to participants. This is achieved by requiring the plan to maintain funding reasonably close to 100 per cent of the actuarial liabilities. The question is how best to define and measure the benchmark to which the 100 per cent number is appropriately applied.

## **EVALUATING THE NEED TO MAINTAIN EXISTING SOLVENCY FUNDING REQUIREMENT**

Does the solvency funding requirement achieve the desired policy objectives? Clearly the intent of this requirement has been to examine the soundness of a plan in circumstances other than those assumed in the going-concern valuation. Some measure of a plan's robustness is undoubtedly useful — and especially vital is the ability to recognize when a pension plan has fewer assets than would be required to wind up the plan. However, I find no evidence that the specific parameters currently used in the solvency valuation provide an accurate measure of that exposure.

If the current solvency funding standard does not achieve a meaningful measure of robustness, then maintaining it serves only to continue to examine one of an infinite range of possible futures (while also creating extra work for DB-plan administrators and actuaries). This exercise is inadequate in an era when almost every person has a spreadsheet on their desktop that is capable of running Monte Carlo simulations that would be far more informative. Sensitivity analysis should be encouraged for all plans as it has been in regulatory requirements that examine risk management of financial institutions. However, allowing a plan sponsor time to fund the largest source of plan deficits — past service credits or retroactive benefit improvements — is sound and it should not be treated punitively.

It also is worth noting that removal of a requirement to test plan funding against a single set of parameters specified in law and/or regulation would be considered by most observers to be a classic example of “rules-based” regulation. Generally, such a regime has been replaced

in Canada's system of financial regulation by "principles-based" regulation. Therefore, the proposed changes are in this author's view consistent with the preferred approach of looking to principles first, and using those principles rather than detailed rules wherever feasible.

## **ALTERNATIVES TO CURRENT REQUIREMENTS FOR SOLVENCY FUNDING RULES**

If the current system is no longer appropriate, the next step is to evaluate possible alternative means to achieve the objective of minimizing residual solvency risk. Policy-makers could change the optics surrounding pension security by changing the underlying assumptions on key variables such as interest rate and mortality. However, changing the outward appearance does not change the actual solvency of the plans. Better alternatives are discussed in the subsections that follow.

### **Eliminate Solvency Funding but Institute Safety Margins**

Many actuarial processes include a provision for adverse deviation (PfAD). That concept has been used in other countries as well as in Canada for life insurance financial reporting for more than a decade as well as being part of the new Quebec pension legislation. The idea was surfaced for consideration in several of the provincial commissions that reviewed the laws around pension benefits in the 2007–08 time frame. See, for example, *A Fine Balance* (2008) that resulted from the work in Ontario and *Getting our Acts Together* (2008) that was produced by their counterparts in Alberta and British Columbia.

The actuarial profession's methodology for determining PfAD amounts in other contexts offer an excellent source of highly developed models in this area.

### **Quebec Approach**

Quebec is the first province to step beyond conceptually recommending a cushion for pension funding. Bill 57 specifies the details of what there is called a stabilization provision. This amount would be required as a "top up" to the contributions determined on a going-concern basis. The bill, the product of a two-year consultation process that led to the D'Amours report (*Innovating for a Sustainable Retirement System*, 2013), establishes a stabilization provision using two measures as determined on the date of the plan's actuarial valuation: (a) The percentage of assets allocated to variable-income investments in accordance with the target set out in the investment policy; and (b) an asset-liability matching measure, i.e., the ratio between the duration of plan assets and plan liabilities (Willis Towers Watson, 2016). The current service contribution must also be increased by a stabilization margin based on the scale.

One can see from the table reproduced below that the lowest stabilization provision is required of the plan that has perfectly matched its assets and liabilities using a bond portfolio. This methodology for determining a stabilization provision takes into consideration the two major financial risks faced by defined-benefit pension plans: interest rate risk and market risk.

## Scale – Stabilization Provision (%)

	(B) Asset/Liability Matching Duration of Assets/ Duration of Liabilities (%)				
	0	25	50	75	100
(A) Variable-income Investments (% of total assets)					
0	12	10	8	6	4
20	14	12	10	8	6
40	16	14	12	10	8
50	17	15	13	11	9
60	19	17	15	13	11
70	22	20	18	16	14
80	24	22	20	18	16
100	27	25	23	21	20

The key strength of this approach is that it prevents plans from taking extraordinary investment risk with pension funds without facing any funding / regulatory consequences.

## Ontario Approach

Ontario recently joined the list of jurisdictions that are legislating changes to the solvency funding rules. Bill 177, released On Nov. 14, 2017, contains limited provisions to reflect the new funding framework. The Ontario changes will require regulations (not yet released) before a more complete examination can occur. However, the addition of “provision for adverse deviations” as a new term in Ontario’s Pension Benefits Act offers another signal that Ontario is following the general trend set by Quebec.

## Evaluate Credit Risk Explicitly

As stated above, a stabilization provision of the type adopted in Quebec addresses interest rate risk and market risk. This list of risks faced by pensions is too short and immediately raises concerns about one other key financial risk. As the sponsor of a DB plan is responsible for its funding, any plan that is not fully funded faces a credit risk regarding the amount of that deficit. Specifically, it faces a risk of the sponsor potentially being unable to fund promises of future payment. This is, in essence, a credit risk with respect to the residual obligations. That risk is worthy of consideration separate from the market and interest rate risks that arise directly from the management of plan assets and liabilities.

The field of financial-risk management has developed extensive tools to assess credit risk. It is beyond the scope of this paper to recommend a specific credit evaluation mechanism. Indeed, some evaluation of creditworthiness is already employed by regulators in some jurisdictions when they evaluate requests to use letters of credit in funding a plan. No reasons have surfaced to question the validity of such processes, although a careful review would be needed before extending its scope of application more widely. This existing process could be used or modified to determine when credit risk reaches a level that warrants additional scrutiny. It is worth noting however that simply relying on rating agencies to decide that a company is in trouble proved woefully inadequate during the financial crisis of 2008–10.

## **Maintain Hypothetical Valuations as a Regulatory Tool in Select Instances**

In order to provide appropriate levels of scrutiny in a wide range of plan designs and circumstances, regulators need a wide range of tools at their disposal. In evaluating the solvency of pension plans, the hypothetical wind-up valuation is one such tool. It should be maintained for use as needed. However, to be useful in the fullness of current and future economic environments, the parameters of the current solvency funding rules should be eliminated and replaced with a much broader set of possible parameters. Hypothetical valuations used in this fashion on an as-needed basis would provide a mechanism for stress testing the plan's solvency. This, in turn, would empower the regulator to deal with plans/sponsors experiencing problems without imposing additional regulations and corresponding effort on solvent plans/sponsors.

## **Establish a Pension Insurance Program**

Any relaxation of funding requirements for workplace defined-benefit pensions axiomatically increases the default risk associated with those plans. Another possibility that should at least be mentioned is a government-backed insurance program to replace some of the benefits promised by defaulting sponsors. Such a program is in place in the U.S. (the Pension Benefit Guaranty Corporation) and in Ontario (the Pension Benefit Guarantee Fund) as well as other jurisdictions around the globe. This sort of program would provide an element of social insurance against unforeseeable shocks that might hit a particular sponsor or industry.

However, 40 years of experience with pension-benefit insurance programs has proven that it is extremely difficult to design a program that protects against the unforeseeable without becoming overwhelmed by problems that many would have considered foreseeable. Both of the North American insurance funds mentioned began with flat rates for plan participation, experienced huge issues of moral hazard, and subsequently went through a conversion to "risk-based premiums." It is essential for the viability of any such program that those participating plans that represent the highest risk be required to pay the highest price. We have sufficient experience with these programs (as well as deposit insurance programs) to state with certainty that sound policy design requires risk to be assessed on a plan-by-plan basis. Any scheme that forces sound DB plans to subsidize those that are less sound have been shown to provide another force that drives the sound companies to establish other types of pensions in order to leave the downward spiral. That option is neither recommended nor discussed further.

## **CHANGES THAT COMPLEMENT AMENDED FUNDING REQUIREMENTS**

A few related adjustments to law and/or regulation may warrant consideration concurrently with possible changes to the solvency funding requirement.

### **Extending Amortization Period**

Another proposal that has appeared over the past decade across multiple jurisdictions in Canada as a "temporary" solution to address pension issues is the extension of the amortization schedule used in calculating the solvency funding amount. This issue is indeed a question of

policy. Theory provides no single correct answer. Quebec's 2016 legislation provides for a 10-year amortization of deficits as does an order-in-council in British Columbia. Again, the reader can find a significant body of evidence and solid recommendations in the expert commission reports from 2008.

Initially, the public policy regarding amortization rules should recognize the three key types of supplemental liabilities to which such rules apply:

- a) liabilities that arise from the granting of past service credit in a new plan;
- b) liabilities that arise from benefit improvements in an established plan; and
- c) liabilities that arise from the spread between actual results and *ex ante* actuarial assumptions regarding investment returns, mortality, turnover, and plan expenses.

One important observation is that it is quite possible to use/allow different amortization periods for these different types of liabilities. Those of the first type tend to be large and generally result from the generosity of the plan and its sponsor. It seems quite reasonable if a plan is granting 10 years of past service credit to allow it to be funded over a period of 10 years. If the plan/sponsor is being more generous and allows a 15-year credit, it could be viewed as quite reasonable to permit the sponsor more time to fund that generosity. Allowing a firm time to fund larger benefits is entirely consistent with sound public policy. Indeed several decades ago this was the case in Canada with experience losses amortized over five years and initial unfunded liabilities amortized over 15 years.

When it comes to considering policy for benefit improvements, there is no simple comparable analogy for the years of past service granted. Rather, such a change is likely to be implemented by adjusting a parameter in the benefit formula, e.g., increasing 1.5 per year of service plan to 1.75 per cent. In a typical situation, such a benefit improvement is again an example of generosity. However, improvements can take such a wide range of different forms that it is impossible to generalize. About all that can be stated with certainty is that the amortization period should be at least as long as those related to liabilities of the type c, from the list above, but no more than of type a.

Meanwhile the c-type liabilities from the list above arise not out of generosity but rather out of volatility. They tend to be smaller in value; over time these actuarial gains and losses tend to cancel each other out if actuarial assumptions prove reasonably accurate. In order to encourage plans and sponsors to minimize volatility by adjusting plan assumptions as needed, a five-year rolling average may be adequate.

Selecting the minimum and maximum allowable amortization periods — whether the same for all types of supplemental liabilities or different for different types — is part of a larger debate concerning the proper amount of smoothing to use in financial analysis and reporting. The resulting proposal also should be reviewed in terms of intergenerational equity. A discussion of these two topics follows.

## Smoothing Debate

Trends and discussions around the globe over the past two decades have invested a considerable amount of time and discussion in the topic of “fair value” accounting. Eventually this discussion produced the International Financial Reporting Standards (IFRS) that have been mandatory in Canada since 2011. A cornerstone of IFRS is the use of market values for assets — a concept that is at odds with many of the concepts of smoothing that the actuarial profession has developed over the past century and applies regularly in pension valuation and reporting. In a sense, the accounting and actuarial professions have faced off on the question of how much smoothing is the right amount. Again, there is no single right answer.

In this instance, however, theory does offer a bit of guidance on how *not* to implement mark-to-market methodologies. It would be ill-advised to employ a valuation methodology that utilizes the market value of liabilities and the market value of assets without any regard to how well those two are matched. Greater matching reduces the volatility that will be faced by the plan and mitigates the volatility that occurs separately in assets and liabilities. The duration measure found in financial theory examines the extent of this matching. It should be incorporated into any technique that employs the mark-to-market approach.

As to the broader question of smoothing, regulators will have an important say in this debate when they elect whether to extend the amortization period for some or all supplemental liabilities. That is the primary mechanism through which smoothing is implemented in a DB plan.

## Intergenerational Equity

The five-year amortization period that has been used in recent history in Canada for a range of pension decisions is among the shortest found for any type of plan in any jurisdiction in North America. Still, one concern that arises whenever payment for something is delayed concerns intergenerational equity. Are we asking future generations to pick up the cost of the previous one? The answer to that question for most DB plans would be no. For example, extending the amortization period to 10 years would result in payment by the pool of current workers, unless a plan with a normal retirement age of 65 has an average participant age over 55, a situation that would be quite unusual. The question of intergenerational equity does not seem to be a significant concern that would arise by a doubling or tripling for the current five-year amortization period.

Still, the issue of intergenerational equity needs to remain in the minds of policy-makers. Some policy options, including those discussed in this paper, implicitly place a higher priority on the security of benefit promises made in the past, while others prioritize the pension plan’s financial viability over the longer term. Different parts of a plan’s membership have a different stake in how this tension is resolved. Retirees and older active members have a stronger interest in securing benefits while younger plan members have a stake in the long-term viability of the plan.

## Restricting Plan Changes

As stated previously, a benefit improvement is again an example of generosity. However, there have been examples of senior managers attempting to increase benefits in a plan when the sponsoring firm encounters financial difficulties. Whether done in an attempt to garner a

larger share of plan assets for the highly paid group, simply to steer remaining assets toward employees and away from other creditors, or select against a public guarantee fund, benefit increases sometimes do not pass the smell test. In order to protect the existing plan and its beneficiaries from the occasional nefarious proposal, I recommend the following:

- Require a reasonable method be used for costing benefit improvements, e.g., the same going-concern basis (as adjusted) as required for the minimum funding standards.
- No benefit improvement should be permitted unless the plan meets least a specified going-concern (as adjusted) funded ratio.
- Require that the sponsor's funding policy address funding for increases in benefits as well as the basic amounts.

Here again these recommendations draw heavily on those presented in the 2008 expert commission reports as those reflected considerable research and a sound thought process. The list intentionally incorporates good governance alongside sound financial theory.

## **CHANGING THE REGULATION**

The goal of amending regulation regarding pension funding is to maintain the effectiveness of that regulation in protecting pension participants while still encouraging sound management and removing barriers to plan startup and continuation. In all, I find that these policies deserve serious consideration by those charged with developing such regulation:

- Remove the current solvency valuation requirement for DB plans that are well funded.
- Maintain for the regulator an option to require a hypothetical valuation that examines wind up or any other circumstances presenting cause for concern. Their usage likely would be extremely rare. It allows the regulator to perform its function of ensuring the soundness of the plan without adding undue burden (including cost) to other plans.
- Develop a method to examine the credit risk to a plan. This may be as simple as incorporating a bond rating from one of several recognized rating agencies on the reports filed with the province.
- Extend the amortization period for initial plan liabilities as appropriate, considering the plan's specific past service credits.
- Restrict plan changes for underfunded plans.

## **IMPACTS OF THESE CHANGES**

Overall, some combination of the changes described above can be expected to improve the efficiency of the pension-funding regulation while simultaneously lowering some (but certainly not all) barriers to maintaining/establishing DB plans.

- Removing the mandatory solvency funding requirement would reduce the administrative work (and corresponding expenses) for the plan, thereby making more pension assets available to pay benefits. Similarly, the need for the regulator to review two separate valuations would be reduced.

- Maintaining the value of hypothetical valuations in the regulator’s toolkit and designing a mechanism to examine the credit quality of plan sponsors will improve the quality of regulation at a minimal cost.
- Any changes that add flexibility to the funding amount and the timing of contributions reduce the pressure on sponsor cash flow and make a DB plan more sustainable. When the DB plan becomes more sustainable, that removes pressure to wind up existing plans and/or convert them to some other form such as defined contribution (DC) or group RRSPs.

Finally, of course, efficiency would be maximized by harmonizing the modified requirements across jurisdictions.

## SUMMARY AND CONCLUSIONS

Significant work has occurred over the last several years in understanding the risks of a pension plan. Leading the way are changes adopted in Quebec that directly recognize key financial risks in a pension plan’s portfolio, specifically interest rate risk and market risk. This is an improvement over the previous forms of solvency regulation because it is dynamic in nature, i.e., it has the ability to adapt to different portfolio compositions and different market conditions. It reflects well the principles of modern portfolio theory. Now is a good time to begin incorporating this increased understanding of plan risks into the way regulators approach their job of overseeing plan risks.

Despite the progress in the management of portfolio risk and the opportunity to extend that into the regulatory sphere, public policy work to date has not recognized one other principal risk faced by pension plans: the credit risk associated with the sponsor’s ability to pay. Regulation could be strengthened by incorporating additional information in this regard and/or including that as a consideration in documents such as the CAPSA governance standards.

In addition, several other changes in the regulatory environment appear to be compatible with an updating of funding requirements and any desired change should be implemented at the same time. The primary examples are adjustments to the allowable amortization period for supplemental liabilities and restrictions on benefit improvements by plans facing greater risk.

Also, legislation has been enacted in several jurisdictions to permit target benefit plans; these provide an important opportunity for plan sponsors to manage the risk associated with a pension plan without the drastic conversion to defined-contribution plans. Offering an intermediate position that stops short of shifting nearly all risk to participants is a sound position to take — at least in theory. With any change so recent, however, it is possible that opportunities to improve implementation have surfaced. The superintendent may have received comments that suggest ways in which regulations could be clarified and additional questions answered to ensure clear and simple mechanisms to incorporate elements.

In the final analysis, both the public and regulators need to remember that funding policies — of both the trustees and regulatory authorities — do not affect the ultimate plan cost *except* with respect to the time value of money, i.e., whether investment earnings are inside or outside the plan. Changes that improve the way a plan looks on paper can be the worst kind of Band-Aid — *if* they are simply obscuring a problem rather than solving it.

## REFERENCES

- A Fine Balance: Safe Pensions, Affordable Plans, Fair Rules. Report of the Expert Commission on Pensions.* (2008). Toronto: 224.
- Getting our Acts Together.* (2008) Alberta/British Columbia Joint Expert Panel on Pension Standards (JEPPS).
- Innovating for a Sustainable Retirement System.* (2013). Report of the Expert Committee on the Future of the Québec Retirement System. Available online at [http://www.rrq.gouv.qc.ca/SiteCollectionDocuments/www.rrq.gouv.qc/Anglais/publications/rapport\\_comite/rapport.pdf](http://www.rrq.gouv.qc.ca/SiteCollectionDocuments/www.rrq.gouv.qc/Anglais/publications/rapport_comite/rapport.pdf).
- Ontario Ministry of Finance. (2016) *Review of Ontario's Solvency Funding Framework for Defined Benefit Pension Plans.* Accessed online at <https://www.fin.gov.on.ca/en/pension/solvency/review-solvency-funding.pdf> on September 25, 2017.
- Peters, Michael. (March 7, 2017) "Solvency and Funding." Financial Institutions Commission of British Columbia. Accessed online at <http://www.fic.gov.bc.ca/pdf/Pensions/SHSolvency2017.pdf> on September 25, 2017.
- Renda, Andrea. (2016) From Impact Assessment to the Policy Cycle: Drawing Lessons from the EU's Better-Regulation Agenda.* SPP Technical Paper (9:33) October 2016.
- Retooling Canada's Ailing Pension System Now, For The Future.* (2009) Ottawa: Canadian Institute of Actuaries. Accessed online at <http://www.cia-ica.ca/docs/default-source/2009/209097e.pdf> on April 4, 2016.
- Standards of Practice of the Canadian Institute of Actuaries (2015). Accessed online at <http://www.cia-ica.ca/publications/standards-of-practice> on April 4, 2016.
- Willis Towers Watson. (2016) "Stabilization Provision for the Funding of Quebec-Registered Defined Benefit Pension Plans." Accessed online at <https://www.towerswatson.com/en-CA/Insights/Newsletters/Americas/canadian-client-advisory/2016/stabilization-provision-for-funding-of-quebec-registered-db-plans> on April 12, 2016.

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