

PROFESSIONAL DISCRETION AND THE LAW: IMPACT OF ACTUARIES ON THE
UNDERFUNDING AND DECLINE OF PRIVATE SECTOR SINGLE EMPLOYER
DEFINED BENEFIT PENSIONS IN CANADA. HOW MANY “POST NORTEL” PENSION
FIASCOS ARE BREWING IN CANADA?

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ABSTRACT

Canada's two-tier occupational pension plans provide public sector workers (who are nearly all registered in defined benefit plans guaranteeing them incomes for life) with more than twice as much retirement income as the vast majority of private sector workers who either have no employer sponsored pension plan at all, or are registered in defined contribution plans offering no income guarantees. Since 2000 the number of workers enrolled in private sector single employer defined benefit (DB) pension plans in Canada has declined by 500,000 from 2 to 1.5 million, while the number of public sector workers enrolled in DB plans has remained stable at approximately 3 million. This thesis focuses on the 1.5 million workers who continue to be registered in private sector single employer defined benefit pension plans. It argues that the complex and often times confusing regulatory regimes governing pension actuaries affords them too much scope for discretion, contributing to DB plan underfunding, insolvency, and retirement income losses in the hundreds of billions of dollars.

In contrast to the Canadian Public Accountability Board's external oversight of the accounting profession, the actuarial profession has remained relatively immune from such external oversight, raising legitimate concerns about the impact of actuarial discretion on pension funding estimates. Since the 2000 bear market in Canada, actuaries have consistently overestimated returns on private sector single employer defined benefit (DB) pension plan investments, lowering employer contributions below the "fully funded" level required by legislation (i.e. the value of a plan's assets must be sufficient to meet its liabilities), to the point of causing chronic underfunding and insolvencies. Telecom giant Nortel's 2009 bankruptcy is a prime example of opaque funding. Actuaries underestimated Nortel's DB pension funding requirements by \$1.5 billion, resulting in benefit reductions of up to 43% for 20,000 pensioners and former employees. In United Steel's (formerly Stelco's) 2014 restructuring, actuaries underestimated the company's DB pension funding requirements by \$840 million, triggering potential income reductions of up to 30% for 2000 employees and 10,000 pensioners.

Considering that private sector single employer defined benefit pension plans must be fully funded by law, the legal issue emanating from their systemic underfunding is whether or not actuaries have been using their discretion in a manner which is within a reasonable interpretation of the margin of manoeuvre contemplated by the legislature, in accordance with the principles of the rule of law. This thesis discusses the merits of potential legal remedies to arrest the underfunding and decline in the number of private sector single employer defined benefit pensions in Canada, including the introduction of single employer target benefit plans, increasing employers' access to surplus, making actuaries fiduciaries, legislating external oversight, abolishing employer-actuary agency, and mandating specific discount rates. It concludes that the best legal remedy is the establishment of an independent external actuarial oversight board.

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CHAPTER 1-INTRODUCTION

Canada's two-tier occupational pension plans provide public sector workers (who are nearly all registered in defined benefit plans guaranteeing them incomes for life) with more than twice as much retirement income as the vast majority of private sector workers who either have no employer sponsored pension plan at all, or are registered in defined contribution plans offering no income guarantees. Since 2000 the number of workers enrolled in private sector single employer defined benefit (DB) pension plans in Canada has declined by 500,000 from 2 to 1.5 million, while the number of public sector workers enrolled in DB plans has remained stable at approximately 3 million. This thesis focuses on the 1.5 million workers who continue to be registered in private sector single employer defined benefit pension plans. It argues that the complex and often times confusing regulatory regimes governing pension actuaries affords them too much scope for discretion, contributing to DB plan underfunding, insolvency, and retirement income losses in the hundreds of billions of dollars.

The actuarial profession has a long history of providing critical expertise to society. However, despite the fact that the services it delivers are some of the most complex and mysterious of all professions (including estimating billions of dollars in pension funding requirements decades into the future), little has been written in the academic literature (outside of the actuarial profession itself) about actuaries' conflict of interest issues which are, in principle, similar to those which faced the audit profession prior to the 2001 Enron (a Texas based energy company) accounting scandal (the most significant corporate collapse in United States history since the failure of savings and loan banks in the 1980s). Enron's executives pressured consulting auditors to hide billions of dollars of debt (from failed business deals) in offshore entities, artificially inflating the company's

profits and share prices. The eventual exposure of these accounting irregularities resulted in \$60 billion of the company's market value being wiped out, thousands of job losses, and over \$2 billion in pension plan losses.

The Enron accounting scandal motivated the American government to enact the 2002 Sarbanes-Oxley Act (SOA)¹ to "enhance Corporate responsibility, enhance financial disclosures and combat corporate and accounting fraud". The SOA established the Public Company Accounting Oversight Board (PCAOB) to provide external oversight of auditors. Canada followed suit in 2003 by creating the Canadian Public Accountability Board (CPAB). In stark contrast, Canada's actuarial profession has remained relatively immune from external oversight, raising legitimate concerns about the impact of actuaries' discretion on pension funding estimates.

Actuaries render a professional opinion for a fee, leaving them susceptible to the conflict between providing advice based on objective analysis on the one hand, and serving the needs of DB plan sponsors on the other (whose objective may be to justify ways of spending as little as possible on their plans, especially in these times of increased funding requirements resulting from chronically low investment returns). As long as an employer can threaten to find another actuary to provide its actuarial services, such implied leverage might well have an effect on an actuary's work product. The reality is that at the stroke of an actuary's pen (by virtue of the vagaries of actuarial science), companies can make heroic assumptions about the returns their pension assets will earn, reducing the rate at which their funding obligations grow.

¹ H.R. 3763 (107th).

The funding requirements of defined benefit (DB) pension plans are in a constant state of flux due to their dependence on discount rates. As market returns increase and/or decrease daily, so do funding requirements. Actuaries are charged with the difficult (if not impossible) task of forecasting investment returns decades into the future in order to estimate the level of funding required to meet a plan's obligations. Overestimating/underestimating investment returns by as little as ½ of 1% can reduce/increase an employer's contribution requirements by tens of millions of dollars or even more, highlighting the significant impact of actuaries' discretion on the funding levels of DB plans in Canada.

Since the 2000 bear market in Canada, actuaries have consistently overestimated returns on private sector single employer defined benefit (DB) pension plan investments, lowering employer contributions below the "fully funded" level required by legislation (i.e. the value of a plan's assets must be sufficient to meet its liabilities), to the point of causing chronic underfunding and insolvencies. In short, funding has become opaque. Increasingly, funding policies have been concentrating on reducing contributions, both by directing increasing proportions of plans' investment portfolios to categories that have historically provided higher long-term returns and by deferring costs through pre-recognition of expected higher returns from equity investments (which often never materialize). In short, employers have been pushing deficits down the road (only 18% of defined benefit pension plans in Canada had a surplus (assets exceeding liabilities) in the first quarter of 2015 compared to 36% a year earlier (Aon Hewitt)), reducing retirees' pension cheques by up to 50% (or even more) in cases of insolvency.

The use of actuarial discretion to reduce funding requirements (in attempting to sustain DB plans) in Canada has resulted in opaque funding, making it difficult (if not impossible) to ascertain a

plan's true funding status. Telecom giant Nortel's 2009 bankruptcy is a prime example of this opaque funding. Actuaries underestimated DB pension funding requirements by \$1.5 billion, resulting in benefit reductions up to 43% for 20,000 pensioners and former employees. In United Steel's (formerly Stelco's) 2014 restructuring (wherein the Hamilton company was granted protection from its creditors), actuaries underestimated the company's DB pension funding requirements by \$840 million, triggering potential income reductions up to 30% for 2000 employees and 10,000 pensioners.² An additional \$40 million and \$100 million in underfunded pension obligations are projected for 2015 and 2016 respectively. United Steel's proposed Business Preservation Plan (permitting it to default on tens of millions of dollars of pension obligations³) was approved by the Ontario Superior Court in 2015:

In light of the difficult financial circumstances now facing United Steel (USSC), the company no longer has the financial resources and flexibility to continue to make these pension and retirement plan contributions and payments during its restructuring proceedings.⁴

Furthermore, the Court endorsed United Steel's request to suspend health-care benefits (at least temporarily) to 20,000 of its pensioners.⁵

Considering that private sector single employer defined benefit pension plans must be fully funded by law, the legal issue emanating from their systemic underfunding is whether or not actuaries have

² Since the start of its 2014 restructuring process, the company has paid about \$5.9 million a month into its main pension plans and expects to pay another \$23.6 million by the end of the year. Through 2016, pension costs could be as high as \$18.6 million per month under normal pension funding rules. (Note that in 2006 the Ontario Government gave the company 10 years to cover its pension shortfalls and provided it with a \$150-million forgivable loan if it succeeded, which it obviously it did not.)

³ Mark McNeil, "Today Is Decision Day for U.S. Steel, Hamilton Spectator" (09 October, 2016). Online: < www.thespec.com > Home > News > Business >.

⁴ Steve Arnold, "U.S. Steel Canada Wants to Scrap Pension Fund Payments, Retiree Benefits, and Hamilton Taxes" Hamilton Spectator (18 September, 2015). Online: < www.thespec.com > Home > News > Business >.

⁵ Samantha Craggs, "Judge Approves U.S. Steel Transition Plan, Suspends Retiree Benefits" CBC News (13 October 2015). Online: < [www.cbc.ca/.../judge-approves-u-s-steel-transition-plan-suspends-retiree-be...>](http://www.cbc.ca/.../judge-approves-u-s-steel-transition-plan-suspends-retiree-be...).

been using their discretion in a manner which is within a reasonable interpretation of the margin of manoeuvre contemplated by the legislature, in accordance with the principles of the rule of law.

This thesis discusses the merits of potential legal remedies to actuarial underfunding and insolvencies, including the introduction of single employer target benefit plans, increasing employers' access to surplus, making actuaries fiduciaries, legislating external oversight, abolishing employer-actuary agency, and mandating specific discount rates. It concludes that the best legal remedy is the establishment of an independent external actuarial oversight board.

Chapter 1 begins by introducing the concept of defined benefit (DB) pension plans and the magnitude of the underfunding problem in Canada. It then discusses provincial and federal pension standards legislation (the Ontario Pension Benefits Act (PBA) and the federal Pension Benefits Standards Act (PBSA), the focus of this thesis), before concluding with a literature review of "professional discretion and the law".

Section 1-Background

Canada's Two Tier Defined Benefit Pension Plans

A. The Concept of Defined Benefit Pension Plans and their Current Status in Canada

The rise of workplace pensions in Canada is very much a 20th century phenomenon. However, occupational pensions in Canada date back to 1870 when the federal government passed the first superannuation act authorizing the payment of an annual retirement allowance to public servants at the of age 60 or upon disability. The railroads became the first industrial sector to offer occupational pensions in 1874, followed by commercial banks around 1900.⁶

⁶ The first workplace pension plan recorded in Canadian history was a plan that the Hudson Bay Company established in 1840 (before Confederation in 1867). These plans generally deferred payment of a portion of employees' wages and were not classical "defined benefit" plans per se. (National Union, *A Brief History of*

Defined benefit pension plans (which guarantee workers a monthly retirement income based on their earnings and years of service) were introduced in the Canadian federal public service in 1924 and subsequently in the private sector (the focus of this thesis) beginning in the 1940s when employers began offering generous defined benefit pension plans to attract and keep the best workers in times of labour shortages.⁷ The most important factor influencing the growth of private sector occupational pension plans since the 1940s was the rise of the trade union movement and collective bargaining.⁸

Government regulation of occupational pension plans was initially non-existent as they were considered small fringe benefits. (Consequently, retaining actuarial advice on funding issues was optional depending on whether or not an employer was interested in knowing the costs and risks inherent in funding its plan). In sharp contrast, Canadian pension funds (spanning both the public and private sectors) are now one of the fastest growing pools of institutionalized capital in the country, dominated by large funds.⁹ Regulation is omnipresent with \$1.6 trillion in assets held in employer sponsored pension trust funds (75% public and 25% private).¹⁰ (Canada's top 10 pension

Pensions in Canada, 2007. Online: <

www.nupge.ca/files/publications/Pensions%20Documents/History_of_Pensions.pdf >.)

⁷ Treasury Board of Canada Secretariat, *Public Service Pension Plan History*, 2012. Online: < www.tbs-sct.gc.ca >.

⁸ National Union, *A Brief History of Pensions in Canada*, 2007. Online: <

www.nupge.ca/files/publications/Pensions%20Documents/History_of_Pensions.pdf >.

⁹ Jack Mintz and Vijay Jog, *Sovereign Wealth and Pension Funds Controlling Canadian Businesses: Tax Policy Implications*, University of Calgary, 2013. Online: <

www.policyschool.ucalgary.ca/sites/default/.../jogmintz-pensionwealth.p >.

¹⁰ Statistics Canada, *The Daily- Employer Pension Plans (trusteed pension funds)*, First Quarter, 2015. (Just over 6.2 million Canadian workers are members of employer-sponsored pension plans. Of this group, 5.2 million (83.3%) workers belong to pension plans with assets managed by trustee funds. The remaining members have assets managed by insurance company contracts. Data in this release refer only to trustee plans and their pension funds.)

funds account for about 2/3 of this \$1.6 trillion dollar total.¹¹) Approximately 30% is held in fixed investments, 15% in Canadian equities, 17% in global equities, 10% in real estate and the remainder in other investments.¹² Considering that 2 out of 3 active pension plan members belonged to a defined benefit plan in 2013 (down from 3 out of 4 in 2009), it is not surprising that DB investments (valued at over 1.2 trillion dollars) account for the lion's share of occupational pension plan investments in Canada.¹³

The vast majority of defined benefit plans in Canada were fully funded in the latter part of the twentieth century when stock markets were booming and bond yields were high, meaning returns on pension investments were not only high enough to cover plan liabilities, but also to yield surpluses. However, the investment climate changed rapidly by the year 2000 when the stock market bubble burst, causing real returns on the Toronto Stock Exchange to plummet to minus 13.18 % and minus 15.71% in 2001 and 2002 respectively.¹⁴ The net result was that pension solvency (asset/liability) balance sheets (closely tied to changes in financial markets) swung quickly from surplus to deficit positions, resulting in regulators demanding increased employer contributions. This increased cost resulted in fewer companies offering defined benefit plans to their employees. In fact, the number of workers enrolled in private sector single employer defined benefit pension plans in Canada declined approximately 25% from 2.0 million in 2000 to 1.4

¹¹ The Top Ten's \$1.1 trillion in pension assets under management in 2014 has more than tripled since 2003, over a period in which the world faced one of its most challenging economic periods. The increase has been driven by solid investment returns of over \$240 billion vs. net inflows to the funds made by members and their employers of over \$125 billion. (CNW Newswire, *Canada's Top Ten Pension Funds Help Drive National Prosperity*, 2013. Online: < www.newswire.ca/.../canada-s-top-ten-pension-funds-help-drive-national > & BNN Business Network, *Canada's Top 10 Pension Funds Tripled in Size Since 2003: Study*, 2015. Online: < www.bnn.ca/.../10/Canadas-top-10-pension-funds-tripled-in-size-since-2 >.)

¹² Canadian Institutional Investment Network, *Chronicle-An Overview of Pension Plans in Canada*, 2014. Online: < https://account.invesco.ca/institutionalPortal/.../CIIN_chronicle_1214.pdf >.

¹³ *Ibid* (Defined contribution and hybrid plans (discussed later) account for the remaining share of occupational pension plan investments).

¹⁴ Bob Baldwin, *Determinants of the Evolution of Workplace Pension Plans in Canada* (Toronto: The Caledon Institute of Social Policy, 2007) at 29.

million in 2013.¹⁵ According to the *2012 Canadian Retirement Trends Survey* conducted by the consulting firm Aon Hewitt,¹⁶ 50% of all private defined benefit pension plans in Canada have either been closed or frozen (not offered to any new employees) over the past decade.¹⁷

There are currently about 11.5 million private sector and 3.5 million public sector employees in Canada.¹⁸ Less than half of these workers (6 million) are registered in occupational pension plans (approximately 3 million in each of the private and public sectors).¹⁹ In other words, while nearly all of Canada's 3.5 million public servants are covered by a workplace pension plan, only about one quarter of the country's 11.5 million private sector employees are covered. As mentioned above, the number of private sector employees registered in single employer defined benefit plans fell from 2.0 to 1.4 million from 2000 to 2013, while public sector enrolment increased from 2.5 to 3.0 million over the same period.²⁰ This raises the public policy issue of why the number of public sector workers being offered so-called "gold plated" defined benefit pension plans has been

¹⁵ This is an estimate based on Statistics Canada, *Registered Pension Plans and Members by Jurisdiction of Plan Registration, Sector and Type of Plan*, 2013. Online: < www.statcan.gc.ca/tables-tableaux/sum-som/l01/.../famil120a-eng.htm > & Financial Services Commission of Ontario, *Financial Services Commission of Ontario Annual Report*: (Toronto 2012) at 8 & Office of the Superintendent of Financial Institutions Canada, *Office of the Superintendent of Financial Institutions Canada Annual Report: Federally Regulated Private Pension Plans*: (Ottawa, 2013). Online: < www.osfi-bsif.gc.ca > & Report of the Ontario Expert Commission on Pensions, *A Fine Balance* (Queen's Printer for Ontario, 2008).

¹⁶ Aon Canada offers a range of sophisticated advisory and consulting services in risk control and risk management, reinsurance, and human capital. It designs, structures and implements solutions that may involve traditional insurance products or risk-transfer programs, alternative financing techniques, or entirely new products to address a specific problem.

¹⁷ The Wall Street Journal, News Release "Canadian Pension Plan Sponsors to Focus on Improving Member's Understanding of Retirement Benefits" (02 May, 2012) The Wall Street Journal online: < wsj.com/article/PR-CO-20130502-909056.html >.

¹⁸ Statistics Canada, "Employment by Age, Sex, Type of Work, Class of Worker, and Province, Monthly (August, 2013)". Online :< Cansim, Tables 282-0087 and 282-0089 > (2.7 million self-employed workers are not included in these numbers).

¹⁹ Statistics Canada, "Registered Pension Plans (RPPs) and Members, by Type of Plan and Sector (2007-2011)," Online: < Cansim, Table 280-0016 >.

²⁰ *Ibid.*

increasing while the number of private sector workers receiving them has been steadily decreasing in recent years.

The Canadian Federation of Independent Business (CFIB) recently conducted a study estimating the financial costs of offering a defined benefit pension plan in Canada.²¹ It compared the future retirement incomes of two people currently working in the private and public sectors (Mary and Jane, respectively) with similar jobs earning equivalent salaries (\$79,511 in 2012) throughout their projected 35 year careers from 1995 to 2029 (See Appendix 1 on page 269 for the study's assumptions and calculations). Mary and Jane each contributed an equivalent percentage (6.2 % in 2012) of their annual income into their respective workplace pension plans since they began working in 1995. However, Jane's retirement funds were invested in a Registered Retirement Savings Plan (RRSP)²² (in which returns and therefore pension incomes fluctuate with markets), while Mary's funds were invested in a defined benefit pension plan in which her employer (the federal government) guarantees her pension income (equal to 2% of her annual income for each year of service up to a maximum of 70%).²³ The study projects that upon retirement at age 65 (in

²¹ Canadian Federation of Independent Business (CFIB), *Canada's Two-Tier Retirement System* (Toronto, 2013). Online: < www.cfib-fcei.ca/english/article/5423-two-tier-release.html >.

²² An RRSP is a type of defined contribution plan in which the pension payout varies with investment returns.

²³ Treasury Board Secretariat of Canada, "Report on the Public Service Plan Pension Plan for the Fiscal Year Ended 2012". Online: < www.tbs-sct.gc.ca >. (The public service pension plan provides pension benefits for federal public service employees. It was established and is governed in all aspects by the Public Service Superannuation Act. The plan is a contributory defined benefit plan covering substantially all of the employees of the Government of Canada, which includes the federal public service, certain Crown Corporations, and territorial governments. The government has a statutory obligation for the payment of benefits relating to the pension plan).

The public service pension plan is the largest pension plan in Canada, covering 313,652 active contributors in more than 145 departments and agencies, and 246,166 retired members and survivors. During the fiscal year ended March 31, 2012, pension plan member and employer pension contributions on a cash basis totaled \$4.4 billion, while benefit payments to retired members and survivors reached \$5.6 billion, creating a

2029), the private sector employee (Jane) will receive \$605,000 in benefits over 20 years of retirement, while Mary (the public sector employee) will receive a guaranteed pension income of \$1.4 million over the same 20 year period. The CFIB study attributes this \$776,000 difference to massive federal subsidies from Mary's public sector employer (the federal government) and a defined benefit formula that guarantees her benefits regardless of the amount of investment returns earned by her workplace pension fund. In other words, Mary has been contributing (and will continue to contribute) about 7% of her annual salary to receive 70% income replacement upon retirement, while Jane is projected to receive only about 30% income replacement from the same annual contributions of 7%. The CFIB study estimates that Jane's annual pension contribution would have to increase from \$218,000 to \$654,000 (or by \$436,000) over her career in order to increase her retirement income by \$776,000 to equal Mary's \$1.4 million DB pension income. In other words, Mary's public sector defined benefit pension is being subsidized by taxpayers to the tune of \$436,000, based on the assumptions (investment returns, longevity etc.) in the CFIB study (see Appendix 1 on page 269).²⁴ Looking at it another way, Jane would need to contribute an

fiscal year deficit of \$1.2 billion in the federal public service defined benefit pension plan. The value of the plan's total pension obligations increased to \$145.9 billion by March 3, 2012.

²⁴ *Ibid.* (The Office of the Chief Actuary, an independent unit within the federal pension regulator (the Office of the Superintendent of Financial Institution of Canada), provides a range of actuarial services and advice to the Government of Canada that includes the federal Public Service Pension Plan. The Office of the Chief Actuary is responsible for conducting an annual actuarial valuation of the federal Public Service Pension Plan for accounting purposes as well as a triennial (i.e., once every three years) funding valuation. The Government is required by legislation to make additional payments into the plan in the event of plan underfunding reported in the actuarial valuation.)

(Following Royal Assent of the federal *Jobs and Growth Act, 2012 in December 2012*, public sector pension reforms came into effect on January 1, 2013. These changes will bring contribution rates for public service defined benefit pension plan members more in line with the private sector by introducing a 50/50 cost-sharing model. This new model is expected to generate ongoing savings to taxpayers of \$900 million annually once it is fully implemented in 2017. This change is accounted for in the CFIB pension report calculations.)

additional 13 % of her pay every year throughout her career to accumulate the extra \$776,000 by age 65 (i.e. 13 per cent more per year than the amounts Mary contributes to her pension plan).

This 13% gap is considered by the CFIB to be a conservative estimate because although the study assumes both employees earn the same salaries, CFIB research (based on Statistics Canada Census data), estimates that federal government employees are paid up to 17 per cent more in wages than similarly employed individuals in the private sector. Furthermore, the average retirement age in the public service is 61, while the study assumes that Mary will work until age 65, the average retirement age in the private sector. Factoring higher wages and early retirement for Mary into the calculation, the gap between her total retirement benefits and those of Jane grows to over one million dollars according to the CFIB study.

Assuming only half of the remaining 1.5 million workers registered in private sector single employer DB plans in Canada have their pensions converted to DC plans, and that the average employee has completed half of his or her 35 years of maximum pensionable service (making them eligible for half of the DB pension subsidy of \$436,000 or \$218,000), the economic loss would amount to 750,000 (no. of employees) x \$218,000 = \$163,500,000,000 or approximately 160 billion dollars in employer subsidies. Applying the same assumptions to the CFIB's \$800,000 estimate of the difference between DB and DC retirement benefits per employee, the economic loss would amount to 750,000 (no. of employees) x \$400,000 = \$300,000,000,000 or approximately 300 billion dollars in lost pension income.²⁵

²⁵ These estimates are considered to be conservative estimate because although the CFIB study assumes both private and public sector employees earn the same salaries, CFIB research (based on Statistics Canada Census data), estimates that federal government employees are paid up to 17 per cent more in wages than similarly employed individuals in the private sector. Furthermore, the average retirement age in

It is evident that private sector workers like Jane cannot count on taxpayers to match their private pension plan contributions or to bail out their RRSPs in times of low investment returns. In other words, they have no hope of generating occupational retirement incomes comparable to Mary's. However, private sector workers and their employers are being counted on by governments to indirectly fund public sector pension income guarantees through income, payroll and other taxes.

Regulatory Jurisdictions

This thesis focuses on the federal Pension Benefits Standards Act ²⁶(PBSA) and the Ontario Pension Benefits Act²⁷ (PBA), the largest of Canada's 11 regulatory jurisdictions (P.E.I. is the only province without a *Pension Standards Act* as of 2014). The PBSA oversees federally regulated companies (including crown corporations) offering workplace pensions across Canada while the PBA regulates both private and public pension plans registered in Ontario. There are approximately 660,000 and 360,000 private sector single employer defined benefit pension plan workers registered under the regulatory jurisdiction of the Ontario PBA and federal PBSA respectively.²⁸

Ontario PBA

This thesis focuses on the declining number of employees registered in *private sector single employer* defined benefit pension plans in Ontario (Canada's largest pension jurisdiction with approximately half of all private plan members in the country), down by almost 200,000 members

the public service is 61, while the study assumes that the public sector worker (Mary) will work until age 65, the average retirement age in the private sector. Factoring higher wages and early retirement for Mary into the calculation, the gap between her total retirement benefits and those of Jane grows from \$776,000 to over one million dollars.(Plame Petkov, Canada's Two Tier Retirement, CFIB Pension Research Series at 4, 2013. Online: < www.cfib-fcei.ca/english/article/5423-two-tier-release.htm: >.

²⁶ Pension Benefits Standards Act, R.S.C. 1985, c. 32 (2nd Supp.)

²⁷ Pension Benefits Act, R.S.O. 1990.

²⁸ Financial Services Commission of Ontario, *Financial Services Commission of Ontario Annual Report*: (Toronto 2012) at 8 & Office of the Superintendent of Financial Institutions Canada, *Office of the Superintendent of Financial Institutions Canada Annual Report: Federally Regulated Private Pension Plans*: (Ottawa, 2013). Online: < www.osfi-bsif.gc.ca >.

(850,000 to 676,000) from 2005 to 2014.²⁹ The market value of pension assets registered under the PBA was estimated at \$420 billion in 2013, reflecting a 15 per cent increase from \$357 billion in 2009 and a 28 per cent increase from 2008. In 2012 there were about 8000 pension plans (public and private) registered under the PBA with approximately 4 million members (2.1 million active and 1.7 million retired).³⁰ 1.3 million of the 2.1 million active members were in the private sector.³¹ However, only about half (660,000) of private sector workers were registered in single employer DB plans,³² the focus of this thesis.³³

²⁹ Financial Services Commission of Ontario, *Financial Services Commission of Ontario Annual Report*: (Toronto 2014) at 9 & Financial Services Commission of Ontario, *Financial Services Commission of Ontario Annual Report*: (Toronto 2005) at 11. Single Employer Pension Plans (SEPPs) are the focus of this thesis because they have been steadily declining in recent years. SEPPs are riskier propositions than Multiple Employer Pension Plans (MEPPs) because they each address the issue of “full funding” rather differently. While surpluses for MEPPs may be used to fund contribution holidays or benefit improvements (as with SEPPs), unfunded liabilities in MEPPs are usually dealt with by reducing accrued or future benefits, including pensions already in pay — an option generally unavailable to SEPPs. In other words, the SEPP employer (sponsor) must make up any funding deficiencies, as accrued or future benefits cannot be reduced. Of course, if MEPP sponsors and their unions agree, benefit reduction can be avoided by renegotiating the sponsor contributions that are fixed in their current collective agreement; and in MEPPs that provide for member contributions, those contributions may be increased as well. But as a practical matter, these alternatives are often difficult to implement. Consequently, benefit reduction is a real and present danger for most MEPPs and their members. (Report of the Expert Commission on Pensions, *A Fine Balance: Safe Pensions, Affordable Plans, Fair Rules* (Toronto: Minister of Finance, 2008) at 68).

³⁰ Financial Services Commission of Ontario, *Financial Services Commission of Ontario Annual Report*: (Toronto 2012) at 8.

³¹ *Ibid.*

³² Most DB plan members (80%) are represented by unions, and of those, a significant majority (69%) are enrolled in plans that are classified as either jointly sponsored and governed (public JSPPs), or governed by boards of trustees, at least half of whose members must be union nominees (private MEPPs). Consequently, either indirectly through the negotiation of a collective bargaining agreement (CBA), or directly through their representatives on boards of trustees, active plan members typically have an opportunity to influence plan design and decision-making. (Ontario Expert Commission on Pensions, *A Fine Balance* (Toronto, Queen’s Printer, 2006).

³³ SEPPs are characteristically (but not exclusively) located in the private sector, as are some MEPPs and, potentially, JSPPs. Private sector SEPPs are therefore especially vulnerable to fluctuations in the sponsor’s fortunes and to the risk of the sponsor becoming insolvent. They are also more likely to face restructuring as corporate sponsors reconfigure themselves, merge with other corporations or simply decide to redesign or close their plans. Public sector plans — largely MEPPs and JSPPs — have faced divestments or reorganizations as well, but with somewhat less frequency.

A SEPP is sponsored by a single employer; the chances of that employer getting into financial difficulty to the prejudice of the plan are much greater than in the case of a MEPP (or most JSPPs), where multiple employers are available to sustain the plan, even if one goes under. Many MEPPs and most JSPPs are

The percentage of defined benefit pension plans that fell below the 80% funded level (i.e. a plan's assets are only sufficient to pay 80% of its liabilities) in Ontario more than doubled between 2001 and 2002, from 23.4% to 50.6%.³⁴ Fast forwarding ten years, the Financial Services Commission of Ontario's (FSCO's)³⁵ *2012 Report on the Funding of Defined Benefit Pension Plans*³⁶ revealed that 54% of Ontario's defined benefit pension plans were less than fully funded versus 52% in its 2011 report.³⁷ (Incidentally, this underfunding problem also existed in Canada's other 10 regulatory jurisdictions).

Note that strong equity returns and rising long-term interest rates in 2013 resulted in a dramatic year of improvement in the funding status of Canadian pension plans. Almost 40% of pension plans tracked by Mercer³⁸ were fully funded at the end of 2013 compared to 6% a year earlier.

Furthermore, only 6% were less than 80% funded, down sharply from 60% in 2012.³⁹ The volatility in defined benefit pension plan funding was evidenced by falling long term interest rates in 2014.

(Note that pension plans use long-term interest (discount) rates to calculate the size of their pension

more able to spread risks and amortize costs over a larger member base than almost all SEPPs. Funding rules should therefore be designed to take account of the different risks inherent in each plan type. (Ontario Expert Commission on Pensions, *A Fine Balance* (Toronto, Queen's Printer, 2006).

³⁴ *Ibid.*

³⁵ The Financial Services Commission of Ontario (FSCO) is an agency of the Ministry of Finance that regulates registered pension plans in Ontario in accordance with the Pension Benefits Act (PBA) and Regulation 909, as amended.

³⁶ Financial Services Commission of Ontario (FSCO), *2012 Report on the Funding of Defined Benefit Pension Plans in Ontario* (Toronto: Queen's Printer for Ontario, 2013) at 6. (This report is based on the latest filed funding valuation reports for defined benefit plans that had valuation dates between July 2, 2009 and June 30, 2012, and financial statements for the fiscal year ending between July 1, 2011 and June 30, 2012).

³⁷ These funding percentages are based on a going concern basis where the plan is assumed to continue operating on the valuation date as opposed to a being based on a solvency basis where the plan is assumed to wind-up on the actuarial valuation date.

³⁸ Mercer is one of the largest consulting firms in the world, operating internationally in more than 40 countries with more than 19,000 employees. (*Wikipedia*). Online: < [www.en.wikipedia.org/wiki/Mercer_\(consulting_firm\)](http://www.en.wikipedia.org/wiki/Mercer_(consulting_firm)) >.

³⁹ Barbara Shecter, "Defined Benefit Plans Healthier than Ever But Don't Expect to See More of Them" *Financial Post*, (2 January 2014) FP Street. Online: < www.business.financialpost.com/2014/.../canadian-pension-plans-start-2014-at >.

liabilities; i.e. lower rates raise the level of funding required to meet a plan's obligations). FSCO⁴⁰ reported that the percentage of fully funded defined benefit plans in Ontario fell from 54% to 23% over the 2 year period from 2012 to 2014 (according to *FSCO's 2014 Annual Report on the Funding of Defined Benefit Pension Plans*⁴¹).

Federal PBSA

Under the *Office of the Superintendent of Financial Institutions Act, Pension Benefits Standards Act, 1985 (PBSA)* and the *Pension Benefits Standards Regulations, 1985 (Regulations)*, the Office of the Superintendent of Financial Institutions (OSFI) regulates and supervises private pension plans in federally regulated business, works and undertakings such as banking, telecommunications and inter-provincial transportation. OSFI is also the regulator for pension plans established in respect of employment in the Yukon, the Northwest Territories and Nunavut. It supervised 1226 private pension plans covering 631,000 employees or about 6% of all workers registered in workplace plans in Canada in 2014.⁴² Approximately 1/4 of these plans were DB, covering 340,000 employees (over half of the total) a decline of 60,000 members from the 400,000 DB plan membership in 2003.

Defined benefit pension assets regulated by FSCO increased by \$17 billion from \$ 95 billion in 2005 to \$112 billion in 2014. Similar to the Ontario PBA, the funding status of federally regulated plans also improved dramatically in 2013 due to improved investment returns. 39% of OSFI's plans were fully funded at the beginning of 2014 compared to only 10% a year earlier.⁴³ However, similar

⁴⁰ The Financial Services Commission of Ontario (FSCO) is an agency of the Ministry of Finance that regulates registered pension plans in Ontario in accordance with the Pension Benefits Act (PBA) and Regulation 909, as amended.

⁴¹ Financial Services Commission of Ontario, *Financial Services Commission of Ontario Annual Report*: (Toronto 2014) at 8.

⁴² Office of the Superintendent of Financial Institutions Canada, *Office of the Superintendent of Financial Institutions Canada Annual Report: Federally Regulated Private Pension Plans*: (Ottawa, 2015). Online: < www.osfi-bsif.gc.ca/Eng/Docs/ar-ra/1415/eng/ar1415.pdf >.

⁴³ *Ibid.*

to Ontario, the percentage of fully funded defined benefit pension plans decreased to 21% over the next 12 months due to falling interest rates.⁴⁴

Air Canada was placed on OSFI's "watch" list in the early 2000s.⁴⁵ In its 2004 restructuring (bankruptcy protection filing) the airline asked permission from OSFI to extend the funding of its 1.2 billion dollar defined benefit plan pension shortfall from 5 to 10 years. Despite receiving permission to extend its funding, Air Canada's pension deficit continued to balloon to 4.4 billion dollars by 2011. In response, the federal government passed special legislation allowing Air Canada more flexibility in funding its pension deficit.⁴⁶ There have been several factors that have since contributed to the elimination of Air Canada's solvency deficit (which sat at \$3.7-billion at the start of 2013), not the least of these was an increase in its discount (interest) rate from 3.0 % in 2013 to

⁴⁴ Office of the Superintendent of Financial Institutions, "Newsletter from the Private Pension Plan Division at Osfi" Issue 13, 2015. Online: < www.osfi-bsif.gc.ca/eng/pp-rr/Pages/default.aspx>.

⁴⁵ Nicholas LePan (Superintendent, Office of the Superintendent of Financial Institutions) (Remarks delivered at the General Meeting, Canadian Institute of Actuaries, 2004. online: <www.osfi-bsif.gc.ca>.

⁴⁶ CNW, "Air Canada Provides Update of Solvency Update in Registered Pension Plans" A PR Newswire Company (07 Feb. 2011) online: <www.newswire.ca/.../air-canada-provides-update-of-solvency-deficit-in-r...>. (In July 2009, the Government of Canada adopted the Air Canada 2009 Pension Regulations. These regulations relieved Air Canada from making any past service contributions (i.e. special payments to amortize the plan solvency deficits) to its ten domestic defined benefit registered pension plans in respect of the period beginning April 1, 2009, and ending December 31, 2010. Based on these regulations, for the period from January 1, 2011 to December 31, 2013, the aggregate annual past service contribution equals the lesser of (i) \$150 million, \$175 million, and \$225 million in 2011, 2012, and 2013, respectively, on an accrued basis, and (ii) the maximum past service contribution permitted under the Canadian Income Tax Act.).

CBC News, "Air Canada Emerges from Federal Pension Deal" The Canadian Press (15 May 2015) online: <www.cbc.ca/.../air-canada-emerges-from-federal-pension-deal-1.3089370>. (Air Canada announced that it had a pension surplus of \$1.2 billion and was opting out of the *Air Canada Pension Plan Funding Regulations, 2014*, effective May 26, 2015. Under these regulations, Air Canada was required to make solvency deficit payments of \$200 million per year, on average, over a seven-year period. The agreement also contained several restrictions, including a prohibition on share repurchases, dividends, executive bonuses and plan improvements. As a result of opting out, Air Canada will now fund the pension according to normal funding rules. The company will make pension solvency payments of approximately \$90 million in 2015 versus the \$200 million it would have had to contribute under the special regulations for past service costs, in addition to the \$125 million they will pay in current service costs. (Note that the plan remains in a \$445 million deficit given that, under normal funding rules, a plan's financial standing is based on a three year average.)).

3.9 % in 2014. For every 1% rise in the discount rate, Air Canada's solvency liability was reduced by \$1.5 billion, translating into \$1.35-billion in savings.⁴⁷ This was in addition to the \$970-million in savings from the implementation of changes to its pension benefits, including moving new hires into a hybrid (defined benefit/contribution) pension plans as part of its 2012 contract negotiations. The carrier also contributed \$225-million in cash to its DB plan in 2013.⁴⁸

In 2009 Nortel Networks (another federally regulated company) also filed for bankruptcy protection. (However, unlike Air Canada, it did not survive bankruptcy proceedings.) Upon dissolution, Nortel's \$5 billion plan carried a 1.5 billion dollar deficit, resulting in benefit reductions up to 43% for its 20,000 pensioners and former employees.⁴⁹

1. Significance of Defined Benefit Pension Plan Funding Estimates

It is evident from the Air Canada and Nortel bankruptcies that employers, employees, and pensioners all have a vested interest in understanding the complex and crucial issues involved in defined benefit pension funding. Employers need to know what their pension promises will cost them, while actively contributing employees and retirees need assurances that their plans have sufficient funding to meet current and future obligations. Funding is also critically important to those parties one step removed from the day to day operations of defined benefit pension plans, including:⁵⁰

- 1. Pension regulators (preventing plan failures).**

⁴⁷ The higher the interest (discount) rate, the lower the investment level required to pay future liabilities.

⁴⁸ "Air Canada Eliminates \$3.7 Billion Dollar Pension Deficit" *The Financial Post* (22 January, 2014). Investing. Online: < business.financialpost.com/2014/01/22/air-canada-pension-deficit-2014 >.

⁴⁹ Wikipedia, *Nortel Retirees and Former Employees Protection Canada*, 2013. Online: < www.nortelpensioners.ca >.

⁵⁰ Report of the Ontario Expert Commission on Pensions, *A Fine Balance* (Queen's Printer for Ontario, 2008) at 53.

2. Tax collectors (preventing the illicit sheltering of corporate income).
3. Union members (preventing the loss of much-valued and hard-won benefits).
4. Investors and creditors (preventing the unanticipated “legacy” costs of maintaining a pension plan gone bad).
5. Policy makers (require an accurate idea of the overall funding status of pensions to plan for the social and economic well-being of retirees).

Valuing the funding requirements of defined benefit pension plans is challenging for several reasons including:⁵¹

1. The pension promise is typically made good over decades. For example, an employee 30 years of age in 2013 may not retire for 30 years and will continue to draw his or her pension for another 20 years until 2063 or longer.
2. The factors that define the value of the pension promise (employees’ years of service and income) vary with changes in factors such as life expectancy, salaries, benefits, business conditions and regulatory requirements.
3. The cost of paying for the pension promise is constantly changing as asset requirements change to meet evolving long term liabilities (which fluctuate with interest rates, among other factors).

2. Chapter Summaries

This thesis focuses on the Ontario Pension Benefits Act⁵² (PBA), the largest pension jurisdiction in Canada, and the federal Pension Benefits Standards Act⁵³ (PBA). It is divided into eight chapters. Chapter 1(the Introduction) introduces the concept of two tier defined benefit (DB) pension plans in Canada, highlighting the stark contrast between public sector workers (who are nearly all registered in defined benefit plans guaranteeing them incomes for life) and private sector workers, the vast majority of whom either have no employer sponsored pension plan at all, or are registered in defined contribution plans offering no income guarantees. It then discusses the magnitude of the

⁵¹ *Ibid.*

⁵² *Pension Benefits Act*, R.S.C. 1985, c. 32 (2nd Supp.).

⁵³ *Pension Benefits Standards Act*, R.S.O. 1990.

funding problem in private sector single employer DB plans, before concluding with a literature review of “professional discretion and the law”.

Chapters 2-7 focus on the current regulatory environment facilitating the underfunding of defined benefit pension plans in Canada. Chapter 2 discusses the general regulatory regimes overseeing DB plan funding while Chapter 3 provides an overview of specific legislation, regulations, and professional bodies governing actuarial funding. It highlights the disconnect between short-term funding policies based on malleable actuarial assumptions and the long term nature of DB funding.

Chapter 4 examines the impact of the governance of discount (interest) rates⁵⁴ on pension funding, concluding that public policy in Canada permits actuaries to use their discretion to estimate higher than market discount rates to reduce employers’ funding requirements. It proposes the establishment of an independent external oversight board to establish a common framework for estimating discount rates, promoting a common understanding amongst actuaries of how to improve the consistency of their estimates.

Chapter 5 discusses the impact of the governance of actuarial methods on the underfunding of defined benefit pension plans. It examines asset/ liability valuations, asset allocation policy, and the role of the actuary, revealing that actuaries are using actuarial methods to push DB funding problems down the road in lieu of addressing them. The chapter concludes by proposing that an independent external oversight board be established to monitor the reliability and usefulness of actuarial methods in Canada.

⁵⁴ The discount rate is the interest rate that a sum of money invested today would need to earn to equal a specified value at a future date. For example, a discount rate of 10% applied to a \$100.00 sum expected to be received in one year results in a present value of \$90.90. In other words, \$100 received in one year is worth \$90.90 today.

Chapter 6 examines the impact of the governance of surplus on actuarial underfunding, concluding that courts' surplus policy over the past three decades (from the "Dominion Stores" case in 1986 to Manitoba Telecom in 2014) has restricted employers' access to surplus, inadvertently promoting actuarial underfunding and insolvency.

Chapter 7 discusses the reasons for the economic failure of the traditional DB model and proposes the adoption of fixed funding "target benefit" plans (which effectively eliminate the impact of actuaries' discretion on funding) as one possible remedy to the current underfunding dilemma.

Chapter 8 is the conclusion. It proposes various legal remedies to the underfunding of private sector single employer defined benefit pension plans including increasing employers' access to surplus, making actuaries fiduciaries, and establishing an actuarial oversight board. It concludes that the establishment of an independent external actuarial oversight board would be the best legal remedy.

Section 2-Literature Review

Professional Discretion and the Law

1. Overview

Professional discretion is regulated by administrative bodies empowered by legislation. David Mullan defines administrative law as "the body of law that establishes or describes the legal parameters of power that exist by virtue of Statute or residual Royal prerogative."⁵⁵ This section reviews the curial and academic treatment of professional discretion in Canada.

⁵⁵ David Mullan, *Administrative Law* (Irwin Law: Toronto, 2000).

Canadian administrative law addresses the actions and operations of governments and governmental agencies. It concerns itself with the manner in which courts can review the decisions of administrative decision-makers such as a board, tribunal, commission, agency or minister. Administrative law is concerned primarily with issues of substantive review (the determination and application of the appropriate standard of review to either accept or reject an administrator's decision) and with issues of procedural fairness (the enforcement of a person's participatory rights in an administrative process).⁵⁶

An "appeal" of an administrative agency's decision is known as "judicial review," a process whereby a court of law is asked to rule on the appropriateness of an administrative agency's or a tribunal's decision. Judicial review allows a court to consider the entire decision-making process of an administrator, including the process and the findings of fact and of law. The power of judicial review is found either in the enabling statute or by virtue of the common law.⁵⁷

Historically in Canada all administrative decisions classified as "legal" were reviewable while those classified as "discretionary" could only be reviewed on limited grounds such as the bad faith of decision-makers, the exercise of discretion for an improper purpose, and the use of irrelevant considerations.⁵⁸ In other words, judges determined whether or not an administrative decision was reviewable simply by classifying it as "legal" or "discretionary". The Supreme Court of Canada repudiated this dichotomy in the 1999 case *Baker v. Canada*.⁵⁹ In *Baker* the Court held "there is great difficulty in making rigid classifications between discretionary and non-discretionary [legal] decisions" and that "all decisions should be subject to the same standards of judicial review."

⁵⁶ *Ibid.*

⁵⁷ *Ibid.*

⁵⁸ See, for example, *Maple Lodge Farms Ltd. v. Government of Canada*, [1982] 2 S.C.R. 2, at pp. 7-8; *Shell Canada Products Ltd. v. Vancouver (City)*, [1994] 1 S.C.R. 231.

⁵⁹ *Baker v. Canada (Minister for Citizenship and Immigration)* [1999] 2 S.C.R. 817.

Consequently, virtually all administrative decisions made in Canada are now potentially reviewable by the courts.

2. Discretion Defined

Discretion is about power and judgement. It arises in the public domain when officials are empowered to make decisions on how authority should be exercised in particular circumstances. Not surprisingly, discretion has been the focus of countless law and policy initiatives designed to preserve, enhance, check, limit, shape, or eliminate it.⁶⁰ The conventional paradigm of discretion is captured by the observation that where the law ends, discretion begins. In other words, the rule of law has historically been equated with the notion of justice whereas discretion has been viewed as the antithesis of the law.⁶¹

Philip Anisman observed in 1975 (in the first significant attempt to catalogue discretionary power in Canada) that the exercise of discretion does not in and of itself suggest any particular value. He noted: “Depending on the context and the actions of a discretionary decision maker, discretion may mean beneficence or tyranny, justice or injustice, reasonableness or unreasonableness.”⁶² Recent academic articles seem to concur with Anisman’s generalized concept of discretion, stating that discretion works in varied, historically specific, empirical contexts to enable different forms of governance. These various forms of governance include progressive dialogic and democratic forms,

⁶⁰ Anna Pratt & Lorne Sossin, “A Brief Introduction of the Puzzle of Discretion” (2009) 24:3 CJLS 301. [Sossin and Pratt, Discretion] at 301.

⁶¹ *Ibid.*

⁶² Philip Anisman, ed., *A Catalogue of Discretionary Powers in the Revised Statutes of Canada*, 1970 (Ottawa: Law Reform Commission of Canada, 1975) at Preface.

hotly political and authoritarian forms, racialized, classed, risk-based, biopolitical, sovereign, disciplinary, and other oppressive forms.⁶³

Sossin and Pratt discussed the standard dictionary definition of discretion as: "The power or right to decide or act, according to one's own judgement or choice."⁶⁴ In the context of the administration of public law and policy, the "freedom to choose" by autonomous decision makers is defined in natural opposition to the constraints imposed by legal rules. Indeed, the same dictionary defines "arbitrary" (arbitrariness being the most prevalent concern associated with discretionary decision making), as "subject only to individual will or judgement, without restriction; contingent only on one's discretion: an arbitrary decision... having unlimited power; uncontrolled or unrestricted by law; despotic; tyrannical."⁶⁵ In other words, discretion is all about the power of law, autonomy, and freedom of choice.⁶⁶

The development of administrative law was shaped by a particular interpretation of A. V. Dicey's conception of the rule of law, as expressed in his *Introduction to the Study of the Law of the Constitution*.⁶⁷ Dicey abhorred discretion, which he viewed as antithetical to the rule of law because he believed that it inherently led to the exercise of arbitrary power. The dominant scholarly view of discretion (until the advent of the welfare state) was articulated by Dicey in his book *Law and Constitution*, first published in 1915:

⁶³ *Supra*, see note 60 at 302.

⁶⁴ Random House Dictionary of the English Language, 2nd ed., sub verbo "discretion" as cited in Sossin and Pratt, *Discretion* at 302.

⁶⁵ *Ibid.* sub verbo "arbitrary".

⁶⁶ *Supra*, see note 72 at 302.

⁶⁷ First published in 1885, it will be referred to here, unless otherwise indicated, in its 10th edition edited by E.C.S. Wade: A.V. Dicey, *An Introduction to the Study of the Law of the Constitution*, (London, MacMillan and Co. Ltd., 1959) [Dicey, *Law of Constitution*] as quoted in Genevieve Cartier, *Reconceiving Discretion*, from *Discretion As Power to Discretion As Dialogue* (Doctor of Juridical Science Thesis, University of Toronto Faculty of Law, 2004). [Cartier, Thesis]

No man is punishable or can lawfully be made to suffer in body or goods except for a distinct breach of law established in the ordinary legal manner before the ordinary courts of the land. In this sense the rule of law is contrasted with every system of government based on the exercise of persons in authority of wide, arbitrary or discretionary powers of constraint...It means that absolute supremacy or predominance of regular law as opposed to the influence of arbitrary power, and *excludes the existence of* arbitrariness, or prerogative, or even *of wide discretionary authority on the part of the government*. Englishmen are ruled by law, and by law alone; a man may with us be punished for a breach of law, but he can be punished for nothing else.⁶⁸

Dicey believed that government decisions classified as “legal” should be reviewable while “discretionary” decisions should not be reviewable. However, considering that all decisions involve at least some degree of discretion, he failed to explain how to differentiate (in practice) between “legal” and “discretionary” decisions.

Sharp v. Wakefield,⁶⁹ an 1891 English House of Lords case, held that legal and discretionary decisions were mutually exclusive. It held:

Discretion means that when it is said that something is to be done within the discretion of the authorities that that something is to be according to the rules of reason and justice, not according to private opinion...according to law, not humour. It is to be, not arbitrary, vague and fanciful, but legal and regular. And it must be within the limits to which an honest man competent to the discharge of his office ought to confine himself.⁷⁰

Unfortunately, similar to Dicey’s conception of judicial review, *Sharp v. Wakefield* failed to provide any useful guidelines on how to differentiate “discretionary” decisions from “legal” ones.

Amazingly, this arcane notion of discretion was the law in Canada up until *Baker* in 1999.

⁶⁸ *Ibid.* at 188 and 202.

⁶⁹ *Sharp v. Wakefield* [1891] A.C. 173 as cited in Lorne Sossin, *Revenue, Ideology and Legitimacy: The Politics of Tax Administration in Canada*, (Thesis for Doctor of Juridical Science degree) University of Toronto, 1992.

⁷⁰ *Ibid.* at 179.

3. Academic View of Discretion

Historically, academics in Canada have viewed discretion as a top-down exercise of state power that could not be reviewed by ordinary courts.⁷¹ In fact, with the notable exception of the 1959 Supreme Court of Canada decision *Roncarelli v. Duplessis*⁷² (where Rand J. clearly questioned both the view of discretion as power and the unchallengeable nature of discretion), this kind of thinking exercised an overwhelming influence on the conception of discretion and on the structure of judicial review in Canada.⁷³ In essence, courts limited themselves to policing the *boundaries* within which discretion was to be exercised, on the basis that discretion was intrinsically political and outside of their legitimate domain of intervention.⁷⁴

In concert with the rise of the welfare state in the 1960s, students of jurisprudence began to develop a more progressive view of discretionary decision making. They saw discretion as a "humanizing" device, permitting decision makers to apply the rules of law to specific circumstances. However, this individualized application of the law in determining people's rights provoked many academics to cling to the traditional power model. Scholars (most notably Kenneth Culp Davis) returned to their earlier views that administrative discretionary powers were a serious threat, both real and potential, to individual justice. Since Davis' influential 1969 study *Discretionary Justice*, administrative discretion in Canada has most often been posited as an oppositional threat to the rule of law; as a potential source of abuse and arbitrary state action, that needs to be constrained and

⁷¹ See R.C.B. Risk "Lawyers, Courts and the Rise of the Regulatory State", *Dalhousie Law Journal* 9 1984, 31; see also H.W. Arthurs, "Jonah and the Whale: The Appearance, Reappearance and Disappearance of Administrative Law" *University of Toronto Law Journal* 30 1980, 225 as cited in Lorne Sossin, *Revenue, Ideology and Legitimacy: The Politics of Tax Administration in Canada*, (Thesis for Doctor of Juridical Science degree) University of Toronto, 1992. [Sossin, Revenue].

⁷² *Roncarelli v. Duplessis*, [1959] S.C.R. 121.

⁷³ Cartier, Thesis at 18.

⁷⁴ *Ibid.* at 3.

limited by rules and principles of legality.⁷⁵ Davis believed that "discretionary justice" could only be achieved by minimizing the injustice caused by discretionary authority given to government officials such as police officers. He wrote "A public officer has discretion whenever the effective limits on his power leave him free to make a choice among possible courses of action or inaction."⁷⁶ It was Davis who advanced the notion that all public administration had to be subjected to "fairness and reasonableness" standards.⁷⁷

Since the 1960s most jurisprudence on discretion has focussed on the application of legal standards to constrain the exercise of discretion. In 1986 D.J. Galligan made a significant contribution to the study of legal discretion as he advanced a framework for approaching discretion as a distinct sphere of legal action and criticized Davis for, among other things, his failure to include any consideration of policy making in his study of discretion, arguing that policy making is "the very heart of the discretionary process:

[It refers to] powers delegated within a system of authority to an official or set of officials, where they have some significant scope for settling the reasons and standards according to which power is to be exercised, and for applying them in the making of specific decisions. The process of settling the reasons and standards must be taken to include not just the more obvious cases of creating standards where none is given, but also individualizing and interpreting loose standards, and assessing the relative importance of conflicting standards. Central to this sense of discretion is the idea that within a defined area of power the official reflects upon its purposes, and then settles upon the policies and strategies for achieving them. There may be discretion in identifying and interpreting purposes; there may also be

⁷⁵ Davis' primary paradigm for discretionary decision-making was police oriented. It was here, in his view, that "huge concentrations of injustice" invited "drastic reform". Davis' prescription for unchecked discretion was to advocate for more internal administrative rule-making. K.C. Davis, *Discretionary Justice* (Westport, Conn.: Greenwood Press, 1969) at 215. For further discussion, see K. Hawkins, "The Use of Legal Discretion: Perspectives from Law and Social Science" in K. Hawkins, ed., *The Uses of Discretion* (Oxford: Clarendon Press, 1992) at 11 as cited in Lorne Sossin, "Discretion and the Culture of Justice" (2006) *Sing. J...L...S.* 375. [Sossin, Discretion].

⁷⁶ *Ibid.*

⁷⁷ Sossin and Pratt, *Discretion* at 303.

discretion as to the policies, standards, and procedures to be followed in achieving these purposes.⁷⁸

Chief Justice Beverley McLachlin of the Supreme Court of Canada seemed to concur with Galligan's viewpoint, noting in 1992 that "things are not as simple as Dicey perceived them. The law is not as certain as he would have it, nor are administrators as arbitrary."⁷⁹ In the 1990s legal scholarship began exploring discretion as a mechanism for dialogue, democratization, and the enhancement of human dignity.⁸⁰ Social scientific scholarship, drawing from a slightly different conceptual tool kit, also began to explore discretion as a specific mode of governance in its own right.⁸¹

4. Curial Treatment of Discretion

In the 1999 case *Baker v. Canada (Minister for Citizenship and Immigration)*⁸² (in which an immigration officer denied a Jamaican lady's application to stay in Canada on humanitarian and compassionate grounds without providing any reasons) L'Heureux-Dube J. wrote: "The concept of discretion refers to decisions where the law does not dictate a specific outcome, or where the decision-maker is given a choice of options within a statutorily imposed set of boundaries." Robert Dworkin seemed to concur with her concept in his famous doughnut analogy stating, "Discretion, like a hole in a doughnut, does not exist except as an area left open by a surrounding belt

⁷⁸ D.J. Galligan, *Discretionary Powers: A Legal Study of Official Discretion* (Oxford: Clarendon Press, 1986) at 110.

⁷⁹ Beverley McLachlin, "Rules and Discretion in the Governance of Canada" (1992) 56 Sask L Rev 168.

⁸⁰ See, e.g., Lorne Sossin, "The Politics of Discretion: Towards a Critical Theory of Public Administration" (1993) 36 Canadian Public Administration 364 as cited in Sossin and Pratt, *Discretion* at 303.

⁸¹ See, e.g., Anna Pratt, *Securing Borders: Detention and Deportation in Canada* (Vancouver: UBC Press, 2005); Willem DeLint, "Regulating Autonomy: Police Discretion as a Problem for Training" (1998) 40 Can J Crim 277 as cited in Sossin and Pratt, *Discretion* at 303.

⁸² *Baker v. Canada* (Minister for Citizenship and Immigration [1999] 2 S.C.R. 817.

restriction.”⁸³ L’Heureux-Dube and Dworkin effectively encapsulated this conventional view of discretion in which three main assumptions are embedded:⁸⁴

1. The law is the primary instrument of social regulation.
2. Discretion is a residual category of law
3. Discretion is exercised by individuals who, though influenced in a wide variety of ways, are essentially autonomous. It is... a relative concept.

5. Academic Arguments Re Discretion

The traditional legal debates on discretion have been spearheaded by two main groups of academics - A. V. Dicey, Lord Hewart, and F.A. Hayek, on the one side, and W. A. Robson, I. Jennings, J. Willis, and H. Arthurs, on the other. Dicey and company perceive discretion as a threat to individual liberty, permitting the state to intervene in a way that is uncontrollable by the courts, either on a procedural or substantive basis. In other words, discretion is conceived as a means of escaping the rigidities of the law because it does not require any form of communication or dialogue with the individual or groups affected by its exercise.⁸⁵

The second group of scholars view discretion as a practical method of implementing the legitimate projects of the welfare state, controlled by specialized courts dedicated to the values inherent in “welfare policies.” In their view, the executive (management) of the civil service provides the expertise required to implement the projects of the legislative branch, while professionals use their discretion in administering them. The delegation of discretion to professionals does not imply that

⁸³ Ronald Dworkin, *Taking Rights Seriously* (Cambridge, MA: Harvard University Press, 1977) at 77.

⁸⁴ Sossin and Pratt, *Discretion* at 301.

⁸⁵ Cartier, Thesis at 12.

the executive plays an active role in day to day administration. Quite the contrary, the executive confers freedom on bureaucrats to make decisions.⁸⁶

6. Discretion and the Common Law

As indicated above, Canadian courts have traditionally limited themselves to policing the boundaries within which discretion is to be exercised, on the basis that discretion is intrinsically political and outside of their legitimate domain of intervention. The transitional period in the evolution of legal discretion commenced with two Supreme Court of Canada decisions, *Canadian Union for Public Employees Local 963 v. New Brunswick Liquor Corporation*⁸⁷ in 1979 and *Nicholson v. Haldimand-Norfolk Regional Board of Commissioners of Police*⁸⁸ in 1981. In both of these cases, the Court de-emphasized the binary distinction between law and discretion in the judicial review of administrative decisions. More specifically, *CUPE* mandated that courts defer to administrative determinations of the law unless a decision is patently unreasonable (clearly irrational) while *Nicholson* recognized that procedural obligations could be imposed on administrative decision makers by the courts. The *CUPE* decision in particular created tensions in the area of judicial review because imposing procedural obligations on administrative decision makers was difficult to reconcile with the idea of discretion as a top-down exercise of power unreviewable by the courts (assumed by the majority of judges).⁸⁹

These tensions eventually resulted in a major restructuring of judicial review in the 1999 Supreme Court of Canada case *Baker v. Canada (Minister for Citizenship and Immigration)*.⁹⁰ *Baker*

⁸⁶ *Ibid.*

⁸⁷ *C.U.P.E. v. N.B. Liquor Corporation*, [1979] 2 SCR 227 [CUPE].

⁸⁸ *Nicholson v. Haldimand-Norfolk Regional Board of Commissioners of Police* [1981] 1 S.C.R. 92 [Nicholson].

⁸⁹ Cartier, Thesis at 18.

⁹⁰ *Supra*, See note 82.

effectively shattered the *Nicholson* and *CUPE* distinctions of differentiating legal decisions from discretionary decisions, suggesting that procedure and substance cannot be conceived as water-tight compartments. Baker saw discretion as a “space controlled by law” as opposed to being inherently political, giving the executive branch of government “free reign within legal limits” to make decisions.⁹¹ Supreme Court Justice L’Heureux–Dube stated “there is no rigid dichotomy between discretion and law-interpretation, and therefore no justification for different kinds of reviews for each.” Moreover, she expressed the view that the “pragmatic and functional approach,⁹² (developed for review of interpretations of the law) was also suitable for the review of discretion, since it (discretion) reflected the two central ideas incorporated in the traditional approach to the review of

⁹¹ Cartier, Thesis at 74.

⁹²Until Baker, judicial review was exercised differently depending on the kind of decision (discretionary or legal) under examination. When called upon to review administrative interpretations of the law, courts were mandated to demonstrate "deference," that is, to refrain from reviewing decisions that were considered best left to the executive for decision, unless those decisions were "unreasonable" or "patently unreasonable." (Patently unreasonable was removed as a test in 2008 in favour of retaining only two standards (correctness and reasonableness) in *Dunsmuir v. New Brunswick* (2008 SCC 9, [2008] 1SCR 190) as the Court replaced “the pragmatic and functional approach” with “the standard of review analysis.” In *Dunsmuir v. New Brunswick*, the Supreme Court re-examined its approach to judicial review of administrative decisions to develop a “more coherent and workable” framework. It merged the deferential standards of reasonableness simpliciter and patent unreasonableness into a single reasonableness standard and emphasized the importance of precedent in determining the standard applicable to a specific category of decision makers. In other words *Dunsmuir* simplified the standard of review analysis by encouraging courts’ reliance on satisfactory precedents and guidelines to determine the appropriate standard.

As well as opting for a two-standard framework to make the standard of review analysis more coherent and workable, the Court in *Dunsmuir* sought to simplify the selection of the appropriate standard in individual cases. Pre-*Dunsmuir*, it had held that reviewing courts “must always select and employ the proper level of deference” by considering the four contextual factors of the pragmatic and functional approach: (1) the presence or absence of a privative clause or statutory right of appeal; (2) the expertise of the tribunal relative to that of the reviewing court on the issue in question; (3) the purposes of the legislation and the provision in particular; and (4) the nature of the question—law, fact, or mixed law and fact. In *Dunsmuir*, the majority noted that “[a]n exhaustive review is not required in every case to determine the proper standard of review.” A reviewing court must first ascertain whether past cases have “already determined in a satisfactory manner the degree of deference to be accorded with regard to a particular category of question.” If this inquiry proves unfruitful, the court must perform a contextual standard of review analysis articulated around relevant factors, including the pragmatic and functional factors.

the law: that the decision maker must be given suitable leeway, but that he or she must nonetheless act within certain limits.⁹³ L'Heureux-Dube stated:

The pragmatic and functional approach can take into account the fact that the more discretion that is left to the decision maker, the more reluctant courts should be to interfere with the manner in which decision makers have made choices among various options. However, though discretionary decisions will generally be given considerable respect, that discretion must be exercised in accordance with the boundaries imposed in the statute, the principles of the rule of law, the principles of administrative law, the fundamentals of Canadian society, and the principles of the Charter.⁹⁴

By applying the pragmatic and functional approach to the control of discretion, Baker marked the end (at least temporarily) of the dual approach to judicial review of administrative law in Canada. Baker also held that the test for determining the reasonableness of an administrator's discretionary decisions would be based on whether or not written reasons (i.e. procedures) were consistent with the statute in question. Scholar Genevieve Cartier commented on the transition of administrative law in Canada:

I submit that courts, through Roncarelli, Nicholson, and Baker, have interpreted formal law in accordance with principles that internalize those ideals. By imposing on decision makers exercising discretion both a duty to act fairly (essentially, a hearing requirement that allows for exchange of information and deliberation on the applicable norms) and a requirement that they make reasonable substantive findings (including, among other conditions, that discretionary decisions be faithful to the values underlying the grant of the power and to the process that preceded their making), these decisions legally impose principles that articulate participation and accountability.⁹⁵

Professor Genevieve Cartier notes that the events of September 11, 2001 revived the idea in Canada (and in many other common law jurisdictions around the world) that some executive discretionary

⁹³ Cartier, Thesis at 163.

⁹⁴ *Supra*, See note 82 at para. 56.

⁹⁵ Genevieve Cartier, "Administrative Discretion and the Spirit of legality" (2009) 24 Can. J.L. & Soc. 313 at 329. [Cartier, Discretion].

decisions cannot and should not be subject to any substantive judicial control.⁹⁶ (In the Supreme Court of Canada case *Suresh v. Canada (Minister of Citizenship and Immigration)*,⁹⁷ the Minister formed the opinion that a refugee who was a risk to Canada's national security should be deported. The Court declared that the executive was free to weigh the factors relevant to the decision and that the reviewing court was limited to ensuring that those factors had been taken into account by the Minister). Cartier continues that *Suresh* reflected the judiciary's unwillingness to undertake a substantive review of discretionary decisions dealing with matters of national security, returning to the traditional interpretation of discretion as an exercise of power unreviewable by the courts.⁹⁸ However, the Court unanimously expressed its commitment to protecting the fundamental values of Canada's democratic tradition, finding that a discretionary decision to deport an individual to a country where he or she faced a substantial risk of torture could be made only after a hearing, with reasons disclosed by the Minister. In other words, the executive is still procedurally constrained in the exercise of discretion, even in matters of national security. Cartier concludes that the extent to which procedure constrains any substantive issue is likely to be minimal in national security decisions.

Note that the *Suresh* Decision is in stark contrast to *Baker*, wherein Justice L'Heureux-Dube clearly indicated that courts could legitimately "re-weigh" the considerations taken into account in the decision-making process in order to determine the reasonableness of the decision challenged. In

⁹⁶ Cartier, *Discretion* at 323.

⁹⁷ *Suresh v. Canada (Minister of Citizenship and Immigration)* [2002] 1 S.C.R. 3 [Suresh].

⁹⁸ The effects of the events of September 11, 2001 on the law of judicial review and on the conception of the rule of law has generated an important literature. For an early and substantial contribution see generally the essays collected in Ronald J. Daniels, Patrick Macklem & Kent Roach, eds., *The Security of Freedom: Essays on Canada's Anti-terrorism Bill* (Toronto: University of Toronto Press, 2001) as cited in Cartier, *Discretion* at 323.

effect, Suresh retreated from the view of “discretion as dialogue” and reverted back to the more traditional view of “discretion as power” in circumstances of national security.⁹⁹

In the 2012 case *Dore v. Barreau du Quebec*¹⁰⁰ the court decided that the normal method used by the courts to determine whether a law infringing a right or freedom is justifiable (i.e. the Oakes Test)¹⁰¹ does not replace the administrative framework. Instead, whether an adjudicated decision violates the Charter depends on whether an administrative decision-maker has “disproportionately, and therefore unreasonably, limited a Charter right.” This “reasonable analysis” centres on proportionality, to ensure that a decision interferes with the relevant Charter guarantee “no more than is necessary given the statutory objectives.” In particular, the court noted the established principle in *Baker* that “though discretionary decisions will generally be given considerable respect, that discretion must be exercised in accordance with the boundaries imposed by the statute, the principles of the rule of law, the principles administrative law, the fundamental values of Canadian society, and the principles of the Charter.”

7. Modern Legal Theories on Discretion

Scholar Genevieve Cartier maintains that since *Baker*, a proper understanding of the legal constraints imposed on discretion implies a conception of discretion as dialogue as opposed to the traditional conception of discretion as power where courts have no authority. She argues that the normative foundations for this new conception of discretion can be found in a combination of a

⁹⁹ *Suresh* at 323.

¹⁰⁰ *Dore v. Barreau du Quebec*, 2012 SCC 12, [2012] 1 S.C.R. 395.

¹⁰¹ The Oakes Test is the method described by the Supreme Court of Canada in *R. v. Oakes*, [1986] 1 S.C.R. 103 for determining whether a law that violates a fundamental right or freedom should be saved as a reasonable limit under section 1 of the Charter of Rights Freedoms.

relational theory¹⁰² exemplified in writings by J. Nedelsky, a democratic theory¹⁰³ of the kind expressed by H. Richardson,¹⁰⁴ and a vulnerability theory,¹⁰⁵ articulated by J. Handler and L. Sossin. She suggests that vulnerability, relationality and democracy can be linked together in a number of illuminating ways:

[A] relational view of autonomy better encapsulates the reality of the modern welfare state than the traditional atomistic understanding of that notion. Discretion as dialogue not only understands what is important about the relational aspect of autonomy, but provides the space for that aspect to be realized. And here, Richardson's democratic theory helps us to understand how democracy requires that the administrative state be reconfigured to structure that space in the right way. In turn, vulnerability theories remind us that for vulnerable people to be autonomous within a relational framework, the state must itself abide by values that provide relational autonomy. Hence, vulnerability requires the state to participate in the development of fruitful relations with the individuals and as a result, to sustain autonomy and democracy.¹⁰⁶

Cartier further argues that her view of discretion as dialogue contributes to the recognition of the legitimacy of the administrative state. In other words, her conception of discretion as dialogue favours the realization of the legitimate projects of the welfare state, while at the same time recognizing a role for the rule of law in government. She states:

Indeed, solutions to contemporary legal questions can hardly be crafted in the light of obsolete theoretical principles and assumptions. As an alternative, I have suggested that a

¹⁰² See Jocelyn Downie & Jennifer Llewellyn, "Relational theory and Health Law Policy," (2008) Spec. Ed. Health L.J. 193. (Relational theory starts from an understanding of human selves as relational. This theory informs some significant current developments in the area of philosophy, ethics, and legal theory that re- envision key concepts, including autonomy, equality, rights, justice, memory, trust, judgment, and identity).

¹⁰³ See Phillip Green and Drucilla Cornell, "Rethinking Democratic Theory: The American Case", online: International Endowment for Democracy <www.internationalendowmentfordemocracy.org>. (According to all versions of democratic theory, however, the versions may differ on the extent to which fully democratic institutions are thought to be practicable; "democracy" is about the authorship of collective decisions.)

¹⁰⁴ Richardson argues we cannot rely on instrumental approaches to policy reasoning such as cost-benefit analyses. Instead, citizens must arrive at reasonable compromises through fair, truth- oriented processes of deliberation. Using examples from programs as diverse as disability benefits and environmental regulation, he shows how the administrative policy-making necessary to carrying out most legislation can be part of our deciding what to do.

¹⁰⁵ Vulnerability theory refers to administrative decision making regarding vulnerable communities, as discussed by Lorne Sossin in *Human Development, Law & Democratic Administration* (2000). He examines the possibilities and limits of democratic administration in a project aimed at the establishment of vegetable gardens in rural Indonesia and also in a project aimed at improving the working conditions in an urban market in Uganda.

¹⁰⁶ Cartier, Thesis at 326.

dialogic model of discretion and a "rule-of-law project" can together help to alleviate the tensions between discretion as a fundamental attribute of a welfare state and the necessity of preserving individuals from arbitrary exercises of state power. However, conceptual models that seem well adjusted to the contemporary challenges of the welfare state are not necessarily easily transferable to practice. I suggest that discretion as dialogue is a promising way ahead in thinking about the principles and values that must be protected in the context of today's legal institutional arrangements, but we still need to appraise the concrete challenges raised by dialogue and to understand the effect that it produces on the very persons involved in its exercise.¹⁰⁷

In a series of essays,¹⁰⁸ Lorne Sossin claims that it is both necessary and possible to democratize bureaucracy, and that discretionary powers can contribute significantly to democratization.¹⁰⁹

Sossin suggests that we should apply Haberman's theory¹¹⁰ of communicative action to bureaucracy, and argues that administrative discretion can be legitimated on communicative grounds;¹¹¹ that is, on the basis of reasons that are good in the sense that they are consensually agreed to.¹¹² This, Sossin remarks, is deeply opposed to the traditional academic view of public administration, premised on the need to separate administration from politics, and therefore administrative decision makers from political influence writ large.¹¹³ Sossin believes that public administration can be transformed in order to operate rationally from a communicative perspective.

¹⁰⁷ Cartier, *Discretion*, at 334.

¹⁰⁸ Lorne Sossin, "The Politics of Discretion: Toward a Critical Theory of Public Administration" (1993) 36 *Can. Pub. Admin.* 364 at 377; Sossin [Sossin, Politics]; Lorne Sossin, "Redistributing Democracy: An Inquiry Into Authority, Discretion, and the Possibility of Engagement in the Welfare State" (1994) 26 *Ottawa L.R.* 1 at 39ff [Sossin, Redistributing]; Lorne Sossin, "The Criminalization and Administration of the Homeless: Notes on the Possibilities and Limits of Bureaucratic Engagement" (1996) *N.Y.U. Review L. & Soc. Change* 623; Lorne Sossin, "An Intimate Approach to Fairness, Impartiality, and Reasonableness in Administrative Law" (2001-2002) 27 *Queen's L.J.* 809 at 842 as cited in Cartier, Thesis at 307.

¹⁰⁹ Sossin, Politics at 365. "This is how I believe the relationship between discretion and law ought to be viewed-not simply as a particular form of authority-but as a potential forum for politics." Sossin, "Redistributing Democracy", *ibid.* at 13 as cited in Cartier Thesis, at 307.

¹¹⁰ Habermas is a contemporary philosopher with a worldwide reputation. One of his best known ideas is communicative action, in which actors in society seek to reach common understanding and to coordinate actions by reasoned argument, consensus and cooperation rather than strategic action strictly in pursuit of their own goals.

¹¹¹ Sossin, Politics at 377.

¹¹² *Ibid.* at 374. Sossin points out that Habermas did not see his theory of communicative action as applicable to the bureaucracy, which he viewed as "the object to be resisted". *Ibid.* at 378. He rather relied on social movement groups for communicative action to occur as cited in Cartier, Thesis at 307.

¹¹³ "Because the political content of administrative decisions is denied, the need for public dialogue about those decisions is obviated." *Ibid.* at 377 as cited in Cartier, Thesis at 307.

¹¹⁴ He finds Dworkin's "hole in the doughnut" analogy for discretion (in which the law is a belt surrounding discretion) unsatisfactory. In its place he offers up the analogy of a sponge (in which discretion is intertwined with the law, similar to water embedded in a sponge). Sossin believes that the law must capture discretion's potential as a forum for politics.¹¹⁵

Sossin further develops a conception of "discretion as engagement," with the aspiration to nurture dialogue and interdependence between decision makers and individuals affected by discretionary decisions. His theory of engagement is premised on the idea that "people will accept a judgment as legitimate when they believe that the means by which the decision was rendered were just" but also if the determination itself is just.¹¹⁶ While he admits that "it is not possible to assume that all citizens can or should be allowed to take part in all administrative decisions which have a public dimension, it is necessary... that those affected are engaged in [and by] the discretionary judgments which public officials are called upon to make."¹¹⁷

In summary, discretion has been at the centre of some of the most controversial issues relating to the idea of administrative law and the administrative state for over a hundred years in Canada. It has been viewed from many perspectives including the embodiment of arbitrariness,¹¹⁸ a threat to the rule of law,¹¹⁹ and as a necessary condition for the realization of the many missions of the welfare

¹¹⁴ Sossin, *Politics* at 378.

¹¹⁵ Sossin and Pratt, *Discretion* at 306.

¹¹⁶ Sossin, *Redistributing* at 35.

¹¹⁷ *Ibid.* at 36 [emphasis added].

¹¹⁸ Among the leading figures representing this view are A.V. Dicey, Lord Hewart, and C.A. Reich. See notably A.V. Dicey, *An Introduction to the Study of the Law of the Constitution*, 10th ed. by E.C.S. Wade (London: MacMillan and Co. Ltd, 1959); Lord Hewart, *The New Despotism*, (London, Ernest Benn, 1929); and C.A. Reich, "The New Property" (1964) 73 *Yale L.J.* 733.

¹¹⁹ Sossin and Pratt, *Discretion* at 303.

state.¹²⁰ However, discretion as a binary contrast to law remains the dominant paradigm in Canada today. This paradigm is best expressed in Baker:

Though discretionary decisions will generally be given considerable respect, that discretion must be exercised in accordance with the boundaries imposed in the statute, the principles of the rule of law, the principles of administrative law, the fundamental values of Canadian society, and the principles of the Charter.¹²¹

8. Impact of Administrative Guidelines on Discretion

Canadian law currently dictates that guidelines may not restrain the choices available to a discretionary decision-maker. For instance, in the 1994 Ontario Court of Appeal case *Ainsley Financial Corporation v. Ontario Securities Commission*¹²² the court distinguished between policy and law in acknowledging the practical reality of the functionally binding nature of guidelines. In *Ainsley* the Ontario Securities Commission acted under a broad regulatory authority, but not one that empowered the Commission to issue binding policies. The Ontario Court of Appeal, in reviewing a policy statement issued by the Commission regarding the marketing and sale of penny stocks, stated:

There is no bright line which always separates a guideline from a mandatory provision having the effect of law. At the centre of the regulatory continuum one shades into the other. Nor is the language of the particular instrument determinative. There is no magic to the use of the word "guideline," just as no definitive conclusion can be drawn from the use of the word "regulate." An examination of the language of the instrument is but a part, albeit an important part, of the characterization process. In analyzing the language of the instrument, the focus must be on the thrust of the language considered in its entirety and not on isolated words or passages.¹²³

¹²⁰ See e.g. J. Willis, "Three Approaches to Administrative Law: The Judicial, the Conceptual, and the Functional" (1935) 1 U.T.L.J. 53; W.A. Robson, *Justice and Administrative Law – A Study of the British Constitution*, 3rd ed. (London: Stevens and Sons, 1951) and Sir Ivor Jennings, *The Law and the Constitution*, 5th ed. (London: University of London Press, 1959) as cited in Cartier Thesis at 1.

¹²¹ *Baker v. Canada* (Minister for Citizenship and Immigration [1999] 2 S.C.R. 817.

¹²² *Ainsley Financial Corporation v. Ontario Securities Commission* (1994), 21 O.R. (3d) 104, 121 D.L.R. (4th) 79 (C.A.) [Ainsley cited to O.R.].

¹²³ *Ibid.* at 110.

The Court concluded that the policy was ultra vires the Commission because it purported to bind the Commission's staff, an authority reserved to the legislature. The first issue addressed by the court was the policy's format. Rather than containing general principles, standards, or factors to be used as a guide to decision making, the policy read like a "minutely detailed regime complete with prescribed forms, exemptions from the regime, and exceptions to the exemptions."¹²⁴ Secondly, the Court found that the coercive tone of the policy (which included the suggestion of a threat of sanction against a broker for non-compliance) demonstrated that Commission staff "would treat Policy Statement 1.10 as if it were the equivalent of a statutory provision or regulation."¹²⁵

The court's ruling in *Ainsley* meant that the Ontario pension regulator, the Financial Services Commission of Ontario (FSCO), could not issue explicitly binding pension policies, nor could its employees' discretion be restricted by any particular guideline without statutory authority.¹²⁶ In other words, pension plan members or a plan sponsor (i.e. employer) may challenge the pension regulator's decision in court if the decision was fettered by guidelines which were too restrictive in allowing a decision maker (i.e. actuaries valuing DB pension plans) to exercise his or her discretion.¹²⁷

¹²⁴ *Ibid.* at 111.

¹²⁵ *Ibid.*

¹²⁶ *Pezim v. British Columbia (Superintendent of Brokers)*, [1994] 2 S.C.R. 557, 7 W.W.R.

¹²⁷ *Maple Lodge Farms Ltd. v. Canada*, [1982] 2 S.C.R. 2, 114 D.L.R. (3d) 558; *Jesso v. Newfoundland (Workers' Compensation Commission)*, 2001 NFCA 49; *Wedley v. British Columbia (Assessor of Area No. 8-North Shore Squamish Valley)*, [1998] B.C.J. No. 1960, 10 Admin. L.R. (3d) 182 (B.C.S.C.) (QL) [*Wedley*]. This is distinct from where binding guidelines are authorized by statute. For a discussion of this distinction, see *Bell Canada*, *infra* note 92.

Professor Gerald Heckman discusses how specific statutes define the concept of discretion either broadly or narrowly.¹²⁸ He contrasts the broad nature of the 1995 Ontario Labour Relations Act (which states that the labour relations board "may inquire into the complaint of a contravention of this Act"¹²⁹) to the Ontario Human Rights Code (OHRC), which states "where the Ontario Human Rights Commission has not affected a settlement of a complaint, it may refer the subject-matter of the complaint to the board of inquiry if it appears that the procedure is appropriate and that the evidence warrants an inquiry."¹³⁰ In reference to the Patent Act,¹³¹ he states that although the Act does not expressly confer discretion on a re-examination board to initiate a re-examination, the board's interpretation of what is a "substantial new question" involves "the exercise of an implicit discretion to elaborate unclear legislative instructions."¹³² The Act states:

A re-examination board under *the Patent Act shall cause* a re-examination of a patent claim if it finds that a request for re-examination raises a substantial new question affecting the patentability of the claim.

Both the federal Pension Benefits Standards Act (PBSA) and the Ontario Pension Benefits Act (PBA) defer to the Canadian Institute of Actuaries for the oversight of actuarial discretion. The PBSA states:

Except as otherwise specified by the Superintendent, the actuarial reports must be prepared in accordance with the standards of practice adopted by the Canadian Institute of Actuaries.¹³³

Similar wording is used in the PBA.

¹²⁸ G. Heckman, *A Study of Administrative Gatekeeping in Canadian Human Rights Enforcement* (LL.M. Thesis, Queen's University, Kingston, 1999).[Heckman, Gatekeeping]

¹²⁹ *Wackenhut of Canada* [1996] O.L.R.D. No 2535 at para. 9 (QL) as cited in [Heckman, Gatekeeping]

¹³⁰ *Human Rights Code*, R.S.O.1990. C.H.19.

¹³¹ *Patent Act*, R.S.C., 1985, c. P-4.

¹³² J.M. Evans et al. *Administrative Law: Cases, Text and Materials 4th ed.* (Toronto: Emond Montgomery Publications Ltd.. 1995) at 1021 as cited in Heckman, Gatekeeping at 9.

¹³³ *PBSA*, *supra*, see note 26, section 12 (3.1).

Section 3210 of *The Canadian Institute of Actuaries Standards of Practice Guidelines* discusses the duties of actuaries which require professional discretion. Note how general many of the guidelines actually are, providing actuaries with significant leeway in their valuation of DB plans:¹³⁴

.01 The actuary's advice on the funded status or funding of a pension plan should take account of the circumstances of the work.

.02 The actuary should select an actuarial cost method that is consistent with the circumstances of the work.

.03 The actuary should select an asset valuation method that is consistent with the circumstances of the work.

.04 The actuary's advice on the funded status of a pension plan should take account of the pension plan's benefits at the calculation date, except that the actuary's advice may anticipate a pending amendment to the pension plan that increases the value of its benefits.

.05 The actuary's advice on the funded status or funding of a pension plan should take account of expenses if they are expected to be paid from the pension plan's assets.

.06 The actuary's advice on the funded status or funding of a pension plan may, consistent with the circumstances of the work, take into account the value and the terms of a letter of credit of which the pension plan is the beneficiary.

.07 If the actuary is providing advice on funding:

- The actuary should determine the next calculation date, and*
- The actuary's advice on funding should cover at least the period between the calculation date and the next calculation date.....*

It is clear from the above CIA guidelines that actuaries are given considerable deference in valuing defined benefit pension plans' funding requirements. However, regulators such as the Financial

¹³⁴ The Canadian Institute of Actuaries, *The Canadian Institute of Actuaries Standards of Practice, Section 3210-Advice on the Funded Status or Funding of a Pension Plan-General*. (Toronto: 2013 at 3004).

Services Commission of Ontario (FSCO) have checked actuaries' discretion by mandating disclosures such as:¹³⁵

1. A description of how fair value has been determined for all investments that are not financial instruments.
 2. A description of the nature and extent of risks arising from financial instruments to which the plan is exposed at the end of the period, and how the administrator manages those risks;
 3. A credit ratings schedule of interest-bearing financial instruments (AAA, BBB etc.).
 4. A maturity analysis of interest-bearing financial instruments.
 5. A sensitivity analysis of the foreign currency denominated financial instruments, with regard to a possible change of 5 per cent in the foreign currency exchange rate (one analysis for each applicable foreign currency subject to the materiality requirement).
 6. A sensitivity analysis of interest-bearing financial instruments, with regard to a possible change of 1 per cent in the overall level of interest rates.
 7. A sensitivity analysis of equity financial instruments, with regard to a possible change of 10 per cent in the appropriate equity index benchmark (one analysis for each applicable category of equity investments permitted by the SIP&P and subject to the materiality requirement).
 8. The methods and assumptions used in preparing these sensitivity analyses.
- For example, a 2013 actuarial valuation performed by Mercer (Canada Ltd.)¹³⁶ on the City of

Toronto's defined benefit pension plan includes a sensitivity analysis illustrating the significance of an actuary's discretion on funding levels by changing the discount rate by only 10%:

The Pension Fund of The Metropolitan Toronto Pension Plan¹³⁷

NOTES TO FINANCIAL STATEMENTS

Equity price risk

The Plan holds equity financial instruments. The Plan is therefore exposed to equity price risk as the value of equity financial instruments will fluctuate due to changes in equity prices. The following sensitivity analysis summarizes the impact on the Plans net assets available for benefits, following a general 10% change in equity prices. For equity price risk of the Plans pooled fund investment, the equity price risk is managed by the investment manager of the pooled fund investment.

¹³⁵Financial Services Commission of Ontario, *Disclosure Requirements for Financial Statements Filed Pursuant to Regulation 909 s. 76*, 2013 at 6. Online: < www.fSCO.gov.on.ca/en/pensions/policies/active/.../FSGN-001.pdf >.

¹³⁶Mercer is a human resource and related financial services consulting firm.

¹³⁷The Pension Fund of the Metropolitan of Toronto Pension Plan, *Financial Statements* (2013) at 9 Online: < www1.toronto.ca/City%20of%20Toronto/Pension...%20Employee%20B >.

2013	Fair Value \$	Impact (+/- 10%) \$
Directly held Investments		
Canadian equities	66,466,704	6,646,670
Foreign equities	147,475,351	14,747,535
Indirectly held in pooled Funds		
Pooled equity funds	63,713,051	6,371,305
Total	277,655,106	27,765,510

Note that a 10% difference in the actuary's estimate of equity returns changes the plan's asset valuation by almost 28 million dollars.

Section 87(6) of the Ontario Pension Benefits Act states that the Superintendent of FSCO has the authority to request that a new actuary be retained to perform a plan's valuation if he or she is dissatisfied with the previous actuary's valuation. It states:

Special order re preparation of report

(6) In such circumstances as may be prescribed, the Superintendent may make an order requiring an administrator, an employer or any other person to prepare and file a new report or another prescribed type of report in respect of a pension plan if the Superintendent is of the opinion that there are reasonable and probable grounds to believe,

(a) that there is a substantial risk to the security of the benefits payable under the pension plan to members, former members, retired members or other persons entitled to payments under the pension plan; or

(b) that there has been a significant change in the circumstances of the pension plan. 2010, c. 9, s. 75.

Same

(7) An order under subsection (6) may,

(a) specify the assumptions or methods or both to be used in the preparation of the report;

(b) require an employer or other person to give the administrator any information necessary to prepare the report;

(c) require the administrator, employer or other person to pay all or part of the cost of preparing the report; and

(d) specify one or more deadlines or periods for complying with the order. 2010, c. 9, s. 75.

However, the pension plan administrator (generally the employer in single employer defined benefit plans) may apply for an administrative review of the Superintendent's decision to request a new valuation. The first review must be performed by FSCO's Financial Services Tribunal and failing

that, a judicial review by the court is permitted as per section 88(5) of the Ontario Pension Benefits Act (PBA):

Effect of judicial review

88 (5) An application for judicial review of an order made under subsection 87 (6) or under subsection (4), and any appeal from an order of the court on the application for judicial review, does not stay the order made under subsection 87 (6) or under subsection (4), as the case may be. 2010, c. 9, s. 75.

In other words, the Superintendent’s decisions are reviewable at both the quasi-judicial (administrative) and judicial levels in Canada. *Monsanto Canada Inc. v. Ontario (Superintendent of Financial Services)*¹³⁸ is an example where the Superintendents decision was initially appealed to the Financial Services Tribunal and ultimately all the way to the Supreme Court of Canada.

The foregoing discussion of debates by academics and judges alike on “professional discretion and the law” demonstrates their preoccupation with rendering the exercise of professional discretion effectively accountable across both social and economic life in Canada. This thesis considers a number of methods of rendering actuaries, specifically, accountable for the exercise of their professional discretion in estimating the funding requirements of private sector single employer defined benefit pension plans.

¹³⁸ *Monsanto v. Ontario (Superintendent of Financial Services)*, [2004] 3 SCR 152.

CHAPTER 2

CURRENT FUNDING AND REGULATORY REGIMES GOVERNING DEFINED BENEFIT PENSION PLANS IN CANADA

1. Overview

Chapter 1 introduced the concept of two tier defined benefit (DB) pension plans in Canada, highlighting the stark contrast between public sector workers (who are nearly all registered in defined benefit plans guaranteeing them incomes for life) and private sector workers, the vast majority of whom either have no employer sponsored pension plan at all, or are registered in defined contribution plans offering no income guarantees. It then discussed the magnitude of the funding problem in private sector single employer DB plans, before concluding with a literature review of “professional discretion and the law”. Chapter 2 discusses the general regulatory regimes overseeing actuarial discretion and underfunding, revealing that private sector Single Employer Defined Benefit Pension Plans (SEDPPs), the focus of this thesis, require more extensive analysis, receive more intensive oversight and are required to meet different funding expectations than other types of plans.

Even though occupational pension plans originate in voluntary decisions by plan sponsors and members, they receive significant public support through tax deferrals. Such financial support is based on the policy objective of ensuring adequate income for retirees by encouraging saving for retirement. Employment-based pension plans provide a significant proportion of retirement income to approximately 6 million or 40% of Canadian workers.¹³⁹ Over 80% of public sector employees

¹³⁹ A “pension plan” is the document or set of documents that sets out the employer’s pension obligations to employees, former employees who have a right to a pension benefit, retirees and their beneficiaries. It typically contains the employer’s contribution obligation, the formula for calculating the pension benefits earned while working for the employer and the conditions that entitle one to receive a pension fund. A

were registered in occupational pension plans in 2012 compared to only 25% of private sector employees.¹⁴⁰ These workplace plans have been integrated with other public policy initiatives to provide guaranteed minimum incomes for older citizens.¹⁴¹ The governance and regulation of employment-based pension plan funding, therefore, has important public policy implications.

A. Pension Governance

Pension plan governance is about delivering on the pension promise consistent with the pension plan documents and pension legislation. Pension plan legislation mandates that the pension plan administrator (normally the employer in single employer defined benefit plans) is the body ultimately responsible for the governance of the pension plan.¹⁴² Governance may be defined as “the structure and processes for overseeing, managing and administering a defined benefit pension plan to ensure that fiduciary and other obligations of the plan are met.”¹⁴³ Processes and structures define the division of power and establish mechanisms to ensure the accountability of all funding, investment, and administration activities. Funding activities include:¹⁴⁴

1. Establishing funding policies for the pension plan (e.g. targeted funding position such as fully funded, over-funded, under-funded, surplus cushions, immunization etc.).

“pension fund” is the sum of all pension contributions and investment earnings on those contributions that is the source from which all pension benefits are paid. It must be held by a third party for the benefit of those entitled under the terms of the pension plan (Ron Davis, *Is Your Defined-Benefit Pension Guaranteed? Funding Rules, Insolvency Law and Pension Insurance*: Institute for Research on Public Policy (2011) at 34. [Davis, Guarantee]

¹⁴⁰ Statistics Canada, “Pensions In Canada” (2013) Table 280-0016 (Cansim). Online: < www.statcan.gc.ca/tables-tableaux/sum-som/l01/.../famil120a-eng.htm >.

¹⁴¹ According to a study based on data for 2006-07, private pensions play an important role in retirement income: “income security benefits [Old Age Security, the Guaranteed Income Supplement and the Canada Pension Plan] and private pensions make up the vast majority of individuals’ income starting at age 65...Starting at age 55, [private] pensions represent 50% of income [for retired males]...Retirees with employment-based pensions or income from a [Registered Retirement Income Fund] have low, almost negligible, low-income rates while those without a pension have higher rates particularly at ages before 65. (Baker and Milligan 2009) as cited in Davis, Guarantee at 34.

¹⁴² Canadian Association of Pension Supervisory Authorities (CAPSA), *Guideline No. 4- Pension Plan Governance Guidelines and Self -Assessment Questionnaire* (2004) at 3.

¹⁴³ *Ibid.*

¹⁴⁴ The Association of Canadian Pension Management, *Governance of Pension Plans* (1997) at 11.

2. Selecting the actuarial cost method to apportion annual funding (e.g. projected unit credit, aggregate method, entry age normal method etc.) and assumptions (e.g., inflation, investment return, salary growth, etc.). (See Appendix 2 on page 271).
3. Determining the current funded status of the pension plan through actuarial valuations and deciding when to file with regulatory authorities.
4. Calculating the pension plan's desired and actual impact on the employer's financial statements.
5. Preparation of financial statements for the pension plan.
6. Managing the pension plan's cash flow.

In the recent past, pension plan governance issues have emerged in three main areas. First, as suggested by Ambachtsheer,¹⁴⁵ there is a concern about the quality of plan governance. This issue arises in part out of a concern about the day to day management of the schemes per se and in part out of a concern about how large amounts of capital are being managed.¹⁴⁶ Secondly, the Association of Canadian Pension Management's (ACPMs) has highlighted the conflict faced by sponsors acting in the dual capacity of employers and fiduciaries, noting that at some imprecise point the employer role gives way to a fiduciary duty to employees. Thirdly, there are governance issues concerning conflicts of interest on the part of actuaries. Professor Ron Davis addresses the extent to which the potential and actual conflicts of interest that pervade pension fund administration and investment have influenced the corporate governance activities of pension funds, stating:

Certainly Enron and the fallout from the failure of corporate gatekeepers to exercise even a minimum of corporate oversight of corporate governance provide an opportunity to revisit whether or not it is wise to leave the corporate governance function in the hands of the experts.¹⁴⁷

¹⁴⁵Keith Ambachtsheer, "Cleaning Up the Pension Mess: Why It Will Take More Money" (Toronto: C. D. Howe Institute, 2004).

¹⁴⁶ Evidence of this concern at the international level is presented in OECD [2005].

¹⁴⁷ Enron was a U.S. energy-trading and utilities company that housed one of the biggest accounting frauds in history. Enron's executives employed accounting practices that falsely inflated the company's revenues, which, at the height of the scandal, made the firm become the seventh largest corporation in the United States. Once the fraud came to light, the company quickly unraveled and filed for Chapter 11 bankruptcy on Dec. 2, 2001. Enron shares traded as high as \$85 before the fraud was discovered, but plummeted to \$0.30 in the sell-off after the fraud was revealed (*Investopedia*).

Each of the above three governance issues is discussed in subsequent chapters.¹⁴⁸

B. Classical Defined Benefit (DB) Pension Plan Funding Risk

In a classical DB plan, the traditional argument is that almost all of the pension risk is carried by the plan sponsor, including:¹⁴⁹

1. Investment risk
2. Expense risk
3. Inflation risk (if the benefit includes cost of living increases over the payout period)
4. Interest rate risk
5. Longevity risk

However, Professor Keith Ambachtsheer of the Rotman School of Management suggests that the embedded risks in defined benefit plans (and who bears them) are seldom clearly stated and rarely understood by the plan fiduciaries, or by the plan participants themselves:

In fixed contribution defined contribution (DC) plans (similar to RRSPs) it is reasonably clear that plan participants bear the risk that the assets accumulated at retirement may not be sufficient. In defined benefit (DB) plans however, there is a fiction that all risk-bearing is done by the employer, and that employees are guaranteed a pre-defined pension on retirement. In practice, this is not how things usually work. It is true that the employer is on the hook to make additional contributions when calculated plan liabilities exceed assets. However, plan participants are risk bearers too. For example, the employer may go broke or simply terminate the plan. Employee pension contributions may also rise. Even if not directly, higher employer pension contributions could lead to lower current compensation

Ron Davis, "The Enron Pension Jigsaw: Assembling Accountable Corporate Governance by Fiduciaries" (2003) 36 UBC L Rev at 571.

¹⁴⁸ Bob Baldwin, "Determinants of the Evolution of Workplace Pensions in Canada" (Toronto: Caledon Institute of Social Policy, 2007) at 38.

¹⁴⁹ John Broadbent, Michael Palumbo and Elizabeth Woodman, *The Shift from Defined Benefit to Defined Contribution Plans-Implications for Asset Allocation and Risk Management*, Bank of Canada (2006) at 7.

for employees. Different plans have different vesting provisions. A significant portion of the inflation risk embedded in DB plans is typically borne by plan participants, and not the employer. For example, some plans promise only fixed dollar pensions that may be updated from time to time, depending on the financial health of the pension plan balance sheet. Other plans promise pension benefits related to final earnings, but are silent regarding post-retirement inflation protection. In short, despite the risk-free fiction, DB plans are virtually always risk-sharing arrangements.¹⁵⁰

Employers will generally argue that the resultant defined benefit costs in private sector plans are ultimately borne by shareholders of the company or even consumers (if goods produced by the company go up in price). However, employees will argue that all of these risks are ultimately borne by the workers through their total compensation package. In other words, if an employer's pension costs rise, employees' wage increases are reduced accordingly.

It is important to note that public sector defined benefit pension plans are generally more viable than their private sector counterparts because government sponsors can rely on guaranteed tax revenues to meet their funding commitments.

2. Current Funding Status of DB Plans In Canada

According to Aon Hewitt's¹⁵¹ annual survey of plan sponsors, most defined benefit pension plan sponsors in Canada had to make additional contributions toward their pension plan deficits in 2012. Approximately 97% of defined benefit pension plans in the survey had a solvency deficiency at the end of 2012. (The solvency funded ratio measures the financial health of a defined benefit pension plan by comparing the amount of assets to total pension liabilities in the event of plan

¹⁵⁰ Keith Ambachtsheer, *Cleaning Up the Pension Mess: Why It Will Take More Than Money*, C.D. Howe Institute, 2004 at 2.

¹⁵¹ Aon Canada offers a range of sophisticated advisory and consulting services in risk control and risk management, reinsurance, and human capital. It designs, structures and implements solutions that may involve traditional insurance products or risk-transfer programs, alternative financing techniques, or entirely new products to address a specific problem.

termination).¹⁵² However, strong equity returns and rising long-term interest rates in 2013 resulted in a dramatic year of improvement in the funding status of Canadian pension plans. Almost 40% of pension plans tracked by Mercer¹⁵³ were fully funded at the end of 2013 compared to 6% a year earlier. Furthermore, only 6% were less than 80% funded, down sharply from 60% in 2012.¹⁵⁴

Note that long-term interest rates fell in the second quarter of 2014, leaving most pension plans treading water, with minimal change in their funding status since 2013. (Pension plans use long-term interest (discount) rates to calculate the current value of their pension liabilities; i.e. lower rates increase a plan's obligations. This is discussed in detail in Chapter 4). Nevertheless, according to Aon Hewitt, pension funding is now at its highest level since the 2007 global financial crisis with 37 per cent of plans in a surplus position as of June 2014.¹⁵⁵

This resurgence in funding does not mean the trend of declining defined benefit plan membership is likely to be reversed anytime soon according to Manual Monteiro of Mercer Financial Strategy Group.¹⁵⁶

It's hard to overstate how good 2013 was for most defined benefit pension plans...but that doesn't mean companies and other plan sponsors are likely to reverse the trend away from defined-benefit pension plans that guarantee specific payments to retiring employees. Rather, they are being urged by pension consultants to take advantage of the improved health picture and re-think strategies.... After 12 stomach-churning years of turbulence,

¹⁵² Aon Hewitt, News Release, "Canadian Defined Benefit Pension Plans' Solvency Improves Slightly in 2012" (03 Jan. 2013). Online: < www.newswire.ca/.../canadian-defined-benefit-pension-plans-solvency-i >.

¹⁵³ Mercer is one of the largest consulting firms in the world, operating internationally in more than 40 countries with more than 19,000 employees. (*Wikipedia*). Online: < [www.en.wikipedia.org/wiki/Mercer_\(consulting_firm\)](http://www.en.wikipedia.org/wiki/Mercer_(consulting_firm)) >.

¹⁵⁴ Barbara Shecter, "Defined Benefit Plans Healthier than Ever But Don't Expect to See More of Them" *Financial Post*, (2 January 2014) FP Street. Online: < www.business.financialpost.com/2014/.../canadian-pension-plans-start-2014-at >.

¹⁵⁵ Janet MacFarland, "Growth of Canadian Pension Funds Slow in Second Quarter", *Globe and Mail*, (30 June 2014). *Report on Business*. Online: < www.theglobeandmail.com > *Report on Business* >.

¹⁵⁶ Barbara Shecter, "Defined Benefit Plans Healthier than Ever But Don't Expect to See More of Them" *Financial Post*, (2 January 2014) FP Street. Online: < www.business.financialpost.com/2014/.../canadian-pension-plans-start-2014-at >.

many plan sponsors will agree in retrospect that they were too exposed to pension risk. Exposure to interest rate fluctuations and equities can change the fortunes of a pension plan rapidly and dramatically, as demonstrated in 2001, 2008 and 2011 Risk reduction strategies employed by some pension plan sponsors last year included lower-risk asset mixes and settling a portion of liabilities through the annuity market...As companies with defined benefit pension plans struggled to fund their obligations in recent years, many opted to stop offering the guaranteed retirement benefits to new employees. Others considered ways to trim their exposure by reducing benefits or paying upfront to hive off obligations. Such de-risking strategies can be costly, particularly in a low interest rate environment, and often aren't designed to pull pension plans out of a current funding deficit position. A stronger funding position could make de-risking more palatable.

Keith Ambachtsheer, a veteran pension expert and a director of the Rotman International Centre for Pension Management concurs with Monteiro stating that corporations are done with DB plans and that he does not anticipate a “resurgence” but rather, more “de-risking” through means such as liability transfers to insurance companies.¹⁵⁷

A growing number of experts believe that there are underlying causes of the funding problems of defined benefit plans that must be urgently addressed.¹⁵⁸ The obvious solution is for employers with pension deficits to make additional payments, as required under federal and provincial pension benefits laws. The problem with this solution is that many companies experiencing financial difficulties cannot afford to make the additional payments without risking going into bankruptcy. Even financially sound companies are refusing to fund their pension deficits because of low profits

¹⁵⁷ *Ibid.*

¹⁵⁸ See Ronald B. Davis in *Is Your Defined-Benefit Pension Guaranteed? Funding Rules, Insolvency Law and Pension Insurance*, IRRP Study (2011). (Over the past few years.... major Canadian employers have faced multi-million or multi-billion-dollar shortfalls in the funding of their pension plans at a time when their cash flow is insufficient to pay the additional special payment contributions required to bring their pension funds to full funding over a reasonable period of time These additional contribution obligations are triggered by law when an actuarial valuation discloses that the value of the assets in the pension fund has fallen below the amount needed to pay those benefits earned to the date of the valuation. The global financial crisis of 2007-09 led to an extreme drop in the value of pension assets just as employers faced major cash-flow challenges. The substantial pension deficits of such major corporations as Air Canada, Stelco, Abitibi Bowater, Nortel and General Motors have been a significant factor in their entry into insolvency proceedings. In some cases, these substantial deficits existed well before the fall in the value of pension fund assets that occurred as a result of the global financial crisis.)

in these difficult economic times, raising the question, “Why aren’t regulators demanding that companies meet their pension fund obligations?” The challenge pension regulators face is how to reduce these solvency deficits without forcing companies into receivership or alternatively, converting their defined benefit plans into defined contribution plans.

A. Federal and Provincial DB Funding Regulations

There were effectively no controls on defined benefit pension funding in Canada until the 1960s. An actuary’s advice to clients on funding and other aspects of plan financing was based on the costs and risks inherent in the plans themselves.

Regulatory laws are applicable to all private sector pension plans. In most jurisdictions, these laws do not apply to pension plans that the federal and provincial governments have set up for their own employees. Furthermore, registered retirement savings plans (RRSPs) or tax assisted individual retirement savings accounts are not covered by these occupational pension plan regulations.

Pension benefit laws in Canada have evolved significantly over the past 40 years. In the first stage of their evolution (in the late 1960s and 1970s), the first pension benefit laws were enacted provincially and federally, establishing minimum regulatory standards applying to occupational pension plans. These standards amounted to meeting minimum funding standards without exceeding federal tax deductible limits. However, since the 1970s the inherent risk plan sponsors have had to face from their pension plans has changed significantly. Once small fringe benefits,

retirement plans have grown to become substantial financial commitments with the accompanying risk.¹⁵⁹

In the second stage (in the 1980s and early 1990s), the minimum regulatory standards were improved and strengthened. Emphasis was placed on broadening membership in occupational pension plans (to include part-time workers), enhancing the rights of members (by shortening the length of the period of service needed to acquire the right to a pension) and expanding benefits (instituting survivors' pensions).¹⁶⁰

The third stage in the evolution of DB pension laws in Canada (2000 to present) focused on governance and funding. *Bill 236*, the first major pension reform legislation to affect Ontario in decades, was passed into law on May 18, 2010 as the *Pension Benefits Amendment Act, 2010*. It introduced immediate vesting (among other things) for all accrued pension benefits (past and future). Ontario's second pension reform bill (*Bill 120*) was introduced on October 21, 2010. The federal government also introduced substantial changes to the *Pension Benefits Standards Act, 1985*¹⁶¹ and to the *Income Tax Act*¹⁶² by adopting an omnibus bill (*Bill C-9*) on July 12, 2010. Immediate vesting and more flexible funding rules, including accepting "letters of credit" as pension assets, were mandated for federally incorporated companies.¹⁶³

¹⁵⁹ New Orleans Health/Pension Spring Meeting, "Addressing the Financial Risks of Retirement Systems: Actuary's Role in Managing Risk, and How that Fits in Our Standards of Practice" (2005) at 1. Online: < www.soa.org/library/proceedings/.../rsa05v31n282sem.pdf >.

¹⁶⁰ Edward Tamango, *The Management and Regulation of Occupational Pension Plans in Canada*, Caledon Institute of Social Policy (2007) at 2.

¹⁶¹ *Pension Benefits Standards Act* 1985 c.32 (2nd Supp.)

¹⁶² *Income Tax Act*, R.S.C. 1985 c.1 (5th Supp.)

¹⁶³ Jean-Pierre A. Laporte and Susan G. Seller, *Pension Reform: Ontario's Bill 236 and Canada's C-9 Are Now Law-Are You Ready?* Bennett Jones, 2010. Online: < www.bennettjones.com/.../Pension_Reform__Ontario's_Bill_236_and_C >.

There are currently nine distinct provincial pension regulators (P.E.I. is the only province without pension standards legislation) as well as a federal regulator in Canada. In most cases, pension law falls within the provincial power to regulate "property and civil rights" set out in the *Constitution Act, 1867*.¹⁶⁴ Federal legislation governs pensions associated with federal undertakings, such as banks and railroads and also regulates pensions in the three territories. Two-thirds of the occupational pension plans in Canada (which include 60% of all occupational plan members) are registered in three jurisdictions-federal, Ontario and Quebec.¹⁶⁵ The operative statutes are the *Pension Benefits Act*¹⁶⁶ (the "PBA") in Ontario, the *Supplemental Pension Plans Act*¹⁶⁷ in Quebec and the *Pension Benefits Standards Act*¹⁶⁸ (the "PBSA") federally.

In order to protect workers who often suffer from a lack of information and inequality in bargaining power, governments have curtailed certain aspects of an employer's freedom to contract into and out of pension arrangements by legislating minimum regulatory standards to which every sponsor must adhere. One of the most important of these statutes regulates pension funding. In an attempt to defray the risks associated with a sponsor's failure, s.55 of the Ontario PBA addresses pre-funding of DB pensions:¹⁶⁹

(1) A pension plan is not eligible for registration unless it provides for funding sufficient to provide the pension benefits, ancillary benefits and other benefits under the pension plan in accordance with this Act and the regulations.

(2) An employer required to make contributions under a pension plan... shall make the contributions in accordance with the prescribed requirements for funding and shall make the contributions in the prescribed manner and at the prescribed times.

¹⁶⁴ (U.K.), 30 & 31 Vict. c. 3. S. 92(13), reprinted in R.C.S. 1985, App. II, No. 5.

¹⁶⁵ Edward Tamango, *The Management and Regulation of Occupational Pension Plans in Canada*, Caledon Institute of Social Policy, 2007.

¹⁶⁶ *Ontario PBA*, R.S.O. 1990.

¹⁶⁷ *Supplemental Pension Plans Act*, RSQ, c R-15.1.

¹⁶⁸ *Federal PBSA*, 1985 (R.S.C. 1985, c. 32 (2nd Supp.)).

¹⁶⁹ *Ontario PBA*, R.S.O. 1990.

Wording to similar effect appears in the federal PBSA. The present value of a plan's assets and liabilities must be calculated periodically (at least every 3 years) using an actuarial valuation in order to inform the sponsor of any necessary contributions required to fully fund a plan's promised benefits. In preparing these reports, actuaries rely on certain assumptions, including assumptions about members' life spans and the rate of return on the investment of plan funds. The actuarial valuation may disclose that there are insufficient assets in the plan fund to meet obligations (liabilities) promised as of the valuation date, in which case the plan is called insolvent (at least temporarily). The amount by which the pension fund falls short is called the unfunded liability. Provincial and federal pension regulators are required to ensure that sponsors make "special payments" on schedule to re-establish their plans' solvency.¹⁷⁰ Until recently, the maximum time limit for these solvency payments was 5 years under federal, Quebec and Ontario laws. However, in response to the funding problems that many defined benefit plans in Canada have encountered in recent years, the repayment period has been extended up to ten years.¹⁷¹

3. Factors Contributing to the Decline of Defined Benefit Pensions

A. Mismatch of Assets and Liabilities

A greater focus on plan liabilities by sponsors, combined with reduced expectations for returns, is currently affecting pension sector investment and risk management in three ways. First, large private occupational funds are beginning to modify their policy mix, reducing exposure to publicly traded equities in favour of more conservative assets that aim to enhance returns, reduce risk and/or better match the long duration of plan liabilities (i.e. changing the asset mix of a pension plan with

¹⁷⁰ Mark Firman, "Protection for Private Pension Plans: What Canada Can Learn from the U.S. Employee Retirement Income Security" (2009) 67:2 UT Fac L Rev at 208.

¹⁷¹ Edward Tamango, *The Management and Regulation of Occupational Pension Plans in Canada*, Caledon Institute of Social Policy, 2006 Online: < www.caledoninst.org/publications >.

\$200 million of assets from an allocation of 60% equities, 40% bonds mix to a lower risk allocation of 30% equities, 70% bonds could result in an immediate increase in the annual pension cost of \$2.5 million).¹⁷² Second, asset/liability matching is being implemented by investing in fixed-income portfolios to better manage funding risk (i.e. a company invests in 20 year government bonds to match liabilities due in 20 years). Finally, the passive management strategies that dominated pension investment in the 1990s are giving way to renewed focus on active management (i.e. companies are pursuing more professional investment advice).¹⁷³

B. Demographics

Demographic changes are often cited as contributing considerably to the decline in workplace pensions. Population aging, in particular, generates great pressure on pension systems in all industrialized welfare states. The proportion of citizens aged 65 or over is expected to double to approximately 25% of the total population within the next 25 years, as the “first wave” of Canada’s 9 million baby boomers will have turned 65. This will pose 2 major challenges for defined benefit pension plans:

- 1) The ratio of active to retired plan members is likely to fall considerably.
- 2) As the workforce ages and as longevity increases, more retirees will have to be supported for longer periods of time.

¹⁷² Gavin Benjamin, *Barriers to Pension Plan De-risking*, Benefits Canada, 2013. Online: www.benefitscanada.com/pensions/.../barriers-to-pension-plan-de-risking >.

¹⁷³ Eric Tuer and Elizabeth Woodman, *Recent Trends in Canadian Defined-Benefit Pension Sector Investment and Risk Management*, Bank of Canada Review (2005) at 21.

While these developments ought to have been foreseeable, studies suggest that many plan sponsors and their actuaries have been using out-of-date mortality tables, underestimating plans' liabilities by as much as 15%.¹⁷⁴

In 2013 the Canadian Institute of Actuaries (CIA) created the first ever uniquely Canadian mortality tables (no American data was used) that will in all likelihood lead to higher contributions for defined benefit pension plans. The CIA study revealed that the life expectancy of a 60 year old male has increased by 2.9 years (from 24.4 to 27.3 years), while the life expectancy of a 60 year old female has increased by 2.7 years (from 26.7 years to 29.4 years). Although the effect will vary from plan to plan, Towers Watson, a consulting firm, says that adoption of the new mortality tables could immediately increase defined benefit plans' liabilities by 5% to 10%.¹⁷⁵ Gavin Benjamin of Towers Watson¹⁷⁶ discusses the impact of these new mortality statistics:

Just as sponsors were beginning to see a reduction in their pension deficits due to improvements in the global equity markets and rising interest rates in 2013, the increase in life expectancy suggested by the CIA study could reverse much of this again.¹⁷⁷

C. Federal Tax Policy

Pension lawyer Ari Kaplan notes that the Income Tax Act (ITA) regulates virtually every aspect of pension plan funding in Canada. Income tax regulations set a "ceiling" on employer contributions to DB plans in order to limit the amount of taxable income a company can defer. Federal (PBSA) and Ontario (PBA) pension standards legislation provide a "floor" by setting minimum standards

¹⁷⁴ Report of the Ontario Expert Commission on Pensions, *A Fine Balance* (Queen's Printer for Ontario, 2008).

¹⁷⁵ Tara Perkins, "Growing Lifespans the Latest Worry for Pension Plans," *The Globe and Mail* (2013). Online: < www.theglobeandmail.com › *Report on Business* › *Economy* >.

¹⁷⁶ Towers Watson is a leading professional services company that helps organizations improve performance through effective people, risk and capital management.

¹⁷⁷ Benjamin Gavin, "Long Life-The latest Threat to Pension Finances" *Canada Newswire* (2013). Online: < www.newswire.ca/en/story/.../long-life-the-latest-threat-to-pension-financ >.

for benefits and funding. In other words, pension plans must operate within these two sets of funding limits. Kaplan continues that without registration under the ITA, defined benefit plan contributions made by both employers and employees are not deductible for income tax calculation purposes, making them immediately taxable. He concludes that these tax deferral strategies are fundamentally important to sponsors, pension plan members and the retirement savings system generally, promoting accelerated funding levels.¹⁷⁸

Bill C-9 was passed into law on July 12, 2010, amending the Income Tax Act. The new law increases the amount of surplus that can accumulate in a defined benefit plan for contributions made in respect of post-2009 service, from 10 percent to 25 percent of actuarial liabilities, without triggering adverse tax consequences.

D. Accounting Rules

Registered pension plans must file annual audited financial statements with regulators such as FSCO and OSFI. However, these statements must first be examined by an external auditor who is an accountant licensed to sign Audited Financial Statements and is a member of a public accounting body conducting an auditing practice. Once the financial statements have undergone the auditor's assessment, they are reviewed by DB plans' Board of Trustees and filed with the regulators.

Pension accounting is based on a set of rules and principles established by certified accounting bodies (e.g. Accounting Standards Board in Canada) to enhance comparability between different organizations' financial results. The "off-balance" sheet accounting provisions used by all Canadian corporations up until 2011 served to distort the financial status of DB plans. In essence,

¹⁷⁸ Ari Kaplan, *Pension Law* (Toronto: Irwin Law Inc., 2006) at 384.

“off-balance” sheet accounting allows companies to refrain from reporting the true amount of their pension plan liabilities on their companies’ balance sheets.¹⁷⁹

The shift to a “fair-value” methodology by the Canadian Institute of Chartered Accounts’ (CICA) in 2011 required that all publicly traded companies report pension liabilities on their balance sheets as they are incurred. These new rules are based on the approach taken in the International Financial Reporting Standards (IFRS) adopted by the International Accounting Standards Board (IASB).

Christine Weidman of the Ivey Business Journal notes that the adoption of this “fair value” methodology is driven by the desire of pension plan members, shareholders and the public markets to know the true impact of a pension plan’s funding on the sponsor organization’s financial position. She continues that the upshot of publicly traded corporations being required to report all of their pension liabilities (as opposed to only reporting a select portion of them) is that their balance sheet equity (assets/liabilities) is reduced, thereby limiting their access to credit.

Many companies argue that being required to report all of their defined benefit plan’s pension liabilities on the company’s balance sheet is unfair because it results in their balance sheets being in a constant state of flux, moving up and down as changes in short and long term interest rates impact

¹⁷⁹Prior to 2011, most Canadian publicly traded companies were required to follow the rules of the Canadian Institute of Chartered Accountants Handbook Section 3461 (CICA 3461) for purposes of reflecting their pension plans in their corporate financial statements. CICA 3461 encouraged, or at least did not discourage, assuming DB pension risk for the following reasons:

1. Deferral and amortization of gains and losses: Instead of requiring immediate recognition of pension experience gains and losses in the employer’s income statement and on the employer’s balance sheet, CICA 3461 permitted recognition of these gains and losses to be deferred and amortized into pension cost and onto the balance sheet over time. The ability to defer and amortize gains and losses resulted in the masking of the true risk that the plan posed to the employer.
2. The deferral and amortization of gains and losses also resulted in some employers having built up relatively large deferred (i.e., unrecognized) losses in recent years. This resulted in a reluctance to undertake certain de-risking actions such as purchasing annuities, since these actions required a portion of those deferred losses to be recognized immediately in the employer’s income statement. (Gavin Benjamin, *Barriers to Pension Plan De-risking*, Benefits Canada, 2013).

the value of their pension liabilities. However, one factor in favour of corporations getting access to credit is the “unsecured creditor” status of pensioners, giving their creditors “priority” status in bankruptcy proceedings.¹⁸⁰

On January 1, 2013 it became mandatory for pension deficits and surpluses to be fully reflected on corporate balance sheets of publicly traded companies in Canada, with components of pension expense reported in different sections of companies’ income statements, including the recognition of pension gains and losses in comprehensive income.¹⁸¹ A risk for companies with large defined benefit pension plan deficits is that such accounting rule changes could negatively impact their credit worthiness, threatening their very viability.¹⁸²

¹⁸⁰ Christine Weidman and Heather Weir, “Ivey Business Journal,” *Defined Benefit Pension Plans: The Staying Power of Deficits* (London: Western University, 2005).

¹⁸¹ Gavin Benjamin, *Barriers to Pension Plan De-risking*, Benefits Canada, 2013. (Revisions to IAS 19 come into effect on Jan. 1, 2013. These revisions further reduce the barriers to de-risking that have been embedded in accounting standards:

- Revised IAS19 requires the immediate recognition on the balance sheet of all changes to pension plan surpluses or deficits (i.e., deferral and amortization of experience gains and losses will no longer be permitted).
- The annual pension cost will be calculated assuming that the annual expected rate of return on pension plan assets is equal to the liability discount rate, which is based on high quality corporate bond yields (i.e., the pension cost reflected in the employer’s profit and loss statement will no longer anticipate incremental returns from risky assets). Any incremental investment returns due to the investment in risky assets that actually emerge over time will be recognized on the corporate balance sheet (through other comprehensive income) once the incremental returns are actually earned.)

¹⁸² While the Accounting Standards Board (AcSB) mandated that all publicly-traded companies would be required to change their accounting standards to IFRS, there were concerns that such a transition would not benefit private corporations nor meet the needs of the statement users. After consultation with various stakeholders, AcSB released a separate set of accounting standards for private, profit-oriented companies: Accounting Standards for Private Enterprises (ASPE). Private companies in Canada are now permitted to prepare financial statements using either set of standards, depending on their needs.

Note that In May 2013, the Canadian Accounting Standards Board (AcSB) issued Section 3462, Employee Future Benefits, in Part II of the Canadian Institute of Chartered Accountants (CICA) Handbook to replace current Section 3461 of the same title. The AcSB has stated that the amendments aim to bring about significant improvements to the understandability, comparability and transparency of financial information for all defined benefit plans. This new section forms part of the first significant amendments the AcSB has made

E. Regulatory Burdens

Private Sector Single Employer Defined Benefit Pension Plans (SEDPPs), the focus of this thesis, require more extensive analysis, receive more intensive oversight and are required to meet different funding expectations than other types of plans. The Report of the Ontario Expert Commission on Pensions discusses plausible reasons that might explain this: few have governance structures that provide internal checks and balances to the sponsor's unilateral administration of the plan; some are quite small and unable to develop, implement or afford sophisticated strategies for investment, member services and other functions; none can adjust accrued benefits to meet funding shortfalls; and all (even the largest) are closely tied to the fate of the single sponsor that created and funded them.¹⁸³

The Report notes that SEDPPs are almost always governed and administered by the sponsor acting unilaterally (although in principle nothing prevents a single employer from agreeing to the participation of active and retiree members in governance procedures) and that if one of the purposes of funding rules is to ensure that the interests of beneficiaries are properly safeguarded, that purpose would become easier to achieve if the beneficiaries themselves had a significant voice in the decision-making that affects them, as they do in the case of Jointly Sponsored (JSPPs) pension plans.¹⁸⁴

to Accounting Standards Applying to Private Enterprises (ASPE). Section 3462 is effective for fiscal years beginning on or after January 1, 2014.

¹⁸³ Report of the Expert Commission on Pensions, *A Fine Balance* (Toronto: Queen's Printer for Ontario, 2008) at 73.

¹⁸⁴ A jointly sponsored pension plan (JSPP) is a special type of pension plan (most are public) in which decision making and funding of the benefits is shared jointly by both employees and their employer(s)). (Financial Services Commission of Ontario, *A Guide to Understanding Your Pension Plan*, 2010. Online: < www.fsco.gov.on.ca >.)

Single employer defined benefit pension plan members generally have little or no opportunity for negotiation with respect to the terms of their plans because of their lack control over the management of their own pension funds.¹⁸⁵ Therefore, in the interests of efficiency and fairness, governments have seen fit to intervene by setting minimum pension standards legislation for the funding, administration and governance of SEDPPs. This regulation necessarily increases the costs associated with defined benefit plans and may negatively impact them by passing on costs to workers and inducing businesses to opt out of DB pension plans altogether.

Recommendations recently made by the Expert Commission on Pensions in Ontario to reduce regulatory burden include:¹⁸⁶

- 1) So far as possible, substantive rules intended to define the rights and responsibilities of participants in the pension system should be set out in the Pension Benefits Act or rules and regulations made pursuant to it.
- 2) As a medium-term project, the PBA and regulations should be re-drafted so as to clearly articulate both (a) general principles applicable to all pension plans, and (b) comprehensive codes applicable to specific plan types.
- 3) Revisions to the Ontario Pension Benefits Act should be drafted to provide both rules- based and principles-based (general standards allowing some sponsor discretion) approaches, as appropriate. In particular, minimum standards with respect to benefits should generally be rules-based; some aspects of investment, plan governance and innovation are more appropriately regulated by a principles based approach; and funding requirements should likely involve a mixture of the two.

¹⁸⁵ PBA, R.S.O. 1990, c.P.8, s.8 (1).

¹⁸⁶ Report of the Expert Commission on Pensions: A Fine Balance (Toronto: Queen's Printer for Ontario, 2008) at 128.

4. Actuarial Funding¹⁸⁷

The annual funding cost of a defined benefit pension plan for an upcoming year is projected by estimating the annual benefits and expenses to be paid in that year, less estimated investment earnings in that year. This can be expressed mathematically as:

$$\text{Annual Projected Cost} = (\text{Projected Annual Benefits Paid} + \text{Projected Annual Plan Expenses}) - (\text{Projected Annual Investment Earnings})$$

Actuarial funding of a defined benefit pension plan, while complicated in detail, is conceptually simple. It consists of three parts. First, a *target* level of assets required to pay all accrued pension obligations as of the valuation date is projected based on the actuary's assumptions regarding member behaviour (probabilities of retirement, death etc.) and economic behaviour (rates of interest, investment return, inflation etc.). This annual asset target level is the projected cost of the plan and is called the *actuarial accrued liability*. Secondly, the actuary estimates the employer's annual contribution of assets or the *normal cost* (not including annual employee costs/contributions or investment returns) required to meet the actuarial accrued liability. Thirdly, since all the actuarial assumptions will normally *not* be met (because *actual* asset values of a defined benefit plan realized at the end of each valuation year will be different from the initial projected actuarial estimates for that year), an additional payment (which could be negative if actual asset values exceed the target asset values) must be added to the *normal cost*. This additional payment, spread (amortized) over future years, is referred to as the *unfunded or over-funded actuarial accrued liability*. Actuarial funding is expressed mathematically as:

$$\text{Actuarial Funding (Minimum Annual Employer Funding)} = \text{Normal (Annual) Costs (Required to Meet Total Accrued Liability to End of Valuation Year)} + \text{Unfunded Actuarial Liabilities.}$$

¹⁸⁷ Robert T. McRory, *Modelling Defined Benefit Pension Plans: Basic Metrics*, 2012. Online: www.soa.org/.../Retirement.../mono-2012-vol-man-mccrory-metri >.

5. Actuarial Methods

The sole purpose of defined benefit pension plan assets is to pay specified liabilities at a specified benefit date.¹⁸⁸ Actuaries use tools called *actuarial methods* to help them determine the level of assets required to meet defined benefit pension plan obligations. The choice of funding methods is influenced by several factors, including:¹⁸⁹

- A. The plan's benefit design; in particular, whether the pension benefit is related to salary.
- B. The plan sponsor's objectives.
- C. The requirements under the appropriate regulatory environment.

The actuary normally considers the purpose and nature of the measurement of defined benefit plan assets when selecting an *asset valuation* method. It may be appropriate for the actuary to select different methods for different purposes. For example, the actuary may consider spreading a particularly high funding requirement in a particular year (which may be unaffordable for the employer)¹⁹⁰ over a number of years, using a technique called *smoothing*. This method allows the employer to spread his or her annual funding requirement in a given year over a number of years. Alternatively, in a terminating plan, the actuary normally considers selecting an asset valuation

¹⁸⁸ Ryan J. Ronald, *The Asset/Liability Dilemma in Pension America (1994)* 3:2 Journal of Investing at 48.

Online: < www.ijournals.com/doi/abs/10.3905/joi.3.2.48 >.

¹⁸⁹ Keith P. Sharp, *Pension Funding by Normal Costs or Unfunded Liabilities (1996)* 4:2 Journal of Actuarial Practice at 257. Online: < www.jofap.org/documents/vol4/v4_2_sharp.pdf >.

¹⁹⁰ A defined benefit pension plan's assets are invested over many years to fund its pension liabilities. An actuary estimates the current value of these assets by discounting them using a particular interest rate called the discount rate. In other words, the discount rate is the rate at which current assets must be invested to equal the estimated total value of assets required to pay future pension liabilities. Note that the discount rate (i) is in the denominator of the formula and therefore as the discount rate increases, the present value of pension assets decreases. For example, using an actuarial discount rate of 5% per annum, \$1000 worth of assets at the end of 1 year would require the sponsor to fund at the level of \$952. A 1% increase in the discount rate to 6% would decrease the sponsor's funding requirements to \$942, illustrating the importance of actuarial discretion in determining a plan's discount rates. In other words, a low discount rate would increase the value of current year liabilities, thereby increasing the value of current year assets required to fund the assets. An asset to liability ratio of 1 or more means the plan is fully funded. Alternatively, a ratio of less than 1 means the plan has a deficit and that additional employer contributions are required. (Center on Federal Financial Institutions, PBGC, A Yield Curve Primer, 2004.)

method that produces an actuarial value of assets net of any significant liquidation or surrender charges reasonably expected to be incurred.¹⁹¹

Conclusion

Chapter 2 discussed the general regulatory regimes overseeing actuarial discretion and funding, revealing that private sector Single Employer Defined Benefit Pension Plans (SEDPPs), the focus of this thesis, require more extensive analysis, receive more intensive oversight and are required to meet different funding expectations than other types of plans. Plausible reasons might explain this: few have governance structures that provide internal checks and balances to the sponsor's unilateral administration of the plan; some are quite small and unable to develop, implement or afford sophisticated strategies for investment, member services and other functions; none can adjust accrued benefits to meet funding shortfalls; and all (even the largest) are closely tied to the fate of the single sponsor that created and funded them.

¹⁹¹ Actuarial Standards Board, *Selection and Use of Asset Valuation Methods*, Actuarial Standards of Practice No. 44, 2011.

CHAPTER 3

LEGISLATION, REGULATIONS, CASE LAW AND PROFESSIONAL ORGANIZATIONS GOVERNING ACTUARIAL METHODS

Introduction

Chapter 2 discussed the general regulatory regimes overseeing the funding of defined benefit pension plans. Chapter 3 reviews the specific legislation, regulations, case law and professional bodies governing actuaries' discretion in Canada, highlighting the disconnect between short-term funding policies based on malleable actuarial assumptions and the long term nature of DB funding obligations.¹⁹²

It is important to note that the regulation of private sector occupational pension plans in Canada is not harmonized across the country. Each province (except P.E.I.) has its own pension standards legislation which regulates the minimum funding requirements in that province. In addition, the federal Pension Benefits Standards Act (the "PBSA"), 1985¹⁹³ regulates pension plans for employees in the three territories and those employed in any business under the legislative authority of the federal government, including crown corporations and railroads. This chapter will focus on three pieces of pension legislation-the *Pension Benefits Act* (the "PBA") in Ontario (where most DB plans are registered), the federal *Pension Benefits Standards Act* (the "PBSA") and the federal *Income Tax Act* (the "ITA"). The chapter is divided into three sections. Section 1 discusses the basic pension funding concepts and actors governing actuarial methods, Section 2 provides an overview of the federal Pension Benefits Standards Act (PBSA) and the Ontario Pension Benefits

¹⁹²Ari Kaplan, *Pension Law* (Toronto: Irwin Law, 2006).

¹⁹³R.C.S., 1985, c.32.

Act, while Section 3 reviews specific legislation, regulations, and case law governing actuarial methods.

Section 1-Overview of Governance of Actuarial Methods

A. Minimum Pension Funding Legislation

Pension funding policy consistently struggles to achieve the appropriate balance between providing guidance and flexibility. Minimum funding standards serve to ensure that plan sponsors can meet their promise to plan members and beneficiaries in light of constantly changing market dynamics as well as changes in the corporate environment, such as workforce reductions and corporate reorganizations. However, flexibility is also necessary to allow pension assets and surplus to be used in the best interests of plan members and their beneficiaries.¹⁹⁴

All registered pension plans in Canada are required to be funded in accordance with provincial or federal legislation, depending on the province or the federal jurisdiction in which they are registered. An actuarial valuation of a plan's assets and liabilities is required to determine whether a defined benefit occupational pension plan is sufficiently funded. Under federal and provincial pension benefit laws, such an evaluation must be conducted at least every three years. However, the federal regulator (the *Office of the Superintendent of Financial Institutions* (OSFI)) and Ontario provincial regulator (the *Financial Services Commission of Ontario* (FSCO)) require annual plan valuations if the solvency (asset to liability) ratio is less than 120%¹⁹⁵ and 85%,¹⁹⁶ respectively. An actuarial

¹⁹⁴ Gil Yaron, Shareholder Association for Research and Education, Taking A Holiday, 2005. Online: < www.share.ca/files/Taking_a_Holiday_1 >.

¹⁹⁵ Subsection 12(2) of the PBSA and section 2 of the Directives of the Superintendent pursuant to the PBSA (Directives) generally require that an actuarial report be prepared as of the effective date of the plan and annually thereafter as at the plan year-end (except under certain circumstances, as described below).

valuation must be done on two bases in Canada: a solvency basis and an ongoing basis. Whiston and Gottlieb [2006] describe these as follows:¹⁹⁷

An ongoing valuation focuses on the ability of the plan to meet its obligations, assuming that it continues to operate. For example, in a final average earnings plan, the valuation on an ongoing basis views the plan as if members will continue to accrue benefits and receive pay increases, in accordance with the plan terms and assumptions used in the valuation respectively. The ongoing valuation attempts to show whether the funding of the plan is on course

A solvency valuation is defined as a valuation of the assets and liabilities of a plan using actuarial assumptions and methods that are in accordance with accepted actuarial practice for the valuation of a plan, determined on the basis that the plan is terminated at the valuation date. The actuary is generally required to make assumptions concerning the proportion of members who would elect a commuted value (and transfer from the plan) and the remainder who would leave their deferred or immediate pension benefits in the plan. When calculating commuted values in a solvency valuation, the actuary must follow a Standard of Practice prescribed by the Canadian Institute of Actuaries (CIA). This standard currently prescribes the UP-94 mortality table projected forward to the year 2015 using mortality projection scale AA, no pre-retirement mortality or other decrement (adjustment) and an interest rate of x% per annum for 10 years and y% per annum thereafter. The rate “x” is equal to the market yield on 7-year Government of Canada benchmark bonds plus 0.5%. The rate “y” is a more complicated blend of market yields on such 7-year bonds and on long term Government of Canada benchmark bonds, again plus 0.5%. Lower interest rates apply when the plan provides indexation of pensions; the formulae are specified in the Canadian Institute of Actuaries (CIA) Standards of Practice.

A plan administrator will generally be permitted to file an actuarial report every three years if:

1. The solvency ratio disclosed in the most recent actuarial report filed with OSFI was 1.20 or greater.
2. The pension plan meets the definition of a designated pension plan (Designated Plan) under Regulation 8515 of the Income Tax Act (ITA) (Designated plans are generally executive compensation DB plans not maintained pursuant to a collective bargaining agreement, in which the total of the pension credits of all specified individuals in the plan is more than 50% of the total of all pension credits of all individuals the plan for the year.) (Canada Revenue Agency, Registered Pension Plans Glossary. www.cra-arc.gc.ca).

¹⁹⁶ Effective December 31, 2012, the Ontario PBA Regulations were amended to specify that annual actuarial valuations as of a date on or after December 31, 2012 for all pension plans (excluding jointly sponsored pension plans (JSPPs) and specified Ontario multi-employer pension plans (MEPPs)) are required where the actuarial valuation either excludes liabilities in respect of plant closure or permanent layoff benefits, or is funded less than 85% on a solvency basis. (O. Reg. 177/11).

¹⁹⁷ Edward Tamango, *The Management and Regulation of Occupational Pension Plans in Canada*, 2006. Online: < www.caledoninst.org/publications >.

Intuitively, it may seem more likely that a plan would be fully funded on a solvency (commuted) basis than an ongoing valuation basis, simply because members cease to accrue benefits in a solvency valuation. However, this is not always the case. The terms of the pension plan or the applicable pension benefit law may result in the commuted plan having additional liabilities upon termination that it would not have if it continues on an ongoing basis. The solvency of a plan is calculated as follows:

[(the aggregate of the market value of the plan's current assets) + (the present value of future special payments (the plan's future earnings))] divided by [the liabilities (pension costs and administration costs) of the plan (where the liabilities are determined on a plan termination basis)]

B. Maximum Pension Funding Legislation

The federal Income Tax Act (ITA) regulates virtually every aspect of pension plan funding (other than minimum funding) in Canada. Income tax regulations set a “ceiling” on employer contributions to DB plans in order to limit the amount of taxable income a company can defer. As discussed earlier, federal (PBSA) and provincial (PBA) pension standards legislation set a “floor” by establishing minimum standards for pension benefits and funding.

The ITA and its regulations contain a prescriptive regime of rules that must be adhered to for pension plans to achieve and maintain registration for income tax purposes. Pension plan contributions made by both employers and employees are only tax deductible if they are registered under the ITA; if a plan is not registered, benefits provided to employees are fully taxable up to a rate of approximately 40%. Clearly, these tax deferral strategies are fundamentally important to sponsors, pension plan members and the retirement savings system generally.

Bill C-9, amending the *Income Tax Act*, was passed into law in 2010. This new legislation increased the amount of surplus that can accumulate in a defined benefit plan for contributions made in

respect of post-2009 service, from 10 percent to 25 percent of actuarial liabilities, without triggering adverse tax consequences. However, only an actuary has the legislative authority to determine whether or not a plan has a surplus. The actuary must calculate and value a plan's liabilities and assets using various actuarial methods. It is not known whether a plan has a surplus (or an unfunded liability) until an actuarial valuation report is prepared. As noted above, a pension surplus is an actuarial construct, which brings into focus the critical importance of the governance of actuarial methods.¹⁹⁸ The Canadian Institution of Actuaries (CIA) is charged with overseeing the professional conduct of actuaries in the valuation of DB pension plans.

C. Canadian Institute of Actuaries

The *Canadian Institute of Actuaries* (CIA), the national self-regulating organization of the actuarial profession in Canada, was established by an act of the federal Parliament in 1965.¹⁹⁹

It serves the public through the provision of actuarial services and represents the actuarial profession in the formulation of public policy. It promotes the advancement of actuarial science and sponsors programs for the education and qualification of CIA members and prospective members.

Both provincial and federal Pension Benefits Standards Acts require that actuarial valuations of DB plans adhere to the *Canadian Institute of Actuaries (CIA) Standards of Practice*.²⁰⁰

¹⁹⁸ *Ibid.*

¹⁹⁹ The original organization of actuaries in Canada, the Actuaries Club, was founded in 1907 with 24 charter members, all actuaries living and working in Toronto. The Canadian Association of Actuaries was established on October 8, 1946, and included all members of the Actuaries Clubs of Toronto and Winnipeg as well as a group of Montreal actuaries. This was the organization that formed the membership basis of the CIA when it was established by an act of the federal parliament on March 18, 1965. (Wikipedia) Online: < en.wikipedia.org/wiki/Canadian_Institute_of_Actuaries >.

²⁰⁰ Canadian Institute of Actuaries, *Canadian Institute of Actuaries Standards of Practice*, 2007. Online: < www.actuaries.ca/standards/index_e.cfm >.

D. Actuarial Standards Board of the Canadian Institute of Actuaries

The Actuarial Standards Board (ASB) of the Canadian Institute of Actuaries (CIA) is an independent body responsible for monitoring and developing actuarial standards of practice. It constantly strives for clear, accurate and user friendly valuations.²⁰¹ The ASB has responded to the demand for more transparency in actuarial funding estimates by implementing the following revisions to the professional standards of actuaries:²⁰²

1. In 2007, actuaries were required to provide rationales for the selection of their assumptions in valuing pension funds.
2. In 2011, actuaries were required to:
 - a) Disclose the rationales for methods used and method changes.
 - b) Provide a sensitivity analysis demonstrating the effect of a 1% decrease in the interest rate assumptions used to discount future pension fund monies.
 - c) Provide the cost of benefits between the mandatory triennial valuation dates (generally on an annual basis), not only on a “going-concern” basis, but also on a “solvency” (or hypothetical wind-up) basis (otherwise known as the “incremental cost”) whenever funding ratios fall below specified levels. The 2013 Ontario Budget indicated the intention to implement a new “funding concerns” test to determine when plans will be required to file annual valuations. Currently, plans that are funded below 85% on a solvency basis are required to file annual valuations. However, no new test has yet been established.
 - d) Best-estimate valuations are now allowable, meaning that the actuary need not include a margin for conservatism in the assumptions, thus potentially increasing the valuation interest rate (and, as a result, lowering required funding levels).
 - e) Actuaries are no longer permitted to include an allowance in their interest rate assumptions for the benefits of an actively managed investment portfolio in excess of the additional fees charged for active management. (However, an exception is made if the actuary is able to justify that such

²⁰¹ Canadian Institute of Actuaries, *Submission by the Canadian Institute of Actuaries to the Honourable Dwight Duncan, Minister of Finance-Ontario*, 2009. Online: < www.gov.fin.gov.on.ca >.

²⁰² Philip Morse, *Actuarial Standards are Changing in 2011*, Benefits Canada, 2010. Online: < www.benefitscanada.com/.../actuarial-standards-are-changing-in-2011-5..

additional returns will be consistently and reliably earned over the long term.) This requirement is expected to result in lower valuation of the pension fund.²⁰³

E. The Role of the Actuary

Each pension plan must have an “administrator” who bears ultimate responsibility for the plan.

This administrator is either the plan sponsor (employer) or a board of trustees. The administrator

has a legal duty to appoint the actuary and any other professionals required for the operation of the

DB plan. The actuary acts as a pension consultant to the administrator and is hired to prepare a

valuation report using assumptions and methods which provide some contribution flexibility for the

employer, while ensuring that the pension fund protects the interests of the plan members. However,

the actuary is not (and does not want to be) a plan fiduciary.²⁰⁴ In other words, the actuary can

recommend certain actions to the administrator but cannot compel the administrator to act. Jean

Claude Menard of the federal Office of Superintendent of Financial Institutions discusses the

purpose of actuarial valuations:

The particular methods of valuation used by an actuary in ongoing pension plans serve one overall purpose-maintaining capital regulation to ensure adequate contribution levels based on estimates of current service costs to maintain fund integrity. The actuary normally strives to compare some measure of the value of the benefits that have been earned in the plan (the liabilities) against some value for the investments held in the fund (the assets). The purpose of the valuation will dictate the assumptions and methods used by the actuary. For example, a going concern valuation performed to indicate the long-term funding position of the plan may be very different from one used to demonstrate solvency on wind up or to establish a value for a sale or acquisition of the business.²⁰⁵ Assumptions fall into two main

²⁰³ Phillip Morse, *Actuary Standards are Changing in 2011*, Benefits Canada, 2010. & Phillip Morse, *Actuary Standards Are Changing in 2011: Part 2*, Benefits Canada, 2010.

²⁰⁴ The actuary does not want to be a fiduciary because the duty of care of a plan fiduciary is higher than a non-fiduciary. The scope of the duty of care of a fiduciary can sometimes include liability for breaches of co-fiduciaries. Fiduciaries may also be sued by plan participants. Actuaries argue that although they are hired by plan sponsors to advise them on funding requirements, it is the plan sponsors who make the final decisions on funding and therefore must take the legal responsibility for any funding deficits. Canadian courts generally concur with this viewpoint. (Online: en.wikipedia.org)

²⁰⁵ Going concern valuations must project the wages an employee will be earning decades into the future in order to estimate the value of accrued pension benefits on the valuation date, which are based on

categories: economic and demographic. Economic assumptions include factors such as inflation, real wage increases, and real rates of return on assets while demographic assumptions include factors such as mortality rates, retirement dates, terminations and disability rates.²⁰⁶ Actuaries are generally guided by PBA/PBSA regulations and the governing standards and principles of the Canadian Institute of Actuaries in preparing valuations.²⁰⁷ For example, Section 16 of the Ontario PBA states that “the actuary is required to use “methods and actuarial assumptions that are consistent with accepted actuarial practice.” The content of an actuarial valuation in an ongoing pension plan generally includes the following information, which must be certified by the actuary:²⁰⁸

1. The *normal cost* of the plan in the next year.²⁰⁹
2. A cost estimate in the following years including the methodology used in the calculations and a breakdown of employer and employee costs.
3. The present value of future employee costs.
4. An estimate of the total annual employee contributions in each year to which the report relates.
5. The present value of future special payments (for funding deficits), including adjustments since the last valuation and the commencement and end dates for amortization.
6. The extent to which “escalated adjustments” in respect of post retirement indexing...are recognized in the ongoing liabilities and the normal cost.²¹⁰
7. Any actuarial gain (surplus) or loss (deficit) experienced during the period of the valuation.
8. The intended use of any actuarial gain (for example, contribution holiday) or remedial on any actuarial loss (that is, whether any special payments are required).

employees' salaries upon retirement. Solvency valuations are only required to use wages earned as of the valuation date to estimate employees' accrued pensions.

²⁰⁶ Jean Claude Menard, Office of the Superintendent of Financial Institutions (OSFI), *Setting Assumptions for Funding Actuarial Valuations*, 2013. Online: <www.osfi-bsif.gc.ca/Eng/oca-bac/spds/Pages/jcm20130425.aspx>.

²⁰⁷ All jurisdictions prescribe minimum required content for a valuation report.

²⁰⁸ Pension Benefits Act, R.S.O., 1990.

²⁰⁹ The employers' annual normal cost represents the actuary's estimated value of benefits accrued by the members during a particular valuation year.

²¹⁰ Depending on the performance of the plan, the cost of living increase may or may not be included in a retiree's benefits.

9. A statement that there is no solvency deficiency, or alternatively, a list of the special payments required under the solvency rules, including the amortization period and the amounts required to be paid into the pension fund.
10. A statement that the valuation complies with generally accepted actuarial principles and the requirements of provincial pension standards legislation.
11. A statement that the solvency ratio is not less than 1.0, otherwise a statement of the ratio including the assets and liabilities.
12. An identification of all assumptions and methods used to determine the ongoing and solvency liabilities.
13. In the event that the plan benefit is based upon an employee's final average or career average earnings, any earnings projections that may increase the plan's liabilities.

F. Transparency Issues

The Ontario Expert Commission on Pensions discussed the importance of transparency in actuarial valuations:

Transparency of actuarial valuations, funding decisions and other operational matters is essential to any system of pension regulation. Transparency aims to provide regulators with the information they need in order to prevent harm to plans or to the pension system, and to enforce the law if infractions occur. It also reminds sponsors that funding decisions must be reasonable and based on sound analysis.²¹¹

Transparency also aims to ensure that actuaries provide analyses capable of standing up to third-party scrutiny and that plan administrators understand that their decisions related to valuations may be subjected to critical oversight by plan members as well as regulators. Active pension members, retirees and their advisors are all dependent upon transparent valuations, considering pensions plans are often among a family's largest investments. The question, therefore, is whether or not pension

²¹¹ Report of the Ontario Expert Commission on Pensions, *A Fine Balance* (Queen's Printer for Ontario, 2008) at 58.

valuations are sufficiently transparent. The Ontario Expert Commission on Pensions discussed the lack of regulatory transparency in Ontario as follows:²¹²

- 1) Certain benefits may be provided without requiring them to be funded or included in the plan valuation.
- 2) Changes in certain variables in the funding formula may be spread over a number of years.
- 3) Non-disclosure of some pertinent funding information is permitted.
- 4) There is reliance on actuarial standards and practices which are opaque or imprecise in certain respects.

1. Exclusions

The Ontario Expert Commission on Pensions (OECPE) noted that excluded benefits are mainly related to solvency valuations but have some application to going concern valuations.²¹³ For example, while indexation paid to current retirees must be included, the cost of future indexation — whether on a formulaic basis or ad hoc — need not be included in either solvency or going concern valuations. While exclusion can be seen as an inducement to sponsors to provide this form of protection, indexation is generally an expensive benefit, so its exclusion may substantially undervalue the liabilities of a plan.

Plant closure benefits must normally be funded and included in a valuation. However, they may be excluded in Ontario if they are provided pursuant to plan-specific arrangements in place prior to 1991. While this exclusion amounts to a form of “grand-parenting” for a limited array of plans, it too represents a hidden factor contributing to their actual cost.

Benefit improvements, including expensive improvements related to past service may be amortized over a period of five or 15 years. This means that even though plan members are entitled to the additional benefits as from their inception, no immediate contribution is necessary to cover the full

²¹² *Ibid.*

²¹³ While all jurisdictions in Canada require both valuations, most do not allow benefit exclusions.

costs of providing the benefits. Such benefits may be introduced even though a plan is already less than fully funded, exacerbating the level of underfunding.²¹⁴

2. Smoothing

The OECF commented on smoothing:

Ontario regulations allow limited “smoothing” of asset values and discount rates in solvency valuations — that is, they allow a deferred recognition of gains and losses on investments, and a discount rate averaged over a period of time. CIA standards, applicable across Canada, allow smoothing on elements of the going concern valuation. However, the degree of smoothing allowed for solvency valuations in Ontario is greater than in other provinces. The 15-year amortization period of going concern unfunded liabilities is also arguably a form of smoothing, as is the five-year amortization period for solvency deficiencies.

There are good reasons for smoothing. It acknowledges the long-term nature of the obligation and avoids contributions being subjected to sudden and extreme changes. However, smoothing methodologies for going concern valuations are not carefully defined by actuarial practice, and the potential exists for changes in smoothing to be used not to respond to altered circumstances, but opportunistically to hide a funding problem. More importantly, smoothing can detract from clear understanding of a plan’s funded position if it is not fully explained in the valuation report.²¹⁵

The use of smoothing to lower a company’s annual pension funding obligations in times of low investment returns is certainly preferable to a plan becoming insolvent. However, the misuse of smoothing to chronically understate plans’ funding deficits in order to increase companies’ profit margins is unacceptable because it jeopardizes the viability of employees’ pensions. This situation undoubtedly sparked the introduction of new International Financial Reporting Standards (IFRS), requiring the immediate recognition of DB plans’ gains and losses on public company’s balance sheets. The adoption of this “fair value” methodology should greatly improve DB plan funding transparency in Canada.

²¹⁴ Report of the Expert Commission on Pensions, *A Fine Balance* (Queen’s Printer for Ontario, 2008) at 59.

²¹⁵ *Ibid.*

3. Funding Information

The OECP argued that valuations should be transparent not only to the sponsor, the plan administrator and the CIA's professional standard-setting and discipline bodies, but also to the regulator and to active plan members and retirees. It noted that one important matter not presently provided in an actuarial valuation is whether or not a contribution holiday²¹⁶ (a reduction or suspension of normal cost payments using a plan's surplus) is being factored into the contribution schedule:

The rules currently require a valuation to identify surplus in a plan, which would permit it to take a contribution holiday; however, the rules do not require disclosure of whether that holiday has actually been factored into the proposed three-year schedule of contributions. Quite apart from whether or when contribution holidays are appropriate, the fact that they are going to be taken should be transparent. Information about contribution holidays is essential for an understanding of plan funding, both for the regulator and for all plan participants, and should be provided in a document that is fully accessible to them.²¹⁷

4. Actuarial Standards and Practice

As discussed above, many reports and calculations under the Ontario Pension Benefits Act (PBA) and its associated regulations must be prepared by a Fellow of the CIA (a self-regulating, professional body) in accordance with its standards and accepted actuarial practice. In other words, the CIA and its members are, in effect, part of the apparatus of pension regulation. The OECP states:

²¹⁶ Pension legislation in all Canadian jurisdictions requires employers to fund the pension plan in accordance with prescribed tests and standards for solvency by way of contributions toward current service costs and any deficits. In most jurisdictions, the employer may apply surplus, where it exists as determined by the plan's actuarial valuation, to cover contributions for current service costs. The plan's actuarial valuation determines the employer's actual contribution level, which lies somewhere between the amount of current service costs and the maximum deductible contribution, taking into consideration any surplus. Where the actuarial surplus exceeds current service costs, employers may elect to not make contributions and apply the surplus to the current service costs. This is commonly referred to as a "contribution holiday." (Gil Yaron, Shareholder Association for Research and Education, Taking A Holiday, 2005. Online: < www.share.ca/files/Taking_a_Holiday_1 >.

²¹⁷ Report of the Expert Commission on Pensions, *A Fine Balance*. (Queen's Printer for Ontario, 2008).

Of course, the extent of their (actuaries) role depends largely on their willingness and ability to anticipate, respond to and reinforce changing regulatory strategies — greater transparency not least among them — and on the willingness of the regulator to pre-empt, defer to or supplement professional norms.

Happily, the CIA has recently changed its standards to improve the transparency of actuarial valuations. For example, all material assumptions must now be explained in a valuation. And it is likely that the new CIA standards will also require each assumption to be “independently reasonable,” rather than collectively producing a reasonable outcome, as at present. These two developments together would greatly enhance the transparency of valuations, and it would be helpful if the CIA were to promptly adopt the second as well as the first. However, if it is unable to do so, the government retains the power to require it by regulation.²¹⁸

The *Economist* magazine discusses aggressive actuarial assumptions:²¹⁹

Perhaps the most egregious way in which companies smooth profits is by valuing pension assets using expected rather than actual returns. They are allowed to do this because the assets are invested to meet pension promises in the distant future, so they can dismiss short-term swings. But whether they are inherently optimistic, or because they wish to hide the true state of their pension plans, companies generally expect unrealistically high returns. This reduces their obligations to the pension fund and thus inflates their own profits.

By virtue of the vagaries of actuarial science, at the stroke of an actuary’s pen a company can make heroic assumptions about the returns its pension assets will earn and so the rate at which its own liabilities will grow in future, allowing it to claim that the pension-deficit problem is manageable.... the potential for mischief exists because companies have great flexibility in measuring the size of pension obligations and assets, and hence the pension deficits or surpluses that feed into profits.

An American study of 3,247 DB plans found that from 1991-2000 many firms boosted their corporate valuations by over estimating pension-return assumptions, lowering current pension liability estimates.²²⁰ The issue of transparency was also highlighted by Towers Perrin in its *White Paper* on Canada’s retirement system:

Increasingly, funding policy is concentrating on avoiding having to make contributions — both by directing increasing proportions of a plan’s investment portfolio to mismatched categories that have historically provided higher long-term returns and by deferring cost

²¹⁸ *Ibid.*

²¹⁹ The *Economist*, *Pension Accounting: Murk in the Gloom* (2004). Online: <
www.economist.com/node/3339036 >.

²²⁰ *Ibid.*

through pre-recognizing the expected higher returns from equity investments in the discount rate used to determine the plan's liability.²²¹

In other words, actuaries reduce plan liabilities to unrealistically low levels by estimating higher rates of return than actual market rates.

Section 2-Federal (PBSA) and Ontario (PBA) Funding Regulations

A. Pension Benefits Standards Act (the PBSA)

The federal Pension Benefits Standards Act (PBSA) covered some 1,250 pension plans or close to 10 per cent of the asset value of all registered plans in Canada (350 of the federal plans are defined benefit pension plans, 800 are defined contribution arrangements, and 100 are combination plans (hybrids) offering both defined benefit and defined contribution components) in 2012. It sets out minimum funding standards for federally registered pension plans to ensure that the rights and interests of pension plan members, retirees, and their beneficiaries are protected. The Government of Canada's only role is to ensure that the framework is appropriate and enables all parties to make informed decisions. The main regulatory body governing actuarial methods for federally regulated plans is the Office of the Superintendent of Financial Institutions (OSFI).²²²

²²¹ Towers Perrin, *Renovate to Rejuvenate: Canadians Need a 21st Century Pension Plan* (May 2004) Online: < http://www.pensiontalk.com/pdf/White_Paper-Towers_Perrin.pdf >.as cited by Gil Yaron, Shareholder Association for Research and Education, *Taking A Holiday*, 2005. Online:< www.share.ca/files/Taking_a_Holiday_1 >.

²²² Office of the Superintendent of Financial Institutions, *Federally Regulated Private Pension Plans*, 2012-2013 Annual Report. Online: < www.osfi-bsif.gc.ca/Eng/Docs/ar-ra/1213/eng/p10-eng.html >.

B. Office of the Superintendent of Financial Institutions (OSFI)

The Office of the Superintendent of Financial Institutions (OSFI) was created in 1987 by the Government of Canada (under the OSFI Act) to contribute to public confidence in the Canadian financial system. OSFI's mandate with respect to pensions is:

(a) to supervise pension plans in order to determine whether they meet the minimum funding requirements and are complying with the other requirements of the Pension Benefits Standards Act, 1985 and its regulations and supervisory requirements under that legislation;

(b) to promptly advise the administrator of a pension plan in the event that the plan is not meeting the minimum funding requirements or is not complying with other requirements of the Pension Benefits Standards Act, 1985 or its regulations or supervisory requirements under that legislation and, in such a case, to take, or require the administrator to take, the necessary corrective measures or series of measures to deal with the situation in an expeditious manner; and

(c) to promote administrators of pension plans to adopt policies and procedures designed to control and manage risk.

The administrator is generally required to file a valuation report with the Office of the Superintendent of Financial Institutions (OSFI) every three years when a plan is in a surplus position. In the event of a plan deficit, OSFI generally requires a valuation report to be filed annually. However, the regulator has the power to request valuation reports on a more frequent basis if necessary. Solvency funding regulations are intended to protect the benefits of members and retirees in the event that a plan terminates.²²³

C. Ontario Pension Benefits Act

The Ontario Pension Benefits Act (the "PBA") prescribes a host of rules that affect the design and administration of a pension plan. Generally, the legislation is designed to accomplish two objectives: secure employee pensions from discretionary revocation and preserve the financial

²²³ *Ibid.*

integrity of earned pension entitlements. It does so by guaranteeing minimum vesting rights for employees, permitting the portability of pensions on termination of employment, and requiring the locking-in of benefits to preclude access to the funds prior to retirement age.²²⁴

The legislation also entitles similarly situated employees covered by a pension plan to join the plan once they have satisfied certain eligibility requirements, prescribes minimum spousal and other beneficiary entitlements, and mandates prescribed levels of disclosure to employees and other beneficiaries. Finally, as noted above, the legislation and regulations set out minimum contribution, funding, and solvency rules to ensure the security of current and future pension payments. The main regulatory body governing actuarial methods for the Ontario PBA is the Financial Services Commission of Ontario (FSCO).²²⁵

D. Financial Services Commission of Ontario (FSCO)

The Financial Services Commission of Ontario (FSCO), like its counterparts in other provinces administers its statute and regulates the pension sector by maintaining various forms of oversight: passive (monitoring routine filings), active (providing approvals, issuing advisories and rulings), proactive (conducting audits and investigations), and reactive (responding to information or complaints from active and retired members, creditors or service providers).

²²⁴ All pension benefits accrued by Ontario members who terminated employment on or after July 1, 2012 were immediately vested and locked-in as per Bill 236 which has been proclaimed into force. The reason for “locking in” is to ensure that a plan member’s pension entitlement is used for purpose originally intended which is to provide income in retirement for that person, and where applicable that person’s spouse. Otherwise, many employees could withdraw their pension funds for other purposes, placing a higher burden on the state to provide them with income upon retirement.

²²⁵ Report of the Expert Commission on Pensions, *A Fine Balance* (Queen’s Printer for Ontario, 2008) at 10.

All persons who establish or administer a pension plan within the meaning of the Pension Benefits Act and all employees or other persons on their behalf who are required to contribute to any such pension plan belong to the “pension sector,” one of six regulated sectors governed by Financial Services Commission of Ontario Act, 1997 (the FSCO Act).²²⁶ The FSCO Act establishes the Financial Services Commission of Ontario²²⁷ (FSCO), the purpose of which is to “provide regulatory services that protect the public interest and enhance public confidence in the regulated sectors.”²²⁸ There are 4 bodies associated with FSCO that participate in the regulation of actuarial methods in Ontario- the FSCO Board, the executive Branch of government, the Superintendent of Financial Services, and the Financial Services Tribunal. The major pension regulatory functions under FSCO are carried out by the Superintendent of Financial Services and the Financial Services Tribunal. Each is discussed in below.

E. Superintendent of Financial Services

Pension lawyer Ari Kaplan discusses the role of the Superintendent of Financial Services:²²⁹

The Superintendent of Financial Services is the person with the most significant and numerous responsibilities with respect to the regulation of defined benefit pension plans in Ontario. The Superintendent administers and enforces the FSCO Act, serves as chief executive officer of the FSCO board, and is responsible for FSCO’s financial and administrative affairs. The Superintendent is a civil servant appointed under the Public Service Act. With respect to pension regulation, the Superintendent is vested with the responsibility to “exercise the powers and duties conferred on or assigned to” him, “administer and enforce ... every Act that confers powers on or assigns duties to” him, and “supervise generally the regulated sectors.”....

The Superintendent may use FSCO staff, as well as engage other persons, to provide professional, technical or other assistance. In addition, the Superintendent has the power to delegate to any person employed by FSCO in respect of the exercise or performance of any of the Superintendent’s statutory powers or duties. The Superintendent’s functions under the

²²⁶ S.O. 1997, c.28 [FSCO Act].

²²⁷ *Ibid.* at s 2(1).

²²⁸ *Ibid.* at s. 3(a).

²²⁹ Kaplan, *Pension Law*. (Toronto: Irwin Law, 2006).

PBA can be divided into three broad categories: decision-making functions, administrative and procedural functions, and policy-making functions....

The PBA also confers on the Superintendent broad tools to investigate compliance. The Superintendent has the power to compel an employer, an administrator or any other person to supply any such information as he or she may require during an investigation of actuarial methods; require an appraisal of any or all of the assets of the pension fund by one or more independent valuers; undertake examinations, investigations and inquiries, and require the production of any book, paper, document or thing related to a pension plan or pension fund; The PBA confers on the Superintendent broad tools to investigate compliance.... The Superintendent has the authority to consider whether an administrator or its agents have complied with the statutory standard of care expected by administrators in the administration of a pension plan fund, as codified in the PBA. This is a fiduciary (legal) standard.²³⁰

F. Financial Services Tribunal

Most decisions and proposed orders of the Superintendent that affect pension rights are reviewable by the Financial Services Tribunal,²³¹ a multidisciplinary adjudication board established under the Financial Services Commission of Ontario (FSCO) Act. The rules of the Financial Services Tribunal are made under the authority of both the Financial Services Commission of Ontario and the Statutory Power Procedures Act (SPPA).²³² The Tribunal has exclusive jurisdiction to determine all questions of fact or law that arise in any proceeding before it and to exercise the powers conferred on it under the FSCO Act and the PBA. At the conclusion of the hearing, the Tribunal has the authority to uphold the Superintendent's decision or "substitute its opinion for that of the Superintendent." All decisions and orders of the Tribunal are subject to a statutory right of appeal to the Ontario Superior Court (Divisional Court). In contrast to the Superintendent's responsibility

²³⁰ *Ibid.* at 142-161.

²³¹ Financial Services Tribunal, Part 1 General. Online: < www.financialservicestribunal.on.ca/en/rules/Pages/part1 >.

²³² R.S.O. 1990, c. S.22 [SPP Act] (The SPPA prescribes minimal procedural rules for the conduct of proceedings of tribunals governed by the Act. The SPPA provides a default set of rights and procedures in the exercise of a tribunal's statutory power of decision in circumstances where the tribunal is legally required to give the parties to the proceeding an opportunity for a hearing before making a decision. The SPPA applies unless the statute creating the decision-making power of the provincial body or the SPPA provide otherwise. Koch Thornton LLP, *Tribunals and Boards*. Online: < www.ktbarristers.com/Tribunals >.)

under the PBA, the Tribunal's role is adjudicative only- it has no policy functions as part of its pension mandate:

The Tribunal's role is not to establish or manage this system, but to adjudicate individual disputes as to rights under the Act. It is not engaged in the delicate balancing of the interests of various constituencies in a legislative or policy making function. It hears disputes and decides them in accordance with the legislation.²³³

G. DB Pension Plan Administrator

The Ontario Pensions Benefits Act (the PBA) requires that every pension plan has an *administrator*. A pension plan that does not identify an administrator is not eligible for registration. The identity of the administrator is a matter of plan design. The PBA sets out the prescribed person, persons or entity that may be an administrator. Specifically, an administrator may be an employer, an arm's length "pension committee" comprised of employer and employee representatives or just employee representatives such as an insurance company, a board of trustees, a statutory corporation, board, agency or commission, a person appointed by the Superintendent where the plan is being wound up, or any other prescribed person or entity.²³⁴

In cases where employees or representatives of the employer or trade union perform tasks for the administrator, they can be found to be an employee or an agent of the administrator, and held to the statutory standard of care imposed on the administrator. How far up and down the food chain this duty extends remains unsettled law. Pension lawyer Ari Kaplan discusses the duty of care of actuaries as agents of the administrator.²³⁵

One very sensitive issue in plan administration concerns the extent to which actuaries are agents under the PBA or otherwise owe duties of care to employees. There is little dispute that actuaries play an integral and integrated role in the day to

²³³ *Ibid.*

²³⁴ *Ontario PBA.*

²³⁵ Kaplan, *Pension Law* at 359.

day operations of a pension plan, especially defined benefit plans, from the inception of the plan, and at regular and prescribed intervals, with respect to the plan's solvency and demographics, to the termination of the plan. Moreover, the Superintendent may specifically require an actuary to file and certify an actuarial valuation in certain circumstances and the Superintendent has the authority to refuse to accept actuarial valuations where the assumptions or methods used in the preparation of the report are not consistent with "accepted actuarial practice".

Are actuaries agents under the PBA? Given the broad meaning of "agent" that has been emerging from the case law, the answer is probably. An actuary preparing a valuation report is performing an administrative function, and moreover, they are almost always paid out of the pension fund with respect to their regulatory activities. One court has described an actuary's functions as "analogous" to that of an employee of the administrator where the actuary had developed and implemented a pension conversion on behalf of the employer. On the other hand, there is an argument that precisely because of their specified statutory functions actuaries are not agents, and, if the legislature intended them to be agents, it would have made it explicit.

Kaplan notes that when not performing regulatory functions actuaries will often characterize themselves as advisors, similar to lawyers, who merely give "advice" to the administrator or employer, which may in turn choose whether or not to act upon their advice. Can an actuary at common law be a fiduciary? To date, courts have been reluctant to find that actuaries owe fiduciary obligations to the administrator, especially where liability can be determined through other causes of action, such as negligence or breach of contract.

Kaplan concludes that whether or not actuaries can owe duties directly to employees depends, of course, on the facts of each case. In the 1999 case *McLaughlin v. Falconbridge Ltd.*, the Ontario Superior Court certified a class proceeding initiated by a group of employees against their employer which included a claim against the actuary for breach of fiduciary duty. The court refused to strike out the claim against the actuary, notwithstanding evidence that the employees not only had no contractual relationship with the actuary, but many were unaware of the existence of the actuary prior to the litigation. The court

determined that “the presence or absence of a fiduciary relationship cannot be determined on the basis of categorizing the relationship according to the identity of the persons involved.”

The statement of claim disclosed a cause of action in its allegations that the actuary held and exercised discretionary power in the manner in which he had the authority to select from a range of different actuarial assumptions to determine the values of employees’ pension benefits and, accordingly, it was not plain and obvious the claim would fail. The case subsequently settled prior to a determination on the merits and scope of the actuary’s duties. Given the important and integral role that actuaries and consultants play in pension plan administration, the scope of actuarial liability to plan stakeholders will undoubtedly be canvassed in future case law.²³⁶

The 2011 case *Ault v. Canada* held that pension service providers *may* have fiduciary duties to plan beneficiaries, emphasizing the importance of accurate and full disclosure all relevant information to plan members. In this case, the actuary put his own interests ahead of the plaintiffs (members). Furthermore, unknown to the members, the actuary had a financial interest in the company (Loba) sponsoring the pension plan into which the members transferred their pension funds. The court held that there was a relationship of trust and confidence with the actuary that commenced when the members met with the actuary and provided personal information to him, relying upon his expertise as an actuary and expert in the field of pensions. In other words, the actuary was in a fiduciary relationship with the members. However, the Court in *Ault v. Canada* left unanswered the question of whether or not a pension actuary has a general fiduciary duty to his or her client or to plan members, stating that providers such as actuaries *may* owe fiduciary duties to pension plan beneficiaries, depending on the nature of the relationship and the circumstances.

²³⁶ *Ibid.*

A plan administrator may find itself in a perceived conflict of interest where it is also the employer sponsoring the pension plan. The employer is perceived (if not *de facto*) to prefer his or her own interests over that of his or her employees. At common law, a fiduciary has an absolute duty to avoid any conflict of interest, regardless of whether the conflict is actual or perceived. *Cowan vs. Scargill*²³⁷ was a 1985 case where the union trustees appointed to the administration of the pensions board were deemed to be acting a conflict of interest for not taking off their union “hats” when evaluating the plan’s investment policy. The Court held:

The starting point is the duty of trustees to exercise their powers in the best interests of the present and future beneficiaries of the trust, holding the scales impartially between different classes of beneficiaries. This duty of the trustees towards their beneficiaries is paramount. They must, of course, obey the law; but subject to that, they must put the interests of their beneficiaries first. When the purpose of the trust is to provide financial benefits for the beneficiaries, as is usually the case, the best interests of the beneficiaries are normally their best financial interests. In the case of a power of investment, as in the present case, the power must be exercised so as to yield the best return for the beneficiaries, judged in relation to the risks of the investments in question; and the prospects of the yield of income and capital appreciation both have to be considered in judging the return from the investment.

The Ontario PBA similarly prohibits an administrator, as a general rule, from “knowingly” permitting its interests to conflict with its duties and powers “in respect of the pension fund” or receiving any benefit other than pension benefits, a refund of contributions, and reasonable fees and expenses related to the administration of the plan permitted by common law or provided for in the pension plan. Other provinces’ pension standards legislation also contain conflict of interest provisions applicable to the plan administration.

²³⁷ *Cowan v Scargill* [1985] Ch 270.

Section 8(10) of the federal Pension Benefits Standards Act (PBSA) also prohibits conflicts of interest by administrators. It actually contains an express clause stating that if there is a material conflict of interest between the role of the employer acting as an administrator and the employer's role in any other capacity, the administrator shall act in the best interests of the members of the pension plan. In the context of this conflict of interest the question that arises is, "Does a single-employer administrator violate the statutory conflict of interest prohibition solely by reason of the fact that it is both the employer and the administrator?" It appears not. In the 1995 case *Imperial Oil Ltd. v. Ontario (Superintendent of Pensions)*²³⁸, a group of employees (the "Entitlement 55 Group") objected to their employer's amendment to the pension plan that made the eligibility requirements to receive an early retirement pension more difficult to obtain. The employees argued the amendment was void on the basis that the employer was simultaneously acting in its capacity as employer and its capacity as plan administrator. The employees argued that the employer was acting with an improper purpose, in that the amendment had the effect of reducing the potential liabilities of the pension fund, increasing the amount of surplus available in the plan (i.e. the employer was attempting to reduce its annual service costs at the expense of its employees). The Pension Commission of Ontario (FSCO's predecessor) rejected this theory and, in accepting the amendment for registration, affirmed what has since been referred to as the "two hats" principle of employer sponsored administration:

The Act recognizes that an employer may wear "two hats" in respect of pension plans. Indeed, section 8 specifically states that an employer may be an administrator. In that way, it acknowledges that an employer may play two roles and it is self-evident that the two roles may come into conflict from time to time. ... This leads us to the conclusion that, at least in the first instance, when the word "administrator" is used in section 22, it is used to mean the person or body administering the fund and who stands in a special fiduciary relationship with the plan members courtesy of the fiduciary standard of care set out in subsection 22(1). We are of the view that an employer plays a role in respect of the pension plan that is distinct from its role as administrator. Its role as employer permits it to make the decision to

²³⁸ *Imperial Oil v. Ontario (Superintendent of Pensions)*, 1995, 18 C.C.P.B. 198.

create a pension plan, to amend it and to wind it up. Once the plan and fund are in place, it becomes an administrator for the purposes of management of the fund and administration of the plan. If we were to hold that an employer was an administrator for all purposes once a plan was established, of what use would a power of amendment be? An employer could never use the power to amend the plan in a way that was to its benefit, as opposed to the benefit of the employees.

Imperial Oil is an important case because it recognizes that structural conflicts of interest are explicit in the PBA and must be tolerated. This is especially true given that pension plans are so often administered by a single employer. Under the “two hats” principle, when an employer acts in the capacity of “administrator”, the employer is subject to the statutory and common law fiduciary standards imposed on plan administrators. However, when an employer acts in its “employer” capacity, it likely does not owe employees a statutory duty of care. The sanctioning of this conflict of interest precedent in *Imperial Oil Ltd. v. Ontario (Superintendent of Pensions)* means employers in Ontario continue to be in a conflict of interest position in hiring actuaries who value their DB pension funds. This practice gives employers the opportunity to influence the assumptions (discount rates, mortality tables etc.) used by actuaries in estimating funding contributions.

Although there is little (if any) empirical evidence in Canada that employers are breaching their fiduciary duties under the “two hats” principle, a 2006 U.K. study (using financial information from sponsoring firms including total value of assets, profitability, leverage, and taxes)²³⁹ investigated

²³⁹ The study focuses on two alternative hypotheses. The first hypothesis is that the presence of insiders is a source of agency problems, if it allows insider-trustees to favor shareholders of the firm over members of the pension plan. As described by Treynor (1977), a company with a DB pension plan owns a put option. If the assets (the firm and DB assets) fall short of the pension fund liabilities, the firm has the option to give these assets to the DB beneficiaries as payment. Since the value of a put option increases with the risk of the underlying assets, insider-trustees may have the incentive to increase the risk of the assets (the firm and DB assets) beyond what is optimal for the members of the pension plan, for example by investing the pension plan assets into equities. The agency problems may also be reflected in the contributions paid into the pension plan. Pension plan liabilities are similar to long-term debt, and pension plan members are debt-holders of the company (see Webb, 2004). Insider-trustees who favour shareholders of the firm over pension plan members may have an incentive to reduce firm contributions to the plan. The second hypothesis is that insider-trustees facilitate a more efficient management of tax liabilities, which may be positive for both shareholders and pension plan members. More precisely, companies may be able to generate tax savings if

how the management of defined-benefit pension plans is affected by the presence of trustees who are also directors of the sponsoring companies, or trustees who are insiders to the company. It provided statistical evidence that insider-trustees act in the interest of shareholders of the sponsoring company, and not necessarily in the interest of the pension plan members. In particular, the study found that pension plans of more leveraged firms with a higher proportion of insider-trustees invest a higher fraction of the pension plan assets in riskier financial assets such as equities. Thus, the study provided empirical evidence that such risk shifting by more leveraged firms actually does occur, an effect previously well understood theoretically but unproven empirically.

Professor Divya Anantharaman of Rutgers Business School in New York notes in her article *Actuarial Independence, Client Importance and Pension Assumptions*,²⁴⁰ that actuaries' pension assumptions are a conduit for earnings manipulation for many reasons. First, statutory accounting requirements for pensions and post-retirement benefits are complex, and even sophisticated investors have trouble understanding them fully (Brown 2004; Franzoni and Marin 2006; Picconi 2006). Second, actuarial assumptions involve very long-term forecasts about the future.

Disentangling deliberate manipulation of these forecasts from honest errors is difficult (Brown

they integrate their financial and pension investment policies: If a company increases leverage, uses the proceeds to fund the pension plan, and invests these funds in bonds, it may generate tax savings without affecting financial risk (Black, 1980, Tepper, 1981). This is because the increase in leverage generates a debt tax shield, while the return on bonds held in the pension plan is tax-exempt.

To test these alternative hypotheses the study collected information on UK companies that have DB pension plans. It collected information on their pension plan assets (including how they were invested), pension plan liabilities, contributions paid into the pension plan, and actuarial assumptions. In addition, it collected information on the identity of the trustees of the pension plan, and whether they were executive directors of the sponsoring company. Finally, it collected a variety of information for sponsoring companies, including the total value of their assets, profitability, taxes paid, leverage, dividends paid, and investment. (Joao F. Cocco and Paolo F. Volpin, *The Corporate Governance of Defined Benefit Pension Plans: Evidence from the United Kingdom*, 2006. Online: < www.faculty.london.edu/pvolpin/pensions.pdf >.)

²⁴⁰Divya Anantharaman, *Actuarial Independence, Client Importance, and Pension Assumptions*, Reuters Business School, 2012. Online: < www.kelley.iu.edu/feaconference/.../Paper_Upload_Anantharaman_D_76670 >.

2004). Finally, pension assets, liabilities and expenses are an economically significant part of corporate balance sheets and earnings. Even a small change in pension assumptions has the potential to significantly impact financial statements.

Matt Nevisky of the National Bureau of Economic Research summarizes (below) an article titled *Earnings Manipulation and Managerial Investment Decisions: Evidence from Sponsored Pension Plans* (NBER Working Paper No. 10543), co-authored by Daniel Bergstresser, Mihir Desai, and Joshua Rauh (He notes that the authors identify a simple way in which firms manipulate their earnings: by manipulating the assumed rates of return on the firm's pension assets. The authors show that such manipulation is linked to CEOs' incentives and that firms change investment decisions both to justify and to capitalize on this type of earnings manipulation)²⁴¹:

Many firms have pension plans that are large enough to allow them to substantially increase reported earnings in the short run by changing the assumed long-term rate of return for the pension assets they manage for their workers. Those managers who determine that manipulating the rate-of-return assumption can boost their firms' stock price, as was apparently the case during the 1990s, have strong incentives to set this long-term rate of return assumption opportunistically, particularly as they undertake mergers and approach option vesting periods.

Asset allocation within pension plans is another investment decision that may reflect earnings manipulation. Instrumental-variables analysis suggests that managers increase equity allocations to justify their higher assumed rates of return on pension assets. Large equity allocation in most firm pension plans remains a persistent puzzle. The authors note that their analysis suggests that the interaction of managerial opportunism and pension accounting may help to explain part of this puzzle, as managers increase equity allocations to justify a rate-of-return assumption. The study concludes by showing that managers who are the least constrained by their shareholders appear to be the most aggressive with their rate-of-return assumptions. Indeed, the evidence suggests that the earnings manipulations being examined do not benefit shareholders.

²⁴¹ Matt Nevisky, National Bureau of Economic Research, The Neber Digest, *Pension Assumptions and Earnings*, 2004. Online: < www.neumann.hec.ca/cref/sem/documents/050506.pdf >.

Professor Anantharaman continues that in spite of the vital role that actuaries play in pension reporting, very little is known about the actuarial profession's effect on financial reporting.

Actuaries belong to a self-regulated profession with an institutional framework very similar to that of the accounting profession prior to Sarbanes-Oxley.²⁴² Canada's Public Accountability Board (CPAB) was created in 2003 by the Canadian Securities Administrators, the Office of the Superintendent of Financial Institutions and the Canadian Institute of Chartered Accountants as part of a series of reforms designed to improve investor confidence. CPAB's duties include:

...conducting inspections of participating audit firms directly or through or in cooperation with professional regulatory authorities in order to assess the compliance of each participating audit firm with the rules of the Board, professional standards and the firm's own quality control policies, in connection with the issuance of audit reports on the financial statements of reporting issuers. (Canadian Public Accountability Board, 2012)

The issues surrounding the professional independence of actuaries are not, in principle, unlike those that faced the auditing profession before regulatory changes were legislated in the early 2000s (Gunz, McCutcheon and Reynolds 2009)²⁴³. Actuaries render a professional opinion for a fee, leaving them susceptible to the conflict between providing advice based on objective analysis on

²⁴² The Sarbanes–Oxley Act of 2002 (Pub.L. 107–204, 116 Stat. 745, enacted July 30, 2002), also known as the "Public Company Accounting Reform and Investor Protection Act" (in the Senate) and "Corporate and Auditing Accountability and Responsibility Act" (in the House) and more commonly called Sarbanes–Oxley, Sarbox or SOX, is a United States federal law that set new or enhanced standards for all U.S. public company boards, management and public accounting firms.

The bill, which contains eleven sections, was enacted as a reaction to a number of major corporate and accounting scandals, including Enron, and Worldcom. The sections of the bill cover responsibilities of a public corporation's board of directors, adds criminal penalties for certain misconduct, and required the Securities and Exchange Commission to create regulations to define how public corporations are to comply with the law. Canada and the US have both established oversight bodies for the auditors of public companies in an effort to enhance the quality of audits for those companies: the Canadian Public Accountability Board (CPAB) and the Public Company Accounting Oversight Board (PCAOB) in the United States.

²⁴³ Gunz, McCutcheon and Reynolds, "Independence, Conflict of Interest and the Actuarial Profession" (2009) 89 (1): Ethics at 77 - 89.

the one hand, and serving the needs of their plan sponsor clients on the other hand, whose objective may be to justify ways of spending as little as possible on the plan (Financial Times 2004). A recent review of the U.S. actuarial profession stated “as long as a client can threaten to find another actuary to provide actuarial services, the implied leverage might well have an effect on the actuary’s work product” (CRUSAP Task Force 2006)²⁴⁴.

Anantharaman addressed the issue of whether or not economic bonding created by fee dependence affects actuarial independence by using a sample of 2,583 firm-year observations spanning 1999-2007. She found that greater fee dependence (measured as the ratio of fees received from each plan sponsor client to the sum of fees received from all clients by that actuarial firm in that year) is associated with a higher (obligation-reducing) discount rate, consistent with economic bonding of the pension actuary leading to assumptions that understate the pension obligation. Moreover, this effect is stronger amongst the sub-sample of firms with stronger incentives to understate the pension obligation (i.e. highly leveraged firms with underfunded plans, and firms with long duration plans, for which a higher discount rate does not create countervailing effects of increasing the pension expense on the income statement). Anantharaman found that greater fee dependence is associated with a lower obligation-increasing discount rate for firms preparing to freeze their pension plans, which have incentives to overstate the pension obligation to exaggerate the economic burden of their plans and successfully negotiate the freeze with their workforce. She comments on her survey’s findings on the conflicted role of the pension actuary:

...on average, economically important clients receive higher (obligation-reducing) discount rate assumptions. This effect is stronger in highly leveraged firms and firms with longer

²⁴⁴ Divya Anantharaman, The Role of Actuaries In Defined Benefit Plan Reporting, Reuters Business School, 2013. Online : < www8.gsb.columbia.edu/programs.../sites/.../ActuaryFinalSept2013 >.

duration plans, whose incentives to understate the pension obligation are higher. Moreover, economically important clients are more likely to receive a lower (obligation-increasing) discount rate assumption just ahead of a pension freeze, when the firm has incentives to overstate the pension obligation. Overall, the results suggest that economic bonding of actuary to client may result in actuarial recommendations that understate or overstate the reporting funding status of the plan, depending on the incentives of the plan sponsor.²⁴⁵

Professor Anantharaman concluded that the economic bonding created by fee dependence does appear to affect the chosen discount rate, a primary driver of the reported pension obligation and the resulting funding status. Clients from whom actuarial practice offices derive a large fraction of their revenues receive recommendations for obligation-reducing discount rates when the plan sponsor has strong incentives to understate the pension obligation, and for obligation-increasing discount rates when the plan sponsor has incentives to overstate the pension obligation. The results hold after controlling for the economic determinants of discount rates, and are robust to a variety of alternative specifications. The results suggest that actuarial incentives to resist client pressure – litigation risk, for example – are possibly weaker than in the context of accounting firms, consistent with suggestions by researchers and commentators.

Anantharaman notes that her study took only the first step in examining the incentives facing the actuarial profession and their impact on the accounting numbers reported for defined benefit pension plans. She states:

Potential avenues for future research include examining the causes and consequences of switching of actuaries, examining in further detail the differential incentives, if any, faced by larger versus smaller actuarial firms, and studying the potential consequences for pension assumptions of the provision of non-actuarial services such as compensation consulting.

²⁴⁵ Divya Anantharaman, *Actuarial Independence, Client Importance, and Pension Assumptions*, Reuters Business School, 2012. Online: < www.kelley.iu.edu/feaconference/.../Paper_Upload_Anantharaman_D_76670 >.

The “take away” from Anantharanman’s study is that the conflict of interest between the actuary and the employer (where the actuary is being paid by the employer) tends to bias actuarial projections of investment returns toward the high side, resulting in lower employer contributions and the underfunding of DB plans in these times of low investment returns.²⁴⁶ Although no such study has been conducted in Canada, there is plenty of anecdotal evidence suggesting similar actuarial biases exist in valuing private sector single employer DB pension plans

The establishment of an independent external actuarial oversight board similar to the one established in Great Britain would be one possible legal remedy to better control actuarial underfunding in Canada. After more than a century of self-regulation, the U.K. Faculty and Institute of Actuaries (comparable to the Canadian Institute of Actuaries) agreed in 2005 that its regulatory responsibilities would be subject to external oversight (as per the accounting profession) through the Financial Reporting Council (FRC), accountable to the U.K. government. The Council’s core functions include:

- Promoting high standards of corporate governance.
- Setting, monitoring and enforcing accounting and auditing standards.
- Setting actuarial standards.
- Overseeing and regulating auditors.
- Operating an independent investigation and discipline scheme for public interest cases.
- Overseeing the regulatory activities of the professional accountancy and actuarial bodies.

²⁴⁶ A survey of private sector sponsors of Canada’s 100 largest defined benefit pension plans, based on data at the end of fiscal 2001, found that:

- for 31 sponsors, the fair market value of pension assets was at least 20% of the sponsor’s total corporate assets,
- for several of the 31, the percentage was in the 30-50% range, and
- for two sponsors, the pension assets were essentially equal to the total corporate assets.

The survey found as well, that 58 of these 100 plans had an aggregate pension asset shortfall (off balance sheet) of \$11.2 billion at the end of fiscal 2001 and 27 of the 58 reported a pension-related asset on their balance sheets of \$2.8 billion. (Wiedman et al, "Whither the Pension Plan? Accounting rules mask increasing debt," Research into pension sponsors disclosures, Ivey Business Journal, January/February 2003.)

The FRC delivers these functions through six operating bodies, three of which are involved with matters directly related to actuaries: the Board for Actuarial Standards (BAS), the Professional Oversight Board (POB) and the Accountancy & Actuarial Discipline Board (AADB). The FRC aims to ensure that:

- The users of actuarial information can place a high degree of reliance on its relevance, transparency of assumptions, completeness and comprehensibility.
- The clients and employers of professionally qualified actuaries can rely on them to act with integrity and competence, having regard to the public interest.

It is Important to note that the UK Actuarial Profession fully supports the FRC's goals, reflected by a cornerstone of its strategic plan—to build a quality framework which promotes public confidence in the work of actuaries, resulting in regulators and organizations representing the public respecting the professional ethics and standards demonstrated by actuaries.²⁴⁷

Section 3-Specific Legislation and Regulations Governing Actuarial Funding

The future of defined-benefit pension plans is increasingly being questioned. Sponsors are worried about the impact of fluctuating market returns on funding. Pension regulators are concerned about the large deficits that many DB plans have been accumulating and consequently, their exposure to insolvency. As a result, many active and retired employees are worried about the security of their promised benefits. Jim Armstrong of the Bank of Canada discusses the impact of defined benefit plans on the financial system:

The potential for continued erosion of the viability of defined-benefit plans raises concerns with respect to the financial system, particularly in the area of efficiency. Without the option of defined benefit pensions, risk-averse savers are likely to pursue less-efficient allocations of capital. Furthermore, without the presence of such plans, the financial system is less likely to experience the

²⁴⁷ Caroline Instance, Society of Actuaries, "A New Era in Regulation for the Actuarial Profession", Online: <www.soa.org/library/...actuary.../act-2009-vol6-iss4-instance.aspx>.

efficiency gains provided by active market investors with a long-term perspective. Inefficiencies from either of these sources could result in significant costs to the Canadian economy.²⁴⁸

In other words, pension investments are used to finance long term projects such as building roads, schools and hospitals.

A key impediment to DB plan funding is the issue of asymmetry, whereby pension fund surpluses are increasingly seen as the property of plan members, while deficits remain the sole responsibility of the sponsor. The high opportunity cost²⁴⁹ of inaccessible surpluses increases minimum funding strategies by sponsors, exacerbating underfunding.²⁵⁰ The result is that very few new defined-benefit plans are being created, many existing plans have been closed to new members, and others are being converted to defined-contribution plans. For example, private sector single employer DB plan membership in Ontario declined by almost 200,000 members (850,000 to 660,000) from 2005 to 2012.²⁵¹ Appendix 3 on page 275 discusses the various federal PBSA, Income Tax Act and

²⁴⁸ Jim Armstrong and Jack Selody, Bank of Canada, “Strengthening Defined Benefit Pension Plans”, Financial System Review. Online: < www.bankofcanada.ca/wp-content/uploads/.../fsr-1205-armstrong >.

²⁴⁹ The cost of an alternative that must be forgone in order to pursue a certain action. Put another way, the benefits you could have received by taking an alternative action. (*Investopedia*) Online: < www.investopedia.com/terms/o/opportunitycost.asp >.

²⁵⁰ In other words, if employers cannot access surpluses, they will not want to invest any extra money in their pension plan to maintain surplus funding; rather they will invest extra money in more accessible investments outside of the plan (i.e., there is a high opportunity cost of investing extra money in DB plans if it is inaccessible as surplus pension funds).

²⁵¹ Financial Services Commission of Ontario, *Financial Services Commission of Ontario Annual Report: (Toronto 2012)* at 9 & Financial Services Commission of Ontario, *Financial Services Commission of Ontario Annual Report: (Toronto 2005)* at 11.

Private Single Employer Pension Plans (SEPPs) are the focus of this thesis because they have been steadily declining in recent years. SEPPs are riskier propositions than Multiple Employer Pension Plans (MEPPs) because they each address the issue of “full funding” rather differently. While surpluses for MEPPs may be used to fund contribution holidays or benefit improvements (as with SEPPs), unfunded liabilities in MEPPs are usually dealt with by reducing accrued or future benefits, including pensions already in pay — an option generally unavailable to SEPPs. In other words, the SEPP employer (sponsor) must make up any funding deficiencies, as accrued or future benefits cannot be reduced. Of course, if MEPP sponsors and their unions agree, benefit reduction can be avoided by renegotiating the sponsor contributions that are fixed in

Ontario PBA amendments which were introduced from 2009 to 2014 in an attempt to address DB plan underfunding.²⁵² Unfortunately, these amendments generally serve to push funding problems down the road, rather than fixing them.

Conclusion

Chapter 3 provided an overview of the most recent pension legislation, regulations, case law and professional bodies governing actuaries' discretion in Canada, highlighting the disconnect between short-term funding policies based on malleable actuarial assumptions and the long term nature of DB funding obligations.

The chapter noted that actuaries are impacted by two major legal factors. Firstly, actuaries are agents of plan sponsors, meaning that they are prone to being influenced by their employers' wishes to make minimum contributions. Secondly, because actuaries are not fiduciaries, they are not liable for plan deficits. These two factors have been instrumental in allowing employers to pressure actuaries into estimating lower, more affordable contribution levels (by projecting higher investment returns on pension assets than actual market rates). In short, actuarial discretion has (either advertently or inadvertently) become an important factor in the funding policies of both the Ontario PBA and the federal PBSA, allowing financially challenged plans to remain solvent through unrealistically low employer funding.²⁵³ The problem with this type of funding policy is

their current collective agreement; and in MEPPs that provide for member contributions, those contributions may be increased as well. But as a practical matter, these alternatives are often difficult to implement. Consequently, benefit reduction is a real and present danger for most MEPPs and their members. (Report of the Expert Commission on Pensions, *A Fine Balance: Safe Pensions, Affordable Plans, Fair Rules* (Toronto: Minister of Finance, 2008) at 68).

²⁵² Murray Campbell and Ken Burns, Lawson Lundell LLP, *Pension and Employees Benefits Bulletin: "Pension Reforms 2009"*. Online: < www.lawsonlundell.com/media/news/143_Pension_Reform.pdf >.

²⁵³ Because actuaries are self-regulating, they make many of the rules that govern their own profession. This is a recipe for conflict; actuaries competing for lucrative HR consulting work may not have the guts to deliver hard news to the same employer who is also administering a pension plan. Nothing could be more

that chronically low returns have resulted in large deficits. Many DB sponsors have responded by switching to defined contribution (DC) plans, freezing their DB plans (i.e. not allowing new employees to join), or declaring bankruptcy (note that pensioners are unsecured creditors). Two potential legal remedies to this underfunding problem include eliminating employer-actuary agency (by creating an oversight board which hires pension actuaries) and/or making actuaries fiduciaries (thereby making them legally liable for any funding deficits). However, to date courts have been reluctant to find that actuaries owe fiduciary obligations to plan members, especially where liability may be determined through causes of action such as negligence or breach of contract.

dangerous to the industry than this cozy relationship. (Murray Gold, *The Law-A World of Concerns*, Benefits Canada, 2005).

CHAPTER 4

IMPACT OF THE GOVERNANCE OF DISCOUNT RATES ON THE UNDERFUNDING OF DEFINED BENEFIT PENSION PLANS

Overview

Chapter 3 provided an overview of the most recent pension legislation, regulations, case law and professional bodies governing actuaries' discretion in Canada, highlighting the disconnect between short-term funding policies based on malleable actuarial assumptions and the long term nature of DB funding obligations. Chapter 4 discusses the impact of the governance of discount (interest) rates on funding, concluding that actuaries are permitted to use their discretion to estimate higher than market rates in order to reduce employers' funding requirements. It proposes the establishment of an external oversight board to establish a common framework for estimating discount rates, promoting a common understanding amongst actuaries of how to improve the consistency of their estimates.

Despite all the sophisticated tools available in financial markets, projected annual asset and liability cash flows rarely balance exactly, making the funding status of defined benefit pension plans unclear. Therefore, actuaries use discount rates, which are at the heart of most actuarial calculations, as tools to condense complicated cash-flow information into more meaningful present value numbers for comparison purposes. The discount rate is defined as the rate of return on the present value of assets which equates them to their estimated values in future years. The higher the discount rate, the lower the current value of assets/liabilities required to equal their future values.

Alternatively, the lower the discount rate, the higher the current value of assets/liabilities required to equal their future values.²⁵⁴

In the 1980s and 1990s most defined benefit pension plans had surpluses due to high investment returns. However, in 1999 investment returns began to fall dramatically, turning surpluses into deficits. Persistently low discount rates over the past 15 years have impacted DB plans in the following ways:

1. Accumulation of surpluses mostly disappeared.
2. Present value calculations of projected annual deficits steadily rose (i.e. the value of liabilities, which are bond-like in nature, increased with declining interest rates).
3. Present value calculations of projected annual investments required to fund annual deficits rose (because lower investment returns meant more investment capital was required to meet increasing funding obligations).

Pension regulation relies on the actuarial profession to control the funding risk in calculating the contributions required to fund promised pension benefits. The discount (interest) rate is the most important parameter in the valuation of defined benefit (DB) pension plan liabilities, which equal the net present value of all expected future pension plan payments.²⁵⁵ Kendra Kaake notes that traditional actuaries have long argued that pension liabilities should be discounted at rates that reflect the expected long-term returns on plan assets, while financial economists have countered

²⁵⁴ Institute of Actuaries and Faculty of Actuaries, "Actuaries and Discount Rates", 2013. Online: < www8.gsb.columbia.edu/programs.../sites/.../ActuaryFinalSept2013.pdf >.

²⁵⁵ In general, the pension liability will change over time as a result of benefit accruals and improvements, actual versus expected plan experience, plan closure or freezing, changes in plan demographics and regulations. However, the pension liability will be the most sensitive to changes in the liability discount rate and inflation. (K. Kaake, *Asset Allocation and Risk Management for Defined Benefit Pension Plans: A Canadian Perspective*, 2012).

that pension liabilities should be discounted at market rates (either risk-free government bond yields or high-grade corporate bonds).²⁵⁶

Kaake continues that Canadian regulators have prudently adopted a balanced solution, ensuring that single employer DB plans are funded on a going concern basis (the projected value of future benefits discounted relative to the expected return on plan assets) and on a solvency basis (the market value of existing accrued entitlements). As a natural extension, the investment risk assumed should then evolve, in concert with each particular plan's governance process, as a balanced trade-off between the upside return potential and the downside risk of increased contributions. The key advantage of having both requirements is that the flexibility of the going concern approach is not allowed to go so far as to leave a consistent shortfall on a solvency basis. In other words, solvency valuations establish a minimum statutory funding level regardless of the level of the going concern valuation (i.e. the highest of the two valuations must be funded).

Intuitively, it may seem more likely that a plan would be fully funded on a solvency (commuted) basis than an ongoing valuation basis, simply because members cease to accrue benefits (based on wage increases, longevity increases etc.) in a solvency valuation. However, this is not always the case. The terms of the pension plan or the applicable pension benefit law may result in the commuted plan having additional liabilities upon termination that it would not have if it continues on an ongoing basis.²⁵⁷

²⁵⁶ Dmitri Vitas, *Discount Rates and the Value of Pension Liabilities*, World Bank, 2010.

²⁵⁷ For example, Grow-In benefits must be included in solvency valuations under the Ontario Pension Benefits Act. As of July 1, 2012, a pension plan member is entitled to grow-in to certain benefits (referred to as "grow-in benefits") if his or her pension plan provides defined benefits, and he or she ceases to be a member because his or her employment is terminated (subject to some limited exceptions) or the plan is wound up. This right entitles the eligible plan member to receive the pension beginning on the date on which

Pension funding has experienced much volatility in recent years. In the early 2000s, a sharp decline in long-term interest rates along with changes in actuarial standards, including increased longevity assumptions, resulted in increasing plan liabilities. Combined with poor investment returns, these factors led to many plans being underfunded on a solvency basis. This funding volatility resulted in governments implementing funding relief regulations and special regulations for specific sponsors (i.e. Air Canada). The existence of temporary solvency funding relief measures and special regulations pointed to the need to improve the regulatory framework governing the funding of private DB pension plans.

As discussed in Chapter 3, solvency funding relief regulations were enacted in the Ontario PBA and the federal PBSA in 2009 and 2010 respectively. The new regulations attempted to balance the goals of maintaining benefit security for employees and retirees, and preserving the financial condition of corporations. This was accomplished by reducing contributions for pension solvency deficits to allow more resources to be put toward operations. The solvency relief measures included in both the Ontario and federal regulations provided a number of options to plan sponsors with respect to solvency deficiencies, in recognition of the fact that each sponsor may have different priorities and restrictions. Plan sponsors now have a number of options available and need to consider the disclosure, communication, and filing requirements associated with each of the options.

Under the 2010 federal PBSA amendments, "average" solvency ratios over 3 years replaced "current" solvency ratios in determining minimum solvency funding requirements in respect of a defined benefit pension plan. Annual filing of valuation reports were mandated in the

the member would have been entitled to an enhanced or unreduced pension under the pension plan, if his or her employment or membership had continued to that date.

implementation of this new funding model. The "current" solvency ratio rule still applies for other purposes. The 5-year target period for funding solvency deficiencies remained unchanged, requiring DB plans to remit (on a quarterly basis), 20% of the solvency deficiency each year in which a solvency deficiency exists.²⁵⁸

The Ontario Pension Benefits Act Regulations were amended in 2012 by Ontario Regulation 329/12 to implement solvency funding relief measures for private sector defined benefit (DB) pension plans. The new solvency relief measures are similar to the measures introduced in 2009 and consist of:

1. Up to a 12-month deferral of new amortization schedules.
2. Consolidation and re-amortization of existing solvency deficiencies over a five-year period.
3. Amortization of new solvency deficiencies over a 10-year period, subject to a process which will allow members to object to this relief option.

Although solvency valuations address the ability of a DB plan to pay commuted benefits in the event of employer insolvency, only going concern valuations address the ability of a plan to meet its long term pension commitments.²⁵⁹ Dr. Ron Davis and Dr. Janis Sarra discuss the impact of discount rates on these valuations:

After a defined benefit pension plan is registered, it must have actuarial reports concerning its funded status prepared and submitted to the regulator at least every three years or when changes are made that change the contributions required and/or the plan's liabilities. Where the actuarial reports disclose that additional liabilities have been created or existing liabilities have been increased, then the plan sponsor must make additional special contributions calculated by an actuary as sufficient to pay-off these liabilities over a five to fifteen year time frame.

²⁵⁸ Eckler Consultants, *New Rules for federally Regulated Pension Plans*, 2010. Online: www.eckler.ca/newsletter-55-new-rules-for-federally-regulated-pension>.

²⁵⁹ Kendra Kaake, Russell Research, *Evaluating the Selection Process for Determining the Going Concern Discount Rate*, 2010.

The Ontario PBA provisions protect against the failure of the plan sponsor to make adequate contributions by requiring the sponsor to pre-fund the normal cost of a promised benefit in a defined benefit pension plan. “Normal cost” is defined in the PBA Regulation as “the cost of pension benefits and ancillary benefits with respect to a fiscal year of a pension plan determined in accordance with the methods and actuarial assumptions used in a going concern valuation”. This definition has an impact on the solvency risk for pension plans, given the provisions that regulate actuarial methods and assumptions and the investment of the pension fund’s assets. An important factor affecting the adequacy of the funding in a defined benefit pension plan is the amount of the initial contribution and the investment income that contribution can earn over a relatively lengthy time period. While the prefunding obligations discussed above ensure that contributions are made, they do not specify how an adequate amount is determined except in the most general manner. The chosen means for specifying the amount is to rely on accepted actuarial practice as determined by an actuarial practitioner governed by a self-regulatory body rather than any express regulatory standards.

Davis notes that a “going-concern valuation” in the PBA Regulation “means a valuation of the assets and liabilities of a pension plan using methods and actuarial assumptions that are consistent with accepted actuarial practice for the valuation of a continuing pension plan.” Thus, the contributions required to fund each year’s benefits are determined by calculating the normal cost of those benefits using the actuarial assumptions and methods for a going-concern valuation that are, in turn, determined by accepted actuarial practice. However, there is a large range of discretion that actuaries have over the assumptions that will be used to calculate future returns on investment in pension plans. This variance of assumptions can be compared across jurisdictions, with those used in large Canadian pension plans being more conservative than those used in the U.S. Weidman and Weir have reported that the median return on asset *assumptions* in 2004 of the 100 companies with the largest pension funds in Canadian Compustat²⁶⁰ was 7.3% while that of the pension funds sponsored by the companies in the Standard & Poor’s 500 index was 8.5%.

²⁶⁰ A database of standardized financial data on over 20,000 North American companies, of which more than 1,000 are Canadian. These are publicly traded companies only. Online: < www.lib.sfu.ca/help/subject-guides/business/compustat >.

Davis continues that the statutory requirement in Ontario that the tri-annual actuarial valuation assess the plan's funded status on a solvency basis, provides a "check" on the results of going concern "normal cost" calculations. The solvency funding calculation requires an actuary to value the plan's liabilities and assets as if the plan was being wound-up, to determine if sufficient assets are in the plan to fund the accrued benefits. If there are not, then the plan sponsor must commence making payments that will extinguish any solvency deficit over the next five years. As a result, any deterioration in the funded status of the plan over the previous three years as a result of a divergence between actuarial assumptions and actual experience due to the effect of economic events on the value of plan's liabilities or assets, can be remedied by equal monthly instalment payments over the next 5 post valuation years. The insolvency risk is that during the (up to) eight year period encompassing the period between actuarial valuations and the five year amortization period, the plan sponsor may become insolvent resulting in insufficient plan assets to pay accrued benefits.²⁶¹ Similar going concern and solvency requirements exist in the federal PBSA.

Impact of Actuaries on Discount Rates

The discount rate assumptions used in defined-benefit pension funding are often chosen strategically to make plans appear better funded (i.e. reduce liabilities) than they actually are (Feldstein and Morck, 1983; Asthana, 1999; Bergstresser et al., 2006, Baloria, 2011). As pension assets, liabilities and expenses are an economically significant part of corporate financial statements, even small changes in pension assumptions can impact earnings and balance sheets substantially. While managers of the firm sponsoring the plan ("plan sponsor") are ultimately responsible for choosing pension assumptions, these assumptions are typically chosen on the recommendation of

²⁶¹ Dr. Janis P. Sarra and Dr. Ron B. Davis, Study for the Ontario Expert Commission on Pensions: *Analysis of the Factors Leading to the Insolvency and Restructuring and Their Effects on Pension Wind-Ups and Disclosures*: UBC Faculty of Law (2007) at 17. Online: < www.facultypubs.library.ubc.ca/results.php >.

the pension actuary. Professor Divya Anantharaman of Reuters Business School discusses actuaries' conflict of interest:

Actuaries are self-regulated... They render opinions for a fee, making them susceptible to conflicts between providing advice based on objective analysis, and serving the needs of plan sponsor clients, when the two diverge. This conflict has long been a subject of discussion within the actuarial profession—for example, "...as long as a client can threaten to find another actuary to provide actuarial services, the implied leverage might well have an effect on the actuary's work product" (American Academy of Actuaries Task Force, 2006)—across all areas where actuaries function, such as pensions and insurance (Feldblum, 1993; White and Atkinson, 1993, Carmichael, 1997).²⁶² Vaughan, Cooper, and Frank (1993), in a survey of insurance actuaries, report that "responding to pressure from clients or management to change assumptions" was considered the most serious ethical challenge facing the profession. These issues have received some wider attention, but the generally low visibility of the profession and lack of public exposure to its work has limited a robust debate on actuarial independence from developing in the United States.

These concerns about the professional independence of actuaries, when juxtaposed with academic evidence on firms' strategic use of pension assumptions, beg the question of whether the pension assumptions that plan sponsors ultimately use are affected by actuaries' economic incentives, i.e., whether certain plan sponsors successfully exert pressure on actuaries to tilt assumptions in a specific direction. If the threat of losing fee revenues from a client affects the actuary's work product, this might manifest in actuarial assumptions that

²⁶² In other examples, "An actuary can only really claim independence if the advice given is totally open and public, and is capable of being relied on by any interested party. The fiduciary relation which a consulting actuary has with his or her client (not to mention the receipt of a fee) implies that they are beholden to their client..." in published comments to Bellis (2000)'s speech to the Institute of Actuaries. In the insurance arena, Feldblum (1993) argues in a discussion paper of the Casualty Actuarial Society that the insurance actuary is "torn between the two roles" of professional expert (certifying to insurance regulators that loss reserves are reasonable) and business manager (seeking to optimize company performance), and provides the interesting example that "almost all major insurers have unqualified actuarial opinions", but yet "most actuaries believe that industry reserves are seriously deficient on a statutory basis".

For example, there is "subtle pressure on the actuary to come up with numbers that make the pension fund look good" (Mary Williams Walsh, "Actuaries scrutinized on pensions", *The New York Times*, May 21, 2008). Warren Buffett, in his 2007 letter to shareholders, famously decried pension expected rate-of-return assumptions for being unrealistic, adding that somehow, "the auditors and actuaries charged with vetting these return assumptions seem to have no problem with it". Standard & Poors' insurance analyst Steven J. Dreyer asserts, "The accounting profession has come in for a lot of criticism in recent years. Meanwhile, the insurance industry has done something almost as egregious by, in effect, overstating prior-year earnings by billions of dollars. Somehow, actuaries have avoided the spotlight for abetting this." (Dreyer, Steven J., Siddhartha Ghosh, John Iten, Robert G. Partridge, and Mark Puccia. "Insurance Actuaries: A crisis of credibility." November 19, 2003. Standard & Poor's Ratings Direct: New York, NY.) as cited by Divya Anantharaman, Reuters Business School, *The Role of Actuaries In Defined Benefit Plan Reporting*, 2013. Online: www.8.gsb.columbia.edu/programs.../sites/.../ActuaryFinalSept2013 > .

better fit the client's reporting objectives. Actuaries do, however, face countervailing incentives to resist client pressure - from the threat of litigation, the need to maintain reputation, and perhaps more fundamentally from personal integrity and professional codes of conduct. Whether these incentives dominate economic considerations, is an empirical question.²⁶³

The Ontario Expert Commission on Pensions voiced similar concerns about the professional independence of Canadian actuaries:

An actuary considers a number of discretionary factors (including the discount rate) in valuing the funding requirements of a defined benefit pension. Ideally, the breadth of the options offered should be influenced by the actuarial firm's desire to serve both the sponsor and the plan members. The employer, (responsible for hiring the actuary) is the party with the most influence. This situation exposes actuaries to subtle — even overt — pressures to exercise their discretion in a way that produces outcomes agreeable to the sponsor. In the end, of course, the sponsor makes the choice — but it is actuarial discretion that confers legitimacy on that choice.²⁶⁴

Professor Anatharaman conducted a survey of 4,149 American actuarial firms to determine whether discount rate estimates varied systematically across large and small actuarial firms, and also, whether or not the discount rate varied within actuarial firms based on the economic importance of the plan sponsor to its actuary. She observed:

In a sample of 4,169 firm-years from 2000-2008, there is evidence that clients of the largest actuarial firms use systematically lower, or more conservative (i.e., obligation-increasing) discount rate assumptions, consistent with larger actuarial firms having incentives to enforce conservative pension valuations. Within actuarial firms, there is strong evidence that economically important clients (i.e., that account for a greater proportion of their actuary's client portfolio) use higher, or more aggressive (obligation-reducing) discount rates, compared to less important clients. Examining client importance at three levels – the actuarial firm level, the actuarial practice-office level, and the level of the individual actuary signing the actuarial report, client importance at both practice-office and individual levels is incrementally associated with higher discount rates (i.e. lower funding requirements).

²⁶³ Divya Anatharaman, *The Role of Actuaries In Defined Benefit Plan Reporting*, Reuters Business School, 2013. Online :< www8.gsb.columbia.edu/programs.../sites/.../ActuaryFinalSept2013 >.

²⁶⁴ Harry Arthurs, Report of the Expert Commission on Pensions, *A Fine Balance: Safe Pensions, Affordable Plans, Fair Rules* (Toronto: Minister of Finance, 2008) at 165.

Partition tests²⁶⁵ show that the effects of client importance are driven, as expected, by client firms with strong incentives to overstate discount rates - highly leveraged plan sponsors with poorly-funded pension plans (“financially weak” plans). This effect exists both within actuarial firms (across their client portfolio), and within client firms (over time). In these plans, there is some evidence that client importance effects at the practice-office level are stronger when auditor oversight of actuarial valuations is weak.

Finally, the effect of client importance manifests in both large and small actuarial firms. Interestingly, however, sorting plans by absolute size shows that the effect of client importance is driven by relatively small plans in combination with smaller practice-offices. In other words, the plan sponsors that appear to successfully exert pressure for aggressive assumptions are not the very largest plans by absolute size (these plans may face significant external scrutiny that constrains manipulation) but rather, smaller plans that happen to be relatively important to their actuarial practice-office.²⁶⁶

This chapter examines the impact of the governance of discount rates on actuarial discretion and the underfunding of defined benefit pension plans in Canada. It is divided into three sections examining the theory, legal framework, and policy options, respectively, applicable to the governance of discount rates.

Section 1-Theory of Discount Rates

1. The Concept of Discount Rates

A discount rate is a financial concept that accounts for the time value of money. It recognizes that a dollar received today is worth more than a dollar received tomorrow. In essence, a discount rate is an interest rate which reflects the amount of risk one is willing to take in receiving a value of

²⁶⁵ Several existing test methods (e.g. Equivalence Partitioning [32], Category Partition [2], and Domain Testing [33]) are based on the model that the input space of the test object may be divided into subsets based on the assumption that all points in the same subset result in a similar behavior from the test object. This is called partition testing. Even if the partition test assumption is an idealization it has two important properties. First, it lets the tester identify test suites of manageable size by selecting one or a few test cases from each subset. Second, it allows test effectiveness to be measured in terms of coverage with respect to the partition model used. Online:<www.csrc.nist.gov/acts/grindal-offutt-andler.pdf >.

²⁶⁶ *Supra*, see note 263.

money at a future date rather than today. Professor Ron Davis discusses how actuaries calculate discount rates:

For example, in order to pay a benefit of \$100 per month for life starting in ten years, suppose the actuary projects that it will take a total of \$60,000, based on average life expectancy. The actuary must estimate how much money must be contributed today to earn a total of \$60,000 in ten years, based on the anticipated rate of return (the discount rate). In making this calculation, the actuary takes into account the type of investments the plan makes. The returns on equity investments generally outpace the returns generated by “risk-free” fixed-income investments such as bonds. Therefore, the greater the proportion of equities in a pension fund’s assets, the lower the initial pension contribution required in an actuary’s estimated cost calculation.²⁶⁷

One study suggests that most of today’s DB retirement plans try to make DB pensions affordable by investing 50-70% of funds in equities. The objective is to increase the annual rate of return on the pension fund by about 2%, while delivering an acceptable compromise between affordability and stability. Increasing the expected rate of return by 2% reduces the steady state pension contribution rate by about 40%.²⁶⁸

In summary, actuaries calculate “present values” in order to compare assets and liabilities. Cash flows of assets and liabilities in future years are discounted to an equivalent present value using (1) a factor based on the number of years before the money is scheduled to be received and (2) an interest rate called a “discount rate.” An example of a present value calculation is presented below:

A payment of \$1,000 in 2 years, discounted at 5% per year, is worth approximately \$907 in today’s dollars. It tends to be easier to understand this calculation by reversing the process. If today we put \$907 into a savings account earning 5% per year, it will grow to a value of \$1,000 in 2 years. That is, the \$907 would earn \$45 (at 5% interest) and total \$952 at the end of year 1. This \$952 would earn \$48 (at 5% interest) and total \$1,000 at the end of year 2.

²⁶⁷ Ron Davis, IRRP Study, “Is Your Defined Benefit Plan Guaranteed?” (2011) at 9. Online: < irpp.org/research-studies/is-your-defined-benefit-pension-guarante >.

²⁶⁸ Malcolm Hamilton, “Investment and Longevity Risks”, Retirement Savings Research Program. Ottawa: Department of Finance, 2009. Online: < www.fin.gc.ca/activty/pubs/pension/refbib/hamilton-eng.asp >. as cited in Ron Davis, IRRP, *Is Your Defined Benefit Plan Guaranteed?*

The mathematics can become complicated, but the logic always remains the same; a present value growing at an interest (discount) rate for some number of periods equals the ultimate target amount that was originally discounted to today's dollars.²⁶⁹

2. Types of Discount Rates

Discount rates are essential in determining a DB plan's current funding status because its assets and liabilities are spread over many years. Discount rates can generally be classified in one of three categories:

(i) Expected rates of return:

Actuarial rules specify that the discount rate should be based on the expected long-term return on investment in the pension trust. Therefore, a plan would be viewed as fully funded if it has sufficient investments to make its obligated pension payments at the estimated interest (discount) rate. For many years actuaries estimated the return for the average plan at about 6%, although estimates for individual plans always varied up or down by one or two percentage points. Fred Vitesse, Chief Actuary at Morneau Shepell, explains how actuaries arrived at a 6% rate of return.²⁷⁰

1. Estimate future inflation: The average inflation rate since 1924 has been 2.94% though actuaries generally assume lower future inflation because (a) inflation has been low for quite a while, (b) economic growth in the developed world looks like it will remain sluggish for a long time to come and (c) the Bank of Canada is targeting inflation at 2% per annum. Taking all this into account, the typical estimate of future inflation is about 2.25%.
2. Forecast the real return: Calculate the return on each asset class over and above the inflation rate. Assuming three asset classes with 40% in long-term government bonds, 30% in Canadian equities and 30% in international equities.

²⁶⁹ Center on Federal Financial Institutions, PBGC, *A Yield Curve Primer*, 2004.

²⁷⁰ Fred Vitesse, *Financial Post*, "Calculating Investment Returns, Actuarially Speaking, 6% is a Good Rule of Thumb", 2013. Online: < www.business.financialpost.com/.../calculating-investment-returns-actuarially >.

3. Expect bond yields to rise: Bonds are currently at the bottom of a 60-year interest cycle so yields are expected to rise over the next 25 to 30 years. As yields rise, long-term bonds will produce capital losses that will reduce total return. This has already started as bond funds have registered a net loss in the first eight months of 2013. Indeed, there have been 25-year periods when bonds lost money in real terms. Nevertheless. . .the consensus that real returns on long-term bonds will average about 1.25% over the next 25 years.

4. Expect equities to rise less: Actuaries generally expect that Canadian equities will generate real returns of 5.25% over the next quarter century; this is less than the 6.7% or so that they have generated historically but an aging population implies a slower economy. Real returns on international equities are expected to be a little higher, about 5.75%.

5. Factor in rebalancing: Put this all together and a nominal return of 6.05% is derived. (Nominal means the inflation component is added back in) This can be bumped up by the closest thing to a free lunch that you are apt to find in the investment world: Assuming the portfolio is going to be rebalanced regularly (to maintain the 40-30-30 mix), the actual return will be a little higher than if the asset mix is allowed to drift. The estimated return can therefore be rounded up to about 6.4% to reflect regular re-balancing.

6. Assume 6% gains: Finally, we knock off about 0.5% for management fees to come up with our final estimate of 5.9%, which we will round up to 6%.²⁷¹

(ii) **Risk-free rates:**²⁷²

Central to the establishment of discount rates is the concept of a risk-free rate. If pension assets are invested in government bonds which have been guaranteed to be paid, then we would expect them

²⁷¹ Even though this seems like a lot less than the 8.5% return that fund managers actually achieved over the past 50 years, the past and the future may not be as different as they look. The 8.5% return cited above does not factor in management fees. If we assume the same 0.5% annual fee, past returns are now down to 8.0%. Next, the average inflation in the period 1963-2012 was 4.1% versus our forecast of 2.25% for the next 25 years. If we subtract out inflation, we get a real return of 3.9% for the past 50 years versus 3.75% for the next 25 years (6% less 2.25%). Our forecast is starting to look a lot more reasonable.

For example, interest rate assumptions used to value the going concern liabilities (based on the latest filed valuation reports for Ontario DB pension plans that have valuation dates between July 1, 2010 and June 30, 2013, and financial statements for the fiscal year ending between July 1, 2012 and June 30, 2013) were generally lower than in prior years, with approximately 87% of plans using a rate at or below 6.00%. Rates continued to fall within a relatively narrow range, with 73% of the plans using a rate between 5.0% and 6.0% inclusive. (2013 Report on the Funding of Defined Benefit Plans, "Overview and Selected Findings", 2010-2013, FSCO, at 15.

²⁷² Note that government bonds or treasuries are not subject to credit quality ratings. These securities are considered to be of the very highest credit quality. (Investopedia). Online: < www.investopedia.com/terms/i/investmentgrade >.

to be valued on a discount basis which assumes certainty or in other words, is risk free. The boilerplate definition of risk-free is a zero-coupon government bond curve.

Financial economists generally advocate the use of a “risk-free” rate, such as the return on a government treasury bond of equivalent duration to the pension obligation. Currently, this would produce a discount rate of 2% to 3%. Financial economists argue that a plan’s assets should be invested at a risk free rate to guarantee that increases in pension liabilities (usually 2-3% per year) are matched by similar increases in pension assets. This “risk free” concept conflicts with the well-established actuarial principle of investing pension assets in more volatile equities to achieve higher expected rates of return:

Professor Ron Davis notes that critics of this practice (focussing on the bias toward equity investment created by the “equity premium)”) argue that there is no justification rooted in financial economics principles or research for using differing costs for a fixed obligation based on what form of investment one makes (see, for example, Bader and Gold 2003; Exley, Mehta, and Smith 2004; and Sutcliffe 2005). In their review, the practice of incorporating the equity premium into the cost calculations ignores the fact that the premium is the market price for the extra risk assumed by choosing equities over risk free investments. The result is that the potential for a pension asset shortfall is increased by the proportion of equity assets in the pension fund. Despite this, in Ontario, the proportion of pension assets invested in equities has grown steadily, and at the end of 2008 stood at 60 percent (Financial Services Commission of Ontario 2009, 12-13), although the proportion declined slightly to 55 percent in 2009 (Financial Services Commission of Ontario 2010, 25-6).

Davis continues that another critique of funding pension obligations through equity investments is that the volatility of such investments is a mismatch for the predictably increasing liability of a pension benefit. Because equity investment prices do not follow a predictable path, there is a real, albeit low, probability that they will generate a very large price decline just at the time when they must be sold to pay benefits (Bodie 1996, 90-1). A task force of the Canadian Institute of Actuaries to review the standards for pension funding in actuarial practice similarly concluded that 10 percent should be added to the contribution amount if the pension fund contained 50 percent equities, in order to account for the potential of an “unacceptable deterioration in the plan’s funded status” because of the high degree of asset-liability mismatch (Canadian Institute of Actuaries 2003, 9-10).²⁷³

(iii) Rates On High-Quality Bonds:²⁷⁴

There are at least three justifications for using high-quality bond rates. First, it represents a compromise between traditional actuarial practice and the “risk free” arguments of the financial economists. High-quality bonds are not truly risk-free, but they do tend to have a low probability of default. Second, the implied interest rates that insurers build into their pricing when they offer to take on pension obligations are generally close to high-quality bond rates. Third, it is a convenient

²⁷³ *Supra*, See note 267.

²⁷⁴ Bond rating firms, such as Standard & Poor's, use different designations consisting of upper- and lower-case letters 'A' and 'B' to identify a bond's credit quality rating. 'AAA' and 'AA' (high credit quality) and 'A' and 'BBB' (medium credit quality) are considered investment grade. Credit ratings for bonds below these designations ('BB', 'B', 'CCC', etc.) are considered low credit quality, and are commonly referred to as "junk bonds". (*Investopedia*).Online: < www.investopedia.com/terms/i/investmentgrade >.

political compromise between the arguments of different groups that favor risk-free rates or rates closer to long-term investment returns.²⁷⁵

3. Nature of Discount Rates used in Actuarial Valuations of DB Plans in 2012²⁷⁶

The Standards of Practice of the actuarial profession in Canada stipulates that the discount rate to be used in actuarial valuations (for funding purposes) should be the best estimate of future portfolio returns.²⁷⁷ As a result, the discount rates used in the actuarial valuations of DB plans include an estimate of the future equity premiums expected to be earned on any equity assets included in the pension fund portfolio. This focus on estimating future equity premiums exposes plans to a high probability that the resulting measure of the accrued liability and current service costs may prove inadequate, as there is a 50% probability that actual emerging investment returns will be less than the actuary's discount rate assumption.

A. Current Best Estimate of Future Investment Returns

Estimates of future investment returns are typically developed by using a building block approach or calculated using a stochastic model. The Canadian Institute of Actuaries published an Educational Note in December 2010 (Determination of Best Estimate Discount Rates for Going Concern Valuations).²⁷⁸ This Educational Note guides the actuary to one approach for developing the estimated future return on a pension plan's asset portfolio as follows:

²⁷⁵ International Actuarial Association, *A Note on Financial Economics*, 2008. Online: < www.actuaries.org/CTTEES.../A_Note_on_Financial_Economics.pdf >.

²⁷⁶ Alberta Government, *Discount Rate History and Analysis*, 2014.

²⁷⁷ Canadian Institute of Actuaries, Standards of Practice (2008) at 3002. Online: < www.actuaries.ca/SOP_Doc/Complete/SOP_e_Complete.pdf >.

²⁷⁸ Canadian Institute of Actuaries, "Determination of Best Estimate Discount Rates for Going Concern Funding Valuations" *Educational Note*, 2010.

1. Develop estimates of the long term risk premium applicable to each asset class.
2. Determine the weighted average of the risk premiums based on the expected long term asset allocation policy.
3. Add the weighted average risk premium to the prevailing yield on long-term Government of Canada bonds.
4. Add an increment for the diversification and rebalancing effect, and
5. Deduct estimated investment expenses, reflecting only passive investment management costs.

The result is an estimate of the expected long term return on the pension plan assets.

Equity risk premiums are typically estimated from a long term history of equity returns measured relative to bills or bonds. The most comprehensive database of historical returns has been developed by three academics from the London Business School.²⁷⁹ The most recent version of the database is published in the Credit Suisse Global Investment Returns Yearbook 2013. This database includes 113 years of annual returns on bills, bonds and equities across 25 countries. To develop a current best estimate of expected future returns on a conventional asset portfolio, an asset allocation policy (40% fixed income and 60% equities) may be postulated consisting of:

1. Long Government of Canada bonds 40%
2. Canadian equities 20%
3. US equities 20%
4. Global equities 20%

Dimson (2013) reports geometric average²⁸⁰ equity risk premiums (relative to bonds) over the period 1900 to 2012:

²⁷⁹ Elroy Dimson et.al, *The Credit Suisse Global Investment Returns Yearbook* (London: London Business School, 2013).

²⁸⁰ The main benefit to using the geometric mean is that the actual amounts invested do not need to be known; the calculation focuses entirely on the return figures themselves and presents an "apples-to-apples"

1. Canadian equities 3.4%
2. US equities 4.2%
3. Global equities (ex US) 3.0%
4. **Average 3.5%**

The yield to maturity on long term Government of Canada bonds at December 31, 2013 was 3.24%. Hence, the expected return on the postulated portfolio is 40% of 3.24% (bonds) plus 60% of 6.74% (3.24% (return on bonds) + 3.5% (average equity risk premium over bonds)) =5.3%. Adding a diversification additive of 0.4% and deducting 0.25% for investment expenses gives a best estimate of future investment returns of 5.45%.²⁸¹

B. Academic Forecasts of Future Investment Returns²⁸²

Two recent academic studies by Elroy Dimson and Alain Guay respectively, focus on estimates of future investment returns on diversified investment portfolios. Both studies argue that the discount rates used in the actuarial valuations of defined benefit pension plans are too optimistic. Dimson projects real global equity returns in the range of 3% to 3.5%. In the Canadian context with a best estimate inflation rate of about 2%, Dimson's projection is for a nominal annual return on global equities of 5.5%, at best. His equity projection implies an estimated 4.75% return on a pension invested 60% in global equities and 40% in long Government of Canada bonds invested at 3.24%. Dimson observes that the high equity returns of the last half of the 20th Century were not normal,

comparison when looking at two investment options. (*Investopedia*). Online: < www.investopedia.com/terms/g/geometricmean.asp >.

²⁸¹ Note that a best estimate of future bond returns is set equal to the prevailing yield to maturity. If bond yields increase, capital losses on the bond allocation of the postulated portfolio will be realized and the 5.45% estimate of future investment returns will not be realized. This analysis does not reflect any possible outperformance of the investment manager due to active management, nor does it reflect any additional active management fees. (*Supra*, see note 271).

²⁸² *Ibid.*

nor were the high bond returns of the last 30 years. The long run averages documented by Dimson over 113 years “provide a more realistic guide to the future”.

Guay, a professor at the University of Montreal and Lawrence Allaire Jean, a senior operations specialist at Deutsche Bank, also conducted a study of expected long term investment returns in the Canadian context. They used prevailing dividend yields and economic growth assumptions to predict future equity returns. Back testing of this prospective forecasting approach revealed a 55 percent correlation with realized returns (as compared to a negative 63 percent correlation for extrapolation from historical data).²⁸³ They predicted long-term returns (over 30 years) of 2.5% on long term bonds and 6.9% for Canadian stocks. A stochastic asset model was then used to project the total portfolio returns for a pension fund invested 50% in Canadian equities and 50% in Canadian long bonds. The geometric return over 30 years on this portfolio was 4.77%. The stochastic modelling permitted analysis of the distribution of possible future returns around the mean forecast. There was a 25% probability that the 30 year geometric returns would be less than 3.67% and a 10% probability that the return would be less than 2.75%.

C. Academic Views on Conventional Actuarial Valuations Based on Best Estimates of Future Returns²⁸⁴

As discussed above, both Dimson and Guay observed that the discount rates used in conventional defined benefit valuations are too optimistic. Dimson noted that “For Canada and the UK, the real implied real equity return is greatly above the level we deem plausible.” Guay concurred, stating “Compared to our forecasts, current Canadian actuarial assumptions tend to be too optimistic to achieve sustainability for DB pension plans; it is imperative as a first step to be transparent about

²⁸³ Elroy Dimson, “The low-return world” The Credit Suisse Global Investment Returns Yearbook (London: London Business School, 2013).

²⁸⁴ Richard Guay, “A Reality Check for Pension Funds and Retirement Savings”, Long-Term Returns: C. D. Howe Institute, Commentary No.395, 2013.

some of the very high costs. Once these costs are revealed, employers (and employees) can then proceed to perform the adequate adjustments on the cost side as well as on the accumulated deficit side to ensure sustainability.” Guay estimated that public sector pension liabilities would be increased by about 25% if the benefits were discounted at the 4.77% indicated by his study.

Malcolm Hamilton noted that while contribution rate stability is a worthwhile objective for a funding strategy, it is not an achievable one for mature pension plans with significant equity holdings because any viable funding strategy will force contribution rates to move in a wide range (i.e. contributions will vary significantly with changes in equity returns). Furthermore he stated that DB equity investments introduce intergenerational inequity, transferring current funding risks (through underfunding) to future generations:

By building the equity risk premium into the valuation assumptions, albeit reduced by some poorly defined margin for adverse deviation,²⁸⁵ actuaries allow the first generation of plan participants to enjoy the equity risk premia that are expected to be earned in the future as compensation for risks borne by future generations.²⁸⁶

In other words, if the first generation’s pension contributions (based on artificially high estimates of future equity returns) are insufficient to pay their pensions upon retirement, the second generation’s contributions will necessarily increase to fund the resulting future deficits.

4. Formulae for Discounting Assets and Liabilities

The mathematical formula for this present value calculation is as follows:

²⁸⁵ Provision for Adverse Deviation (PfAD) that is appropriate for the plan’s risks and consistent with the Plan’s risk management process. A margin of 50 basis points is common and may result in a PfAD of 8% of plan liability for a fully funded plan with a typical maturity profile. (Canadian Institute of Actuaries, Task Force on the Determination of Provisions for Adverse Deviations in Going Concern Valuations, *Provisions for Adverse Deviations in Going Concern Actuarial Valuations of Defined Benefit Pension Plans*, January 2013..

²⁸⁶ Malcolm Hamilton, *Members Paper: Rethinking the Funding of Mature Pension Plans*, The Canadian Institute of Actuaries, 2007.

Present Value Calculation

The DB present value formula is the core formula which accounts for the time value of money.

The present value (PV) formula of assets in any given year has four variables, each of which can be solved for:

$$PV = \frac{FV}{(1 + i)^n}$$

1. PV is the value at year= 0
2. FV is the value at year = year n
3. i is the discount rate, or the interest rate at which the assets will be compounded each year
4. n is the number of years after year 0

The cumulative present value of future cash flows in all years can be calculated by summing the contributions of FV_t , the value of cash flows in each year.

$$PV = \sum_{t=0}^n \frac{FV_t}{(1 + i)^t}$$

A. Assets

Note that the discount rate (i) is in the denominator of the formula and therefore as the discount rate increases, the present capital value of pension assets decreases. For example, using a discount rate of 5% per annum, \$1000 worth of assets at the end of 1 year would require the sponsor to fund at the level of \$952. A 1% increase in the discount rate to 6% would decrease the sponsor's funding requirements to \$942, illustrating the importance of actuarial discretion in determining a plan's discount rates.²⁸⁷

B. Liabilities

A defined benefit pension plan's liabilities are the cost of current and future promises to its members. The actuary makes assumptions with regard to economic (salaries, inflation etc.) and

²⁸⁷ Center on Federal Financial Institutions, PBGC, *A Yield Curve Primer*, 2004

demographic (age, mortality etc.) factors in order to project a plan's liabilities in future years. The actuary then estimates the discount rate to determine the current value of the plan's liabilities.

Similar to assets, the higher the discount rate, the lower the current value of a plan's liabilities (i.e. the mathematical formula used for the present value calculation is the same as the one used for the present value asset calculation).

The discount rate for liabilities is often lower than discount rate used for assets because actuaries' projections of investment returns are often based on high risk equities (to try to generate higher returns than "risk free" investments such as bonds), whereas liabilities are dependent upon more predictable, steadily increasing economic (i.e. salary increases) and demographic (i.e. longevity) factors. The current value of the liabilities is compared to the current value of the assets to determine whether or not a plan has a deficit or a surplus. An asset to liability ratio of 1 or more means the plan is fully funded. Alternatively, a ratio of less than 1 means the plan has a deficit and that additional employer contributions are required.²⁸⁸

C. Introduction of 3 Year Average Solvency Funding Ratios

In 2009 the federal Pension Benefits Standards Act (PBSA) formally adopted a new methodology for the determination of minimum funding requirements for defined benefit plans in order to mitigate the pro-cyclicality of the prior funding regime. Amendments to the funding rules adopted a new standard for establishing minimum funding requirements on a solvency basis that used average (rather than current) solvency ratios to determine minimum funding requirements. The average solvency position of the plan for funding purposes is now defined as the average of the solvency ratios over three years, i.e. the current and previous two years. The three solvency ratios used in the

²⁸⁸ *Ibid.*

determination of the average must be based on the market value of plan assets as of the dates they were initially calculated. Past deficiencies must be consolidated annually for the purpose of establishing solvency special payments.²⁸⁹

This new approach reduces the effects of short-term fluctuations in the value of plan assets and liabilities on solvency funding requirements, spreading them over three years instead of one.

Although initial increases in special payments are less than under the old solvency funding rules, payments tend to be higher in later periods. Similarly, when a pension plan's funding position improves as a result of strong investment returns, solvency special payments tend to decline more gradually as a result of averaging. This new approach also mitigates the "pro-cyclicality" of the old funding rules, reducing the level of required contributions in any given year. The amortization periods for solvency deficiencies remain at five years.²⁹⁰

In 2009 the Ontario Pension Benefits Act (PBA) introduced the following temporary solvency relief measures for single employer defined benefit pension plans:²⁹¹

The administrator of an eligible plan may elect any or all of the following solvency funding relief options:

1. Defer new special payments (going concern and solvency) determined in the solvency relief report for up to one year;
2. Consolidate pre-existing solvency special payments into a new five-year schedule; and
3. With the consent of the members and former members, extend funding of any new solvency deficiency in the solvency relief report for up to five additional years....

²⁸⁹ Federal Department of Finance: "Regulatory Impact Statement", 2010. Online: < www.fin.gc.ca >.

²⁹⁰ In periods of substantial market downturns, such as was experienced in 2008, the use of the average solvency ratio method with a five year amortization period would serve to dampen the effect of a market downturn on funding requirements without the potential adverse impact on benefit security of a significantly longer amortization period.

While the average solvency ratio would be used for minimum funding purposes, the current solvency ratio would still be the relevant measure for all the other purposes under the Act and the Regulations, including, for example, information statements sent to the beneficiaries.

²⁹¹ Financial Services Commission of Ontario (FSCO): "2009 Solvency Funding Relief Measures", 2009. Online: < www.fSCO.gov.on.ca/en/.../2012-solvency-funding-relief >.

Note that although average solvency funding ratios are not prescribed (as in the federal PBSA), solvency payments may be amortized over an additional five to ten more years, thereby reducing the immediate impact of a substantial market downturn on a sponsor's funding requirements. These temporary solvency relief measures were extended in 2012.²⁹² Both the federal PBSA and Ontario PBA solvency valuation amendments were obviously designed to help sustain the single employer DB plans in times of large funding deficits.

5. Proposed New Valuation Methods

Barry Gros of the C.D. Howe Institute discusses the need for better balance in the funding of single employer DB plans (SEPPs):²⁹³

Ontario's two-part funding system consists of going-concern and solvency-funding rules. Conceived with good intentions in the 1980s, the solvency-funding requirements are an ongoing frustration for plan sponsors. Ontario has issued temporary easements to these requirements twice in the past 10 years, a sign that

²⁹² The opportunity introduced in June 2009 for certain DB pension plans to elect temporary solvency funding relief measures has ended. Three funding relief options were available for only the first filed valuation report with a valuation date on or after September 30, 2008 and before September 30, 2011:

- Deferral of the start of special payments required to liquidate a new going concern unfunded liability or new solvency deficiency for up to twelve months;
- Consolidation of existing solvency special payments into a new five years payment schedule commencing on the valuation date of the solvency relief report; and
- Extension of the period for liquidating a new solvency deficiency from five years to a maximum of ten years (with member consent).

The 2012 measures provided certain DB pension plans with similar options for temporary solvency relief as those introduced in 2009 by the Ontario government. The 2012 temporary solvency funding relief measures applied to the first filed valuation report with a valuation date on or after September 30, 2011 and before September 30, 2014. The relief measures included consolidation of existing solvency special payments into a new five-year payment schedule, and allowed new solvency deficiencies to be amortized over a period of up to 10 years instead of five years, with member consent. In addition, the Regulation has since been amended to generally allow for all plans to defer, for up to one year, the start of special payments required to liquidate new going concern unfunded liability or new solvency deficiency. (FSCO, 2013 Report on the Funding of Defined Benefit Pension Plans in Ontario-Tenth Annual Report, 2013. Online: < www.fSCO.gov.on.ca >.

²⁹³ Barry Gros, Ontario Pension Policy 2013: "Key Challenges Ahead, Commentary No. 386", C.D. Howe Institute, 2013. Online: < www.cdhowe.org/pdf/Commentary_386 >.

these rules are insufficient to secure pension plan promises during difficult economic times. As well, contractual inflation indexing need not be included in the pension liability calculations for solvency purposes, further weakening the credibility of Ontario's solvency requirements.

Furthermore, current solvency funding rules require large additional contributions when economic times are bad, creating the potential for trapped surpluses when times improve because of the onerous rules for removing surplus funds. Solvency valuations have a valid purpose in assessing the financial well-being of a plan, but they need not drive funding. An important observation in the Alberta/BC JEPP Report (2008) is that the test for determining plan deficits and potential remedies are two separate issues.

In short, Gros points out that the vast majority of DB plans are not terminating and consequently, there is no need to require deficit funding on an onerous short term solvency (wind-up) basis. Alternatives to this two-part system of funding have recently been proposed through New Brunswick's new shared-risk plan and Quebec's D'Amours Report (2013), which proposed an "enhanced funding method."²⁹⁴ Current funding issues are, to some extent, a result of trying to support benefits that were implemented in an era when costs were substantially lower than they are today, raising the question of whether the funding problems that pension plans have recently encountered are truly a funding requirement issue or a benefit issue. Gros notes that there are still fundamental issues with current funding rules that need to be addressed and proposes the following remedial measures:²⁹⁵

1. Replace both the going-concern and solvency-valuation requirements with a new single valuation methodology, based on going-concern principles but made stronger with the addition of key components – key components would be a valuation discount rate that excludes *full* pre-recognition of any equity premium that may or may not arise along with shorter deficit amortization

²⁹⁴ Quebec proposed that enhanced funding not be based on the hypothetical termination of a DB plan. In other words, funding of solvency deficiencies would be eliminated.

²⁹⁵ *Ibid.*

periods (e.g., eight years rather than the existing 15). This is similar to the enhanced funding method suggested in the Quebec Expert pension study (D'Amours 2013). Solvency-based testing should still be maintained for contribution holidays, though.

2. Introduce a margin reserve account for special payments and “excess” service cost payments – Better symmetry could be established in the funding equation by segregating contributions meant to shore up short-term deficits and margins built into the service cost. Recent BC legislation goes in the right direction by establishing a reserve account for solvency amortization payments that could be returned to the employer regardless of the wording in the plan document. A further step would include both going-concern special payments (where there is no solvency funding) and margins in the service cost in order to reduce the possibility of future trapped surpluses.
3. For defined benefit single employer pension plans,²⁹⁶ funding and surplus utilization are the primary areas of concern. Current funding models could benefit from replacing the combined going-concern and solvency valuation model with a stronger going concern valuation model and creating a new margin reserve account to prevent special payments made during poor financial times (as well as margins incorporated in service cost payments) turning into trapped surplus when times improve.

6. Financial Economics Re: Discount Rates

Financial economics is a subset of microeconomics and is primarily devoted to studies of capital markets. One particular subject of interest to financial economists is how markets determine current values (prices) of future cash flows. Two familiar examples are shares of stock, which generate future dividends and /or earnings growth, and bonds, which generate future interest and principal payments. Stocks and bonds trade on open markets, making it easy to determine their current market value. However, pension liabilities do not trade on open markets, making it more difficult to determine their values. Therefore, financial economists use openly traded items which are close in nature to the untraded pension liabilities in order to assess their value. For example, a \$100 five-

²⁹⁶ Single employer plans are the focus of this thesis.

year zero coupon bond currently trading at \$90 can be used to determine the discount rate of pension liabilities that are due five years hence.²⁹⁷

As discussed earlier, pension actuaries determine current values of future cash flows using various methods and assumptions about discount rates which are often different from the way in which capital markets value similar cash flows. These actuarial discounting methods have always been contested by financial economists, who argue that when pension assets are determined on a basis other than fair market value, prices are distorted, creating a misallocation of resources. In other words, contrary to the teachings of financial economics, the actuarial pension model anticipates *expected* outcomes without reflecting the price of risk (i.e. the risk of a decline in the value of pension investments such as stocks). It then camouflages the risky distribution of outcomes through various smoothing and amortization applications. The challenge posed by financial economists to pension actuaries is summarized in the following questions:

1. Why do actuaries use different interest rates to discount future cash flows than capital market values?
2. Is it appropriate for the actuarial profession to have different actuaries in different practices producing different rates to discount similar cash flows?
3. Is it possible to create a common language and transparent framework for describing and determining discount rates and possibly reduce the diversity of current actuarial practice?

²⁹⁷ In finance, a bond is an instrument of indebtedness of the bond issuer to the holders. It is a debt security, under which the issuer owes the holders a debt and, depending on the terms of the bond, is obliged to pay them interest (at specified dates on the coupons) and/or to repay the principal at a later date, termed the maturity date. Similarly, pension obligations are debts held by employers which are owed to employees. The cost of these obligations generally increase steadily over time (similar to bonds) correlating with real and inflationary wage increases. (Society of Actuaries and American Academy of Actuaries, *Pension Actuaries Guide to Financial Economics*, 2006. Online: < www.soa.org/Files/Sections/actuary-journal-final.pdf >.)

Section 2-Legal Framework Governing Discount Rates

1. Overview

Strong equity returns and rising long-term interest rates in the final quarter of 2013 capped a dramatic year of improvement in the funding status of Canadian pension plans. Canadian equities returned 7.3 per cent in the fourth quarter which brought the average 2013 return to 13.0 per cent. Long-term Government of Canada bond yields, a key factor in calculating the liabilities of pension plans, ended the year at 3.2 per cent, up almost 1% (from 2.3 per cent at the beginning of the year), thereby reducing the current value of DB liabilities. Mercer²⁹⁸ estimates that a one percentage point increase in long-term interest (discount) rates reduces liabilities by 10 to 15 per cent.²⁹⁹ Moreover, Mercer's pension "health" index reached its highest level in 12 years at the end of 2013.³⁰⁰ It revealed that almost 40% of pension plans were fully funded at the end of 2013 compared to 6% at the beginning of the year. What's more, only 6% were less than 80% funded, down sharply from 60% at the beginning of 2013. AON Hewitt³⁰¹ also reported that the median solvency funded ratio in its pension universe of 275 public, semi-public and private plans rose to 93.4% at the end of 2013, up nearly 25 percentage points from the beginning of the year.³⁰²

Despite these dramatic improvements in discount rates, it is highly unlikely there will be any resurgence in DB plans in Canada. Sponsors have decided that DB plans have exposed them to too

²⁹⁸ Mercer is a pension consulting company which helps with every aspect of defined benefit investing, from strategy and structure to unwavering oversight of governance and implementation. Working dynamically with your pension plan, we harness your investment strategy to the goals of your business.

²⁹⁹ Mercer, Press Release: "Funded Status of Canadian Pension Plans at Highest Level in 12 years", 2014. Online: < m.mercer.ca/press-releases/ >.

³⁰⁰ The Mercer Pension Health Index, which tracks the funded status of a hypothetical defined benefit pension plan, stood at 106% on Dec. 31, up from 82% at the start of the year and at its highest level since June 2001.

³⁰¹ Aon Hewitt is a leading global provider of risk management, insurance and reinsurance brokerage.

³⁰² Barbara Shecter, Financial Post: "Defined Benefit Plans Healthier Than Ever but Don't Expect to See More of Them", 2014. Online: www.business.financialpost.com/.../canadian-pension-plans-start-2014 >.

much funding risk over the past 15 “stomach-churning” years of market turbulence.³⁰³ Professor Keith Ambachtsheer, a veteran pension expert and director emeritus of the Rotman International Centre for Pension Management (ICPM) does not anticipate any resurgence of defined benefit pensions; rather, he expects more “de-risking” through means such as liability transfers to insurance companies. He believes that corporations are “done with defined benefit plans.”³⁰⁴ Barbara Shecter of the Financial Post weighed in on the status of DB plans:

As companies with defined benefit pension plans struggled to fund their obligations in recent years, many opted to stop offering the guaranteed retirement benefits to new employees. Others considered ways to trim their exposure by reducing benefits or paying upfront to hive off obligations. Such de-risking strategies can be costly, particularly in a low interest rate environment, and often aren’t designed to pull pension plans out of a current funding deficit position. A stronger funding position could make de-risking more palatable.³⁰⁵

The fixed discount rates on high-quality long term government or corporate bonds are generally used by actuaries to determine a plan’s expected risk-free (guaranteed) returns in the future.³⁰⁶

Today’s low discount rates have placed additional funding burdens on DB plans by requiring sponsors to increase levels of investment capital in order to generate the same revenue that higher rates would have yielded in the 1990s.³⁰⁷ However, Michel Kelly Gagnon, president and director

³⁰³ Manuel Monteiro, Mercer Press Release: “Financial Strategy”, 2014.

³⁰⁴ Barbara Shecter, Financial Post: “Defined Benefit Plans Healthier Than Ever but Don’t Expect to See More of Them”, 2014. Online: < business.financialpost.com/.../canadian-pension-plans-start-2014>.

³⁰⁵ *Ibid.*

³⁰⁶ The theoretical rate of return of an investment with zero risk. The risk-free rate represents the interest an investor would expect from an absolutely risk-free investment over a specified period of time. In practice, however, the risk-free rate does not exist because even the safest investments carry a very small amount of risk. (Investopedia. Online: < www.investopedia.com/terms/r/risk-free-rate >.)

³⁰⁷ Dominion Bond Rating Service (DBRS) estimates if the discount rate rose by 2 per cent, the DB pension funding gap of almost US\$400 billion of 451 major North American corporations would be eliminated. The average discount rate in 2011 was 4.84 per cent compared with 6.27 per cent in 2008. (Jim Middlemiss, Canadian Lawyer Magazine: “Bracing for the Pension Time Bomb”, 2013. Online: < www.canadianlawyermag.com >.

Canadian defined benefit (DB) pension plans' solvency continued to improve significantly in the fourth quarter of 2013 and ended the year in a much stronger position than at the same point in 2012, according to the latest survey by Aon Hewitt, the global human resource solutions business of Aon plc (NYSE:AON). The major contributors to increased solvency were improved equity market returns, with help from higher long-

general of the Economic Institute of Montreal argues that low rates in 2012 did not truly reflect expected risk-free returns, but rather, reflected the monetary policy measures taken by the Bank of Canada to counter slow economic conditions:³⁰⁸

The main cause of these solvency deficits is that long-term interest rates are exceptionally low. For example, since 2000, rates have decreased from 6% to 2.5% on long-term federal government bonds and from 4% to 0.3% on real return bonds used in indexed pension plans. This reduces investment returns, but the benefits are not accordingly adjusted... This is another unfortunate consequence of our current monetary policy. It creates a major problem for many Canadian companies that have those types of pension plans. Air Canada, Resolute Forest Products, Canadian Pacific, Bell Canada, Canada Post, Canadian National, are but a few of the companies impacted. The practical consequence of all of this is that Canadian companies suffer a substantial drain on their cash flows since they have to make important "deficit payments" that sometimes represent up to 30% of their total payroll. This is money that is not available to make investments, give pay raises or hire new employees.

Let's take for example the case of Resolute Forest Products (the former AbitibiBowater). Their Canadian pension plans have performed well, in relative terms, generating a 5.4% investment return in 2011. However, the company's solvency deficit has steadily increased to \$1.9 billion simply as a result of the precipitous decline in the yield on government bonds in Canada. Its retirees could lose 30% of their revenues if the company were to cease its operations. Air Canada is another example, with a \$4.4-billion pension solvency deficit.³⁰⁹

term interest rates, which rose by 91 basis points over the year, and sponsor contributions toward solvency funding requirements. Interest rates on long-term bonds remained low, compared to earlier years, but the benchmark Government of Canada yield increased from 2.37% to 3.28% during 2013.

(Online: < www.newswire.ca/.../aon-hewitt-survey-reports >.)

³⁰⁸ Michel Kelly-Gagnon, Toronto Sun, "Canada's Pension Plan Strait Jacket", 2012. Online: < www.iedm.org/fr/40248-canadas-pension-plan-straitjacket >.

³⁰⁹ Note that as discussed above, the average DB plan in Canada was 99.9 per cent funded (on a solvency basis) at the end of 2013, meaning it had nearly all the assets needed to provide pensions to plan members if it were wrapped up immediately. Only 6 per cent of plans were below 80 per cent funded. Those figures are based on data from 607 public and private sector funds that are Mercer clients. Calculations of funding levels are volatile because they depend on long-term interest rates, which are used to calculate the size of a fund's liabilities. But the numbers do indicate a dramatic turnaround. A year ago, 60 per cent of pension plans were less than 80 per cent funded and companies were facing huge cash hits to improve their plan funding. (The Globe and Mail, Report on Business, Shift from defined benefit pensions reinforces need for retirement planning (20 Feb. 2014). Online: < www.theglobeandmail.com > Report on Business >.)

There have been several factors that have contributed to the elimination of Air Canada's solvency deficit in 2013, which sat at \$3.7-billion at the start of the year, not the least of these has been a rise in the discount rate. Air Canada's discount rate rose from 3.0% to 3.9% in 2013. Each 1% rise in the discount rate results in a \$1.5 billion change in the solvency liability, translating into \$1.35-billion in savings. This comes in addition to the \$970-million in saving it saw from the implementation of previously disclosed changes to its pension benefits, including moving new hires into a hybrid defined benefit/contribution pension plan that was part of

When faced with this issue, Canadian authorities say that they apply those funding rules in order to protect retirees. This is indeed a laudable goal. However, putting important Canadian companies at a major competitive disadvantage with their American counterparts, harming their cash flow and, in some case, pushing them closer to bankruptcy, won't protect anyone in the end.

Many other countries have eased the funding burden of DB plans by legislating higher discount rates. In June 2012 Denmark and Sweden took direct approaches, setting floors or specific minimum values for discount rates applicable to certain pension obligations. A less contrived approach would be to use actual market rates, averaged over several years, as the discount rate. The U.S. recently took this step as Congress passed legislation in July 2012 allowing corporations to use a discount rate based on high-quality bond yields averaged over the past 25 years, instead of over the past two years.³¹⁰ It is estimated that this change will increase discount rates by up to 200 basis points (2%), significantly reducing the amount U.S. corporations need to contribute to their pension funds. For instance, David Zion of Credit Suisse estimated that only a 100 basis point increase in the discount rate would cause UPS's required contribution to drop from \$1.6 billion to \$470 million in 2013.³¹¹

UK regulators have yet to follow the lead of their American counterparts, but British companies have made their case. The Confederation of British Industry, a group representing over 200,000 businesses, has called for a smoothing (averaging) of interest rates "over a number of years."

However, an averaging period of 5 to 10 years might better reflect more "normal" conditions. The 25-year averaging period enacted by the U.S. Congress is undoubtedly excessive considering that

its contract negotiations in 2012. The carrier said it also contributed \$225-million to the plan over the last year. Online: < www.business.financialpost.com/2014/.../air-canada-pension-deficit->.

³¹⁰ Moving Ahead for Progress in the 21st Century (MAP), Public Law 112-141-July 6, 2012, 126 Stat 847-850, Sec 40211. Subtitle B- Pension Provisions, Part 1- Pension Funding Stabilization.

³¹¹ David Zion, Credit Suisse: "How Do You Spell Pension Funding Relief?" 2012. Online: < www.doc.research-and-analytics.csfb.com/docView?sourceid...id >.

interest rates in 1988 are unlikely to have any predictive value for discount rates from 2015 to 2025.³¹² Allowing actuaries to use these artificially high discount rates will undoubtedly result in excessive underfunding and insolvencies down the road, as assets will be insufficient to pay plan liabilities.

In projecting pension obligations in Canada, discount rates reflecting future market conditions would obviously be more representative than using past interest rates as per American legislation. For example, short term obligations payable in the next 2 or 3 years could be represented by risk free bond rates which reflect the current low interest rates conditions, while discount rates further down the road could possibly be determined by calculating the forward interest rate on risk-free assets, such as 10 or 20 year government Treasuries. According to Robert Pozen of Harvard Business School, this forward rate, adjusted for the historic spread between Treasuries and the relevant long term bond yields might be a reasonable reflection of expected risk-free returns in the future. He states:

In short, low interest rates make the obligations of pension plans more daunting because plan trustees cannot rely on expectations of strong investment returns. But policymakers must be careful when considering what the “correct” discount rate should be. What if today’s historically low interest rates are not some aberration that will quickly disappear? If so, reducing employer contributions by increasing the estimated discount rate will only delay, rather than prevent, underfunded defined benefit pension plans.³¹³

³¹² *Ibid.*

³¹³ Robert Pozen and Theresa Hamacher. Financial Times, *A Real Discount Rate for Pensions*, 2012. Online: < www.ft.com > Markets > Ftfm > Opinion >.

Section 3-Public Policy Options for Discount Rates

1. Overview

The fact that DB pensions have been in a slow and persistent decline for two decades in Canada is evidence that the current regulatory structure is not working.³¹⁴ William Robson, President of the C.D. Howe Institute, comments on the dysfunctional nature of the regulatory structure governing private sector single employer DB plans:³¹⁵

The problems of employer-sponsored defined-benefit (DB) pension plans in Canada raise two issues: the need for short-run measures to limit the damage; and the need for new pension models to prevent their recurring. The DB sector's immediate preoccupations are the result of changes in the economic environment — in particular, a decline in long-term interest rates — that caused their balance sheets to deteriorate, and of changes in accounting standards to more market-based methods that revealed the underfunded state of these plans in stark form. The immediate policy challenge is to ensure the recovery and/or restructuring of sick plans, and the continued health of sound ones. Extra time and financial scope to work off deficits are good, but current limits on contributions to plans should rise or disappear, while legislation to establish clear title to surpluses for sponsors who must cover deficits is badly needed. In the longer run, policy should sustain and encourage a thriving occupational pension sector that helps individuals save for old age and helps finance the investment that underpins economic growth. But DB plans were in decline long before the recent crisis, and evidence is mounting that the classic single-employer DB plan has fatal agency problems — evident particularly in the tendency for these plans to mismatch assets and liabilities in ways that exposed them to risks far larger than sponsors or participants understood.

³¹⁴ This decline can be measured in the following ways:

1. Private sector workers covered by DB plans fell from 31% to 12% from 1977 to 2013.
2. Between 1986 and 2010 the proportion of the Canadian labour force covered by DB pension plans shrank from 39 percent to 29 percent, while over the same period the number of employees covered by defined contribution (DC) pension plans nearly tripled.
3. The share of registered pension plan members covered by DB plans fell from 92 to 75 percent, while the proportion in a DC plan doubled from 7 to 16 percent (with the remaining 9 percent were covered by hybrid and combined plans) from 1986 to 2010 (Statistics Canada 2010b,c). (Robert R. Brown and Tyler Merideth, *Pooled Target Benefit Pension Plans: Building on PRRPs*, IRRP Study at 3, 2012. Online: < www.irpp.org/wp-content/uploads/assets/research/.../IRPP-Study-no2.pdf >.)

³¹⁵ David Laidler and William B. Robson, *Ill-Defined Benefits: The Uncertain Present and Brighter Future of Employee Pensions in Canada*, C.D. Howe Institute, 2007. Online: < www.C.D.Howe.org >.

Robson argues that rather than seeking to prop up the classic DB system, Canadians would do better to seek alternatives. Existing RRSPs and money-purchase (DC) plans tend to impose high decision-making and administrative costs on individuals. A better route would be to promote the development of plans with good features from both models. They could:

1. Be predominantly money purchase, but with a small and affordable minimum benefit;
2. Pool investment risk across a large number of individuals at reasonable administrative cost;
3. Gear contribution rates to a target payout; and
4. Steer individuals' portfolios toward an asset mix that would insulate them from fluctuating annuity prices as they approach retirement.

Robson concludes that “even as Canadians seek to deal with the short-run problems of traditional DB plans.... they need to develop new models that offer attractive ways to pool resources and save for retirement, while mitigating not only financial risk and longevity risk, but agency risk as well.”³¹⁶

The relationship between risk and pension promises is measured using discount rates. Professor Ron Davis notes that at the heart of this issue is whether or not the cost of a defined-benefit pension plan that has little or no risk, is one that plan members are willing to fund. He discusses Love, Smith, and Wilcox's (2007) proposed theoretical model of employment bargaining that suggests employees demand sponsors to avoid risk by investing solely in fixed-income assets. However, such “risk-free” investments would undoubtedly mean employees would face higher plan contributions. Alternatively, employees could demand more in cash compensation for bearing the risk of a pension plan funded solely by equities, considering that sponsors would face lower contributions as a result of the higher discount rates generated solely through equity investments. Financial economists refer to this

³¹⁶ *Ibid.*

compensation concept as “pricing the risk.”³¹⁷ [The model assumes that employees have complete information concerning the risks and cannot diversify their risks]. Davis discusses this type of risk:

Ambachtsheer calculates that the cost of funding pension benefits with default-free, fixed-income assets would be about 25 percent of employees’ compensation (2007, 66); Hamilton (2009) puts the cost at almost 24 percent. Using some equity to fund the benefits, Ambachtsheer estimates it would cost between 10 and 15 percent of employees’ cash compensation (2007, 66-7), while Hamilton calculates the range as between 7.5 percent and 15 percent (2009). Either way, using fixed income discount rates would cause a steep decline in employees’ take-home pay. Would employees be prepared to forgo that much of their cash compensation to reduce the risk in their pension fund? Alternatively, if current contribution levels were maintained, would plan members wish to dramatically reduce the default risk in the pension plan by accepting reduced benefits in return for risk reduction or increase the portion of their compensation allocated to the pension fund as contributions? What kind of mechanism would be needed to communicate the existing risk and ascertain the wishes of employees, and how would potential conflicts over benefit reduction versus increased contributions be managed between active employees and retirees?³¹⁸

The Ontario Expert Commission on Pensions (OECPC) was given one of the broadest mandates: to “examine the legislation that governs the funding of defined-benefit plans in Ontario, the rules relating to pension deficits and surpluses, and other issues relating to the security, viability and sustainability of the pension system in Ontario.”³¹⁹ Among the OECPC’s recommendations was to consider the creation of “target-benefit” plans, in which the contributions would be fixed, based on best estimates of the amounts necessary to fund the target benefits. In the event that market discount rates are lower than those forecasted (resulting in contribution shortfalls), present and future target benefits could be adjusted downward in lieu of increased employer contributions.³²⁰ The sponsoring employer’s obligation would be restricted to fixed contributions, thereby transferring the full investment risk onto plan members and retirees (unless, of course the sponsoring employer

³¹⁷ *Supra*, See note 267.

³¹⁸ *Ibid.*

³¹⁹ Harry Arthurs, Report of the Expert Commission on Pensions, *A Fine Balance*. (Queen’s Printer for Ontario, 2008).

³²⁰ *Ibid.*

voluntarily agreed to increase contributions in response to a funding shortfall).³²¹ Professor Ron Davis discusses target benefit plans in Canada:

Target plans differ from the current defined-benefit regimes in that employer insolvency is not required before pension benefits are reduced to reflect shortfalls in assets. This type of pension arrangement has existed for decades in Canada as multi-employer pension plans (MEPPs), which, as of 2006, provided pension benefits for more than one-fourth of all pension plan members in Canada (Shilton, 2007). In these plans, more than one employer contributes (usually under a collective bargaining agreement with a trade union) fixed contributions to a defined-benefit or defined-contribution plan. Legislation in many jurisdictions in Canada permit the reduction of defined benefits (as a last option) when the pension fund's assets are less than the cost of its promised benefits. Another feature of MEPPs that distinguishes them from single-employer DB pension plans is their governance structure. MEPPs are governed by a body in which plan members have significant representation, in many instances, making up one-half of the governing body (Shilton, 2007). Similar to single employer DB plans, actuarial estimates of discount rates are required to determine target plan funding levels.

Private sector single employer target benefit plans are currently not permitted under the Ontario PBA or the federal PBSA. However, in 2014 the federal government proposed a target benefit plan (TBP) framework be incorporated into the PBSA, allowing single employer DB plans to convert to TBPs.³²² Ontario announced in its 2014 budget that it will also develop a framework for single-employer, target-benefit pension plans to provide employers and employees with an additional, more flexible retirement savings option. Clare Pitcher discusses the significance of employee participation in target benefit plans:³²³

Governance for these new TBPs will be critically important. Given that the risk is borne by the members, at a minimum, the employees must have a 50%—possibly even 100%—share of the governance. Jointly governed TBPs will likely become the norm, with basic current service cost (i.e., not including any deficit funding requirement) sharing anywhere from 100% employer/0% employee to 50/50. In this new world of operating a MEPP/TBP in a non-

³²¹ *Ibid.*

³²² Jana Steele, Osler, Hoskin and Harcourt, LLP, "Federal Government Announces Target Benefit Consultation", Pension and Benefits Law, 2014. Online: www.pensionsbenefitslaw.com.

³²³ H. Clare Pitcher, *MEPPs: The Next Piece of the Pension Pie*, Benefits Canada, 2011. Online: < www.benefitscanada.com/.../are-mepps-and-tbps-the-way-of-the-future >.

union situation, the traditional role of the union representatives acting as trustees will be met by member association or employee-elected representatives to a pension committee or board of trustees.

Finally, assuming that the necessary legislative and regulatory changes are made, we will have a plan design—the TBP design—which effectively works for both employers and employees in the private sector. This sets the stage for increasing the pie of registered pension plan coverage. With an effective vehicle that meets the two major stakeholders’ requirements, pension plan coverage could be further enhanced by making a registered pension plan a mandatory requirement for all employers (or at least those meeting a certain size threshold, such as a minimum of 15 employees).

Opening up access to private pension plans via the TBP for the remaining 60% of Canadian workers will cost nothing to the government or taxpayers, as there is no Pension Benefits Guarantee Fund safety net. In fact, the ultimate beneficiary —along with the newly covered employees themselves—will be future taxpayers, as the potential need for government social assistance down the road will be reduced significantly.

What’s needed now is to take this “new” plan design from the point of conception to the actual birth of the new TBP for use in the single- as well as multi-employer environment—and in the non-union as well as union environment—thereby increasing the pie and broadening pension plan coverage across the province and the country.

2. Public Policy on Discount Rates in the U.K., the Netherlands and the U.S.

U.K

The UK Pensions Regulator adopted the opposite approach of most actuaries by invoking a low discount rate (i.e. higher contributions) when employers face financial difficulties and a high discount rate (i.e. lower contributions) when they are financially strong. This conservative regulatory regime should, in theory, promote full funding of financially troubled plans. However, it begs the question of whether or not a sponsoring employer experiencing financial difficulties will be able to make the higher contributions necessary using a lower discount rate.³²⁴

³²⁴ U.K. Government, *Defined Benefit Pension Schemes-Questions and Answers*, 2013. Online: < www.gov.uk/.../Defined_benefit_pension_sche >.

Netherlands

In the Netherlands, the old rules mandated pension funds to discount liabilities at a constant rate of 4 percent rate and to report assets at actuarially adjusted values. The new rules require pension funds to use fair market values³²⁵ for both assets and liabilities. Use of the euro swap yield curve is compulsory.³²⁶

U.S.

Corporate pension plans in the U.S. historically determined the current value of their liabilities by using the rate of return on corporate bonds; otherwise known as the discount rate. However, as

³²⁵ In the Netherlands the Financial Assessment Framework (Financieel Toetsings Kader -- FTK) (part of the new Pension Act) was introduced in January 2007. It mandated a market-based valuation of pension liabilities for funding purposes, without any amortisation or smoothing options. As in many other countries, estimated future salary growth is not to be considered in the measure of accrued liabilities. Future benefits are discounted using the current yield curve on default-free capital market instruments, rather than the fixed rate of 4 percent as has been historically the case. The market yield is corrected for expected inflation if indexation of accrued pensions is unconditional; that is, if it does not depend on the performance of the pension fund. Liability measures are also expected to take into account further increases in longevity. Sponsor companies are also required to separate the liabilities that are "conditional" on the investment performance of the pension fund from those that are "unconditional". Funding requirements are applied only to unconditional liabilities (Juan Yermo, Reforming the Valuation and Funding of Pension Promises, OECD Working Papers on Insurance and Private Pensions No. 13, OECD Publishing. Online: < www.oecd.org/pensions/private-pensions/39427286.pdf >.)

³²⁶ The yield curve is a curve showing several yields or interest rates across different contract lengths (2 month, 2 year, 20 year, etc...) for a similar debt contract. The curve shows the relation between the (level of) interest rate (or cost of borrowing) and the time to maturity, known as the "term" of the debt for a given borrower in a given currency. For example, the U.S. dollar interest rates paid on U.S. Treasury securities for various maturities are closely watched by many traders, and are commonly plotted on a graph which is informally called "the yield curve". More formal mathematical descriptions of this relation are often called the "term structure of interest rates". ((Wikipedia) Online: < en.wikipedia.org/wiki/Yield_curve >.)

An interest rate swap is a contract between two parties to exchange streams of interest payments. Typically, one stream of payments is based on a fixed rate of interest and the other stream on a floating rate of interest. Only the net cash flows are paid; the notional principal on which the interest payments are calculated is not exchanged. A forward rate agreement is equivalent to a single-period interest rate swap, in which interest payments are exchanged only once. A swap can be characterised as a portfolio of forwards. (Eli Remolona, The Euro Interest Rate Swap Market, BIS Quarterly Review, 2003. Online: < www.bis.org/publ/qtrpdf/r_qt0303f.pdf >.)

historically low bond rates over the past several years forced higher funding contributions, U.S. corporations lobbied Congress to change the discount rate. Pension discount rates were recently amended in the U.S. Highway Bill ³²⁷ which was signed into law by President Obama in 2012. As stated above, under this new legislation pension plans are able to use a rate based on the average of the past 25 years instead of discounting long-term liabilities using a rate based on the average of the past two years. This is expected to increase the discount rate used to determine DB liabilities by more than two percentage points, increasing the current discount rate from the 4 percent range to roughly 6 percent, resulting in further underfunding. This policy will place the burden of the funding shortfall on both current and future generations, as many of these plans will undoubtedly face insolvency down the road. As Jason Fitchner states “That's not good funding policy, no matter what the short-term fiscal gains are for companies and government coffers.”³²⁸ Appendix 4 on page 286 further discusses discount rates in the U.K., the Netherlands and the United States.

3. Establishment of an Independent External Actuarial Oversight Board

I argue that the best remedy to the systemic underfunding of private sector single employer defined benefit plans is the establishment of an actuarial oversight board comparable to the Canadian Public Accountability Board (CPAB) established in 2003 to regulate auditors. The issues surrounding the professional independence of actuaries are not, in principle, unlike those that faced the auditing profession before regulatory changes were legislated in the early 2000s (Gunz, McCutcheon and Reynolds 2009)³²⁹. Actuaries render a professional opinion for a fee, leaving them susceptible to the conflict between providing advice based on objective analysis on the one hand, and serving the

³²⁷ Public Law 112-141, 112th Congress.

³²⁸ Jason Fitchner, and Eileen Norcross, Real Clear Policy, Paying Over Pension Liabilities, 2012. Online: < www.realclearpolicy.com/.../paving_over_pension_liabilities_164.html >.

³²⁹ Gunz, McCutcheon and Reynolds, “Independence, Conflict of Interest and the Actuarial Profession” (2009) 89 (1): Ethics at 77 - 89.

needs of their plan sponsor clients on the other hand, whose objective may be to justify ways of spending as little as possible on the plan (Financial Times 2004). A recent review of the U.S. actuarial profession stated “as long as a client can threaten to find another actuary to provide actuarial services, the implied leverage might well have an effect on the actuary’s work product” (CRUSAP Task Force 2006)³³⁰.

I propose that the Canadian Board’s mandate would be similar to the U.K. Actuarial Public Oversight Board (POB) established in 2005 “to promote more effective scrutiny and monitoring, to ensure that actuarial information is produced in accordance with the relevant technical and ethical standards, and to examine the current framework of self-regulation by the actuarial profession” with respect to potential issues such as:³³¹

- Professional standards that have been weak, ambiguous or too limited in range, and perceived as influenced by commercial interests.
- An absence of proactive monitoring of members' compliance with professional standards.
- A profession that has been too introspective, not forward-looking enough and slow to modernize.

An independent actuarial oversight board could conduct detailed studies on how to best to govern actuaries’ discretion, addressing issues such as the current conflict of interest that surrounds actuaries as agents of employers. Such a board could conduct research on how to establish a common framework for estimating discount rates, promoting a common understanding amongst actuaries of how to improve the consistency of their estimates. In cases where there may be very

³³⁰ Divya Anatharaman, The Role of Actuaries In Defined Benefit Plan Reporting, Reuters Business School, 2013. Online : < www8.gsb.columbia.edu/programs.../sites/.../ActuaryFinalSept2013 >.

³³¹ Society of Actuaries, *The Morris Review of the UK Actuarial Foundation*, 2009. Online: < <https://www.soa.org/library/newsletters/the.../the2005august.aspx> >.

good reasons for actuaries using different discount rates in similar circumstances, a common framework for communicating such anomalies could be provided.

Conclusion

Chapter 4 examined the impact of the governance of discount rates on actuaries' discretion, revealing that public policy in Canada has made actuaries an important factor in the sustainability of DB plans by permitting them to estimate higher than market discount rates. For example, a 2% increase in the discount rate reduces an employer's steady state pension contribution rate by a whopping 30-40%. Unfortunately, this policy has resulted in DB plan underfunding and insolvencies. The chapter concluded that mandating fixed rates (effectively eliminating actuaries' discretion) would greatly increase the cost of funding DB plans, making them unaffordable for many employers. (Note that the argument being made in this thesis is that actuaries' discretion is too broad; not that it should be curtailed completely). It proposed the establishment of an external oversight board to develop a common framework to improve the consistency of actuaries' estimates of discount rates.

CHAPTER 5

IMPACT OF THE GOVERNANCE OF ACTUARIAL METHODS ON THE UNDERFUNDING OF DEFINED BENEFIT PENSION PLANS

Overview

Chapter 4 examined the impact of the governance of discount rates on actuaries' discretion. It revealed that public policy in Canada has made actuaries an important factor in the sustainability of DB plans by permitting them to estimate higher than market discount rates to reduce employer funding requirements (For example, a 2% increase in the discount rate reduces an employer's steady state pension contribution rate by a whopping 30-40%). The chapter concluded that mandating actuaries to use fixed discount rates would not be a viable legal remedy to DB plan underfunding, instead proposing the establishment of an independent external oversight board to develop a common framework to improve the consistency of discount rate estimates.

Chapter 5 discusses the impact of the governance of actuarial methods on the funding of defined benefit pension plans. It examines asset/ liability valuations, asset allocation policy, and the role of the actuary, revealing that actuaries are using actuarial methods to push under funding problems down the road in lieu of addressing them. The chapter concludes by proposing the establishment an independent external oversight board to monitor the reliability and usefulness of actuarial methods.

1. Actuarial Assumptions

In order to project the cost of a DB plan's retirement benefits (liabilities), assumptions must be made regarding the timing of retirement and the probability of an individual remaining in the plan. Assumptions must also be made regarding the probabilities of the triggering events (e.g., disablement, death) in order to project utilization of ancillary benefits and other benefits payable

upon termination of employment. In addition, benefits payable to surviving spouses and domestic partners upon death of the participant in active service require assumptions regarding marital / domestic partner status during employment and spouse / domestic partner ages. Examples of other actuarial assumptions are:³³²

1. Assumptions regarding future salary increases must be made to determine the cost of benefits based on pay.
2. Assumptions regarding post-retirement mortality rates must be made if benefits are payable in annuity form.
3. In order to take into account a plan's provisions regarding calculation of lump sum payments (if any), it may be necessary to make special interest rate and mortality assumptions as well as assumptions of what proportion of participants take lump sums and under what circumstances.
4. Assumptions must be made regarding the discount rates used to convert a pension plan's future income (returns on assets) and expenses (liabilities) into current year dollars for the actuarial valuation date.

In other words, actuaries must project when and how pension benefits will be paid in the future.

Specific examples of questions actuaries must answer are:³³³

1. Considering today's 70-year old retirees are promised payments for the rest of their (and perhaps their spouse's) lifetime, "How long will they live?" and "How many years might their spouse survive them by?"
2. Considering today's 30 year-old active participants will earn benefits, terminate employment at a certain age, and receive payments for the rest of their lifetimes, "How long will 30-year olds work for their employer before their employment is terminated?"
3. "How might a 30 year olds pay increase over time?" "When will he/she start to receive their retirement benefits?" "How long will he/she live after retirement?"

³³² American Academy of Actuaries, *Fundamentals of Current Pension Funding and Accounting*, 2004.

³³³ *Ibid.* p.3.

The actuary is required to use “methods and actuarial assumptions that are consistent with accepted actuarial practice.”³³⁴ Actuarial assumptions, plan participant data and the benefit formula described in the pension plan text are all used to project future plan benefits. These assumptions can be categorized into two main categories: economic and demographic.

A. Economic Assumptions³³⁵

Economic assumptions are required to project the amount of benefits that will be payable to pensioners. They address the issue of how market forces will affect the cost of a plan. Some of the economic assumptions made by actuaries in valuing retirement benefits include:

1. Interest rate for discounting future cash flows
2. Rate of price inflation
3. Rate of increase in salaries
4. Rate of increase in pension payments
5. Rate of increase in pension benefits for deferred pensioners
6. Rate of increase in dividends/interest income from assets.

Economic assumptions are a necessity in DB plan funding in order to predict the amount and timing of future cash flows. Their impact on asset and liability estimates is discussed in Appendix 5 on page 294.

³³⁴ PBA, Reg., s. 16.

³³⁵ European Actuarial Consultative Group, *Actuarial Methods and Assumptions Used in the Valuation of Retirement Benefits in the EU and Other European Countries*, 2001.

B. Demographic Assumptions

Demographic assumptions are about the participant group make-up and expected behaviour and life expectancy. They address the issue of how participant behavior will affect the cost of the plan and are required to project when benefits will be payable. Actuaries use rates (probabilities) to model the uncertainty of participant behavior. For example, because some participants will retire early, some will retire at age 65, and others will work to age 70, an actuary could make the assumption that each individual has some probability of retiring early, at 65, and also working to 70. Sometimes assumptions are the same for many plans (e.g., mortality rates) and sometimes assumptions are very specific to a given employer's workforce (e.g., rates of terminating employment before retirement).³³⁶ Some typical demographic assumptions are:

- A. Withdrawal or termination assumptions address how long participants will continue to work for a specific employer.
- B. Mortality assumptions obviously address how long people will live.
- C. Retirement assumptions obviously address when participants retire and begin receiving benefits.
- D. Disability assumptions obviously address when participants become disabled and are no longer able to work.

2. Pension Funding

A. Pre-Funding

Ari Kaplan notes that a pension plan must be “pre-funded” to ensure that funds are invested to meet plan obligations decades down the road. He states:

This feature is “central to the regulatory scheme” established by the federal Pension Benefits Standards Act (the PBSA) and the Ontario Pension Benefits Act (the PBA.) This pre-funding arrangement is what qualitatively distinguishes pension plans from other

³³⁶ Actuarial Standards Board, *Selection of Demographic and other Non-Economic Assumptions for Measuring Pension Obligations*, 2007.

forms of retirement compensation arrangements. The objective of “going-concern” and “solvency” funding is to ensure that contributions associated with defined benefit pension benefits are paid regularly and throughout the working life of the employee. These funds must be invested prudently to ensure the necessary funds will exist upon retirement to pay the pension and ancillary benefits promised in the plan text. The purpose of funding standards is to enhance the security of DB pension benefits by mandating minimum funding levels and regulating the timing of payments into pension funds.³³⁷

The federal PBSA and the Ontario PBA funding rules exist to protect employees’ pension interests which are contingent on the liquidity of the employer at the time the pension is payable. The Court in *Collins v. Pension Commission of Ontario* (1986)³³⁸ asked, rhetorically:

Who is more interested in the solvency of a pension plan than its members, who are either depending upon it as a source of income in their retirement years, or looking forward to the day when they will, or must?

Statutory funding requirements apply almost exclusively to defined benefit pension plans, since a defined contribution (DC) pension plan is, in essence, fully funded once the employer’s normal contributions to the pension fund are remitted. In a defined benefit plan, the amount of an employer’s normal contribution is largely determined according to assumptions made by the plan actuary. These assumptions, as previously discussed, account for the demographics of the plan as well as economic and personnel factors, such as salary increases and expected investment returns.

In 2013 there were an estimated 10,000 and 6,000 private sector single employer DB and DC plans in Canada with an estimated 1.5 million and 900,000 members, respectively.³³⁹ DB assets were worth approximately \$500 billion while DC assets represented an estimated \$50 billion.³⁴⁰ The

³³⁷ Kaplan, *Pension Law*.

³³⁸ *Re: Collins et al and Pension Commission of Ontario* (1986), 56 O.R. (2d) 274.

³³⁹ Statistics Canada, *Pensions in Canada- Registered Pension Plan Members, 2013*. Online: < www.statcan.gc.ca/tables-tableaux/sum-som/l01/.../famil119a-eng.htm > & Report of the Ontario Expert Commission on Pensions, *A Fine Balance* (Toronto: Queen’s Printer for Ontario, 2008). Online: < www.fin.gov.on.ca/en/consultations/pension/report/summary.html2008 >.).

³⁴⁰ Certified General Accountants, *Guaging the Path of Private Defined Benefit Pension Plans, 2013*. Online: > www.cga-canada.org > ... > Research and Advocacy > Areas of Interest >. & Statistics Canada, Table 28-

overall funding position of DB plans deteriorated significantly between 2004 and 2008, with the vast majority (92%) of private pension plans being in a deficit position as at December 31, 2008. The average funding ratio decreased from 112% to 77% over the same period on a ‘without indexation’ basis and from 71% to 57% on a ‘with indexation’ basis.³⁴¹ The aggregate funding shortfall exceeded \$350 billion.³⁴²

During the six month period from September 2008 to February 2009³⁴³ (after the North American stock market collapse), the typical DB pension plan lost approximately 20% of its assets’ value, measured on a market value basis. According to estimates performed by the consulting firm Mercer, 71% and 92% of Canadian private occupational defined benefit pension plans were in a solvency deficit position at end of 2007 and 2008 respectively. Furthermore, almost 40% of defined benefit plans had solvency ratios under 70%, while over 70% of them had solvency ratios under 80% by 2008 year end.³⁴⁴

A typical pension fund in 2010 was funded at a level of approximately 80% (i.e. plan assets covered only 80% of plan liabilities), meaning that a plan needed to generate an investment return of about 10% per annum over the next 5 years to eliminate such a liability. A plan funded at 70% required

0002- Trusteed Pension Funds, Market and Book Value of Assets. Online: < www.5.statcan.gc.ca/subject-sujet/result-resultat?pid...id >.

³⁴¹ Note that the Ontario Pension Benefits Act permits employers to exclude the liability for cost-of-living protection (indexing) from actuarial valuations for funding purposes, even where those arrangements constitute an ongoing, formal commitment written into the terms of the plan. While such an arrangement may appear to be practical where the continuity of the plan is secure, they open the door to exposing all members, both active and retired, to greater losses in the event of plan wind-up.

³⁴² *Supra*, see note 339.

³⁴³ On September 16, 2008, failures of massive financial institutions in the United States, due primarily to exposure of securities of packaged subprime loans and credit default swaps issued to insure these loans and their issuers, rapidly devolved into a global crisis resulting in a number of bank failures in Europe and sharp reductions in the value of equities (stock) and commodities worldwide. (Wikipedia, Stock Market Crash of 2008, Online: < www.en.wikipedia.org/wiki/Stock_market_crash>.)

³⁴⁴ General Accountants Association of Canada, *Addressing the Pensions Dilemma in Canada, 2010*.

eight years of double digit investment to remedy the deficit. Considering that the long-term best estimate of future returns for a balanced fund was reasonably estimated at around 6.5 % per annum (net of investment and administrative expenses), it seemed highly unlikely that improved investment returns could be relied on to correct the DB deficit situation in Canada.³⁴⁵

Almost half of DB pensions were less than 80% funded in 2012. However, as discussed previously, 2013 turned out to be a banner year for defined benefit pension plan sponsors as stock markets soared, long-term interest rates rose sharply, and the Canadian dollar weakened (increasing exports), resulting in the best level of improvement in the health of Canadian pension plans in more than a decade. Long-term Government of Canada bond yields, a key factor in calculating the liabilities of pension plans, ended the year at 3.2 per cent, up from 2.3 per cent at the beginning of the year. Mercer estimated that a one percentage point increase in long-term interest rates would reduce the liabilities of most pension plans by 10 per cent to 15 per cent. Only 6% of DB plans were less than 80% funded in 2013.

The Mercer pension health index, which tracks the funded status of a hypothetical defined benefit pension plan, started 2013 at 82 per cent, stood at 98 per cent on Sept. 30 and 106% on December 31, the highest level since June 2001. Mercer estimated that almost 40 per cent of pension plans were fully funded at the end of 2013, compared with six per cent at the beginning of the year.³⁴⁶ However, despite their improved funding status, DB plans are unlikely to reverse their declining membership numbers under the current funding model. Dave Ovsey of the Financial Post comments on the status of defined benefit plans in 2013:

³⁴⁵ *Ibid.*

³⁴⁶ CBC News Business: The Canadian Press, "Pension Plans at Healthiest Levels in 12 Years, Mercer Says", 2014. Online: < www.cbc.ca/.../pension-plans-at-healthiest-level-in-12-years-mercero-says >.

But the damage has been done. After more than a decade of attempting to manage massive pension deficits, many DB plan sponsors are on a one-way track toward ridding themselves of pension risk. For most, this will mean executing a variety of de-risking tactics with the eventual goal of shifting toward pure defined contributions plans. For others — namely those who are up against the collective-bargaining power of trade unions — the alternative might be a DB-DC hybrid that will create a two-tiered system within the ranks of one organization. Still others will do away with a pension option altogether, preferring to offer (if anything at all) a group RRSP or something comparable.³⁴⁷

B. Minimum Funding

An employer establishing a pension plan for Canadian employees must fund the plan at a pace which, at a minimum, meets the requirements of the pension standard legislation applicable to its pension plan. The minimum funding requirements are determined from an actuarial valuation which must be carried out at least every three years. Annual actuarial valuations are generally required if triennial solvency (asset/liability) ratios are less than specific levels (i.e. around 90% in most jurisdictions).³⁴⁸

The actuarial valuation involves comparing the value of plan assets with the value of the benefits (liabilities) that the plan is expected to pay in the future. The ratio of the value of plan assets to the value of plan liabilities is often referred to as the funding ratio or funding level. For example, a plan with assets worth \$80 million and liabilities valued at \$100 million will be said to have a funding

³⁴⁷ Dan Ovsey, “Will Legislators Allow Effective Defined Benefit Re-Design Before it’s too Late”, Financial Post, 2014. Online: < www.business.financialpost.com/.../will-legislators-allow-effective-def >.

³⁴⁸ In many countries, the minimum funding standards focus on the pension fund assets exceeding the pension plan’s accrued liabilities on every measurement date. Almost every country with such a standard has its own way of defining “accrued liabilities”, and often there are various requirements for valuing the fund assets. However, the basic philosophy is the same. The authorities are focused on “benefit security” (a laudable objective), and the standards equate such benefit security with the crude size of the pension fund assets. In truth, benefit security depends on many other factors, such as the financial strength of the sponsoring employer, its future intentions regarding the pension plan and the funding thereof, the quality of the fund assets relative to the liabilities, verifying whether the assumed rate of return is reasonable, etc... It is easy to accept the weaknesses of the simple asset/liability solvency measures. It is far more difficult to develop a viable and effective alternative. (Colin Pugh, (2006), “Funding Rules and Actuarial Methods”, OECD Working Papers on Insurance and Private Pensions at 34. No. 1, OECD Publishing. Online: < www.dx.doi.org/10.1787/274307371724 >).

ratio or level of 80%. The minimum federal PBSA and Ontario PBA funding levels are calculated as follows:

Minimum Funding = Normal costs + Unfunded Actuarial Liabilities (Actuarial Losses)

The “normal cost” is the current cost of servicing or funding the pension benefits in a particular year, as determined by the plan actuary.

The “unfunded actuarial liability” (or “special payment”) is a required contribution by an employer to liquidate any going-concern unfunded liability or any solvency deficiency. It consists of 2 main parts:

1. Actuarial gains or losses-A pension plan has actuarial gains or losses each year because the actual events during the year (“experience”) do not exactly match the long-term actuarial projections made on the previous valuation date. Gains or losses on plan assets occur because the actual investment returns were higher or lower than anticipated by the actuary. Gains or losses on actuarial liabilities can occur because long-term assumptions (e.g., mortality, salary increases, termination, retirement, etc.) were not met.
2. Prior service liability – Prior service liability arises if the plan improves benefits for service already earned. It can arise when the plan is established (if participants are given credit for time served with the employer before the establishment of the plan) or when the plan is amended.

Unfunded liabilities may be amortized by the employer over prescribed periods of time set by legislation.³⁴⁹

C. The Role of the Pension Actuary

Each pension plan must have an “administrator” who bears ultimate responsibility for the plan. This administrator (either the plan sponsor or a board of trustees) appoints the actuary and other professionals who are required for the smooth operation of the plan. Basically, the actuary acts as a

³⁴⁹ PBA, s. 1(1). See also federal PBSA Reg. s. 9(1).

pension consultant to the administrator. The actuary is expected to prepare a valuation report using assumptions and methods which provide some contribution flexibility for the employer, but which also ensures that the pension fund will protect the future interests of the plan members. It is important to note that although the actuary can recommend certain actions to the administrator, he or she cannot compel the administrator to act.³⁵⁰

The DB plan actuary conducts going concern and solvency tests as prescribed by the Canadian Institute of Actuaries and pension regulators (federal Office of the Superintendent of Financial Institutions (OSFI) and Financial Services Commission of Ontario (FSCO)) to ensure that the contribution rate is not less than that required by the Minimum Funding Ratio (MFR). Professor Ron Davis discusses actuarial funding:

The difficulties inherent in pension funding can be illuminated by calculating the amount of money necessary to fund a benefit of \$100 per month for the rest of a worker's life after age 65. It would be necessary to estimate the worker's longevity after age 65 to determine the returns on any amount invested. The return on investment would vary with the type of investment or asset held and with the investment fees incurred. The calculation would be further complicated by pension benefit formulae which are based on a percentage of the worker's final salary or career average earnings. These earnings must be projected by the actuary using hypotheses about future earnings.³⁵¹

Although the federal Office of the Superintendent of Financial Institutions (OSFI) and provincial Financial Services Commission of Ontario (FSCO) regulate pension funding risk, there is always an element of discretion in actuarial valuations. Ron Davis describes the impact of actuarial discretion on funding estimates:

Clearly, an actuary is in the business of forecasting. Even more clearly, given the number of variables involved, that forecast is primarily a product of the exercise of professional

³⁵⁰ Colin Pugh, "Funding Rules and Actuarial Methods", OECD Working Papers on Insurance and Private Pensions at 34 (2006), No. 1, OECD Publishing. Online: < www.dx.doi.org/10.1787/274307371724 >.

³⁵¹ *Supra*, See note 278.

judgment and discretion. Therefore, there is almost invariably a difference between the actual rates of earnings, retirement, and life expectancy experienced by the pension plan and the estimates of those rates provided by the plan's actuary when calculating the cost or the funded status of the plan. This exercise of professional discretion is the first source of insolvency risk for the pension plan's members. Unless the actuary uses relatively conservative assumptions, the plan's members face the risk that minute variations in actual experience will require large unexpected contributions from the plan sponsor and either the plan sponsor will not be able to make them due to its insolvent status or the size of the payments will drive the plan sponsor into insolvency proceedings.³⁵²

D. The Role of Asset Allocation Policy In Funding Risks

A small increase or decrease in investment returns can play with havoc with actuarial estimates over time. Professor Ron Davis discusses the impact of equity investments on pension funding:

For example, to pay a benefit of \$100 per month for life starting in ten years, suppose the actuary estimates that it will take a total of \$60,000, based on average life expectancy. The actuary then estimates how much must be contributed today to earn a total of \$60,000 in ten years, based on the anticipated rate of return, and including the effect of compound interest from investing the pension contributions over that period. In making the calculation, the actuary takes into account the type of investments the plan makes by using a rate of earnings that includes an "equity premium" intended to reflect the common understanding that, over the long run, the return on equity investments will be greater than that generated by "risk-free"³⁵³ fixed-income investments such as bonds. Thus, the greater the proportion of equities in the pension fund's assets, the lower will be the initial pension contribution needed in the normal cost calculation the actuary performs.³⁵⁴

³⁵² *Ibid.*

³⁵³ A risk free rate is the theoretical rate of return of an investment with zero risk. The risk-free rate represents the interest an investor would expect from an absolutely risk-free investment over a specified period of time. In theory, the risk-free rate is the minimum return an investor expects for any investment because he or she will not accept additional risk unless the potential rate of return is greater than the risk-free rate. In practice, however, the risk-free rate does not exist because even the safest investments carry a very small amount of risk. In practice to work out the risk-free interest rate in a particular situation, a *risk-free bond* is usually chosen that is issued by a government or agency where the risks of default are so low as to be negligible. (*Investopedia*, Online: < www.investopedia.com/terms/r/risk-freeerate.asp >.)

³⁵⁴ *Supra*, See note 317.

Davis continues that a report prepared by actuary Malcolm Hamilton estimates that a pension plan that seeks to replace 50 percent of preretirement income by investing in fixed-income government bonds requires a contribution rate of 23.8 percent of salary (Hamilton 2009). Hamilton notes:

Most of today's retirement plans, defined benefit and defined contribution alike, try to make good pensions affordable by investing 50% to 70% of the fund in risky assets thought to offer higher rates of return in the long term, albeit with commensurately higher risks. The objective is typically to increase the rate of return on the pension fund by about 2% net of fees and to use some combination of risk management, patience, fluctuating contribution rates (defined contribution plans), fluctuating benefits (defined benefit plans) or both (hybrid pension plans) to deliver an acceptable compromise between affordability and stability. Increasing the expected rate of return by 2% reduces the steady state contribution rate by about 40%. (Hamilton 2009)

In other words, by investing pension assets in high risk equities, the actuarial estimate of investment returns will be higher than if the assets were invested in lower fixed rate bonds, thereby increasing projected pension income and reducing the level of employer contributions required to fund pension liabilities. Davis continues:

Critics of this practice focus on the bias toward equity investment created by the "equity premium," arguing that there is no justification rooted in financial economics principles or research for using differing costs for a fixed obligation based on what form of investment one makes (see, for example, Bader and Gold 2003; Exley, Mehta, and Smith 2004; and Sutcliffe 2005). In their view, the practice of incorporating the equity investment premium into a pension's cost calculations ignores the fact that the premium is the market price for the extra risk assumed by choosing equities over risk free investments. The result is that the potential for a pension asset shortfall is also increased by the proportion of equity assets in the pension fund. Despite this, in Ontario, the proportion of pension assets invested in equities has grown steadily, and at the end of 2008 stood at 60 percent (Financial Services Commission of Ontario 2009, 12-13), although the proportion declined slightly to 55 percent in 2009 (Financial Services Commission of Ontario 2010, 25-6).³⁵⁵

³⁵⁵ *Ibid.*

The funding of pension obligations through equity investments is also problematic because the volatility of such investments means their value moves up and down in an unpredictable manner, making it difficult for actuaries to project their value in any given funding period. In contrast, liabilities are generally steadily increasing in pension plans as employees' years of service increase. This often results in underfunding due to a mismatch between a plan's annual asset and liability values.³⁵⁶ Doug Andrews of Aon consulting discusses the merits of using equity risk premiums:³⁵⁷

Within the last five years, there has been increasing attention directed to the choice of the investment return assumption. Proponents of the financial economics approach to assumption-setting have argued that defined benefit pension promises are similar to the issuance of a bond from the plan to the members. To ensure security of the promised benefits, the plan should value the liabilities with expected bond-like returns. Let us accept this logic, assume that liability values have been estimated using a bond-like interest rate, and turn to the asset component of the funded ratio. If there were assets equal in value to the liability estimate, and if those assets were invested to earn the assumed bond-like return, today's liabilities would remain fully funded (ignoring any deviations from other assumptions). As a starting point in understanding future potential contribution requirements, sponsors and administrators should ask, 'what are contributions expected to be if a 100 per cent bond investment philosophy is used?'

From this starting point, it is logical to ask, "Can the assets be invested to earn more than the expected bond-like returns?" Traditional wisdom is yes. Because there is additional risk assumed by an equity investor relative to a bond investor, (because the equity investor has a lower order entitlement to a company's revenue), there must be an equity risk premium (ERP). In other words, if an investor could choose to invest in the equity or the debt of a company, the investor would only choose to invest in the equity if the investor expected to receive a higher return for receiving less security. If we accept this argument (and there are some who would object), what is the expected ERP? This is an important question for the sponsor and administrator to consider if they pursue an investment policy including equities (which is by far the most common investment approach).

³⁵⁶ *Ibid.*

³⁵⁷ Doug Andrews, "Will Equity Investment Improve Pension Funding", *Benefit and Pensions Monitor Online*, 2004. Online:< www.bpmmagazine.com/02.../equity_investment_pension_funding.html >.

So what is an appropriate ERP? There is a range of answers. Aon Consulting gathers information from more than 25 of Canada's major institutional investment management firms, twice yearly, regarding their forecasts of returns on the major financial market indices for various time horizons, ranging from one to 10 years. The managers do not explicitly forecast the ERP. However, by comparing their forecasts of expected returns on the equity indices compared to the bond index, one observes a positive ERP which is implicit in their forecasts....Over a 10-year horizon, the implicit ERP is 2.2 per cent to four per cent. Conversations with investment managers suggest that a range for the long-term ERP of two per cent to four per cent is commonly quoted.

Andrew notes that an examination of Canadian economic statistics compiled by the Canadian Institute of Actuaries indicates that the implied ERP for the 50-year period ending December 31, 2003, is approximately 3.2 per cent, comfortably in the range suggested above. However, as we examine these statistics for shorter periods, such as 10 years, we note a much lower ERP in the more recent 10 year periods. For the 10-year period ending 2003, the ERP was approximately 0.1 per cent. Robert D. Arnott and Peter L. Bernstein have carried out research and written several papers regarding ERP. Although their research focuses on the U.S. financial markets, Arnott has suggested that similar results could be expected in Canada. The U.S. longer term history (50 years) shows an ERP of approximately five per cent. Their analysis suggests that expected real stock returns over the 10 year period ending 2012 will be 2.5 per cent. Bernstein writes, "the primary reason that the actualized equity risk premium has been so enormous in the years since 1954 is that the bond market went through repeated inflationary episodes that took bond investors by surprise." A similar explanation may apply to the CIA data cited previously. Few investors expect inflationary episodes in the next 10 years. Where one believes the ERP will fall (in the range from four per cent to negative 0.8 per cent), it will significantly affect asset mix decisions. Bernstein suggests portfolio policies of "50/50 [equities and bonds] or no policy numbers at all, purely an opportunistic strategy based on no fixed opinions – at least until equity valuations change enough to reveal which asset

(stocks or bonds) will be the better performer in the long run”. In conclusion, Andrews suggests the following approach for sponsors and administrators considering an asset allocation policy:³⁵⁸

1. Understand the value of liabilities using bond-like rates.
2. In making asset-liability projections, use as a starting point a 100 per cent bond allocation. The characteristics of the bond portfolio should ideally match the characteristics of the liabilities as closely as possible, particularly in areas such as duration, inflation sensitivity, and cash flows.
3. When considering other asset allocations, understand the implicit ERP.
4. Test a variety of ERP assumptions to understand the potential variability of results and the impact on financial position.
5. If you are not satisfied with the results, do further analyses considering alternative asset classes.

In 2003 a task force of the Canadian Institute of Actuaries was established to review the standards for pension funding in actuarial practice. It concluded that 10 percent should be added to the employee/employer contribution amount if a pension fund invested 50 percent or more in equities, in order to account for the potential of an “unacceptable deterioration in the plan’s funded status” because of the high degree of risk of an asset-liability mismatch. (Canadian Institute of Actuaries 2003, 9-10). However, this recommendation has not been legislated to date.³⁵⁹

The potential for equity investments to contribute to the rapid deterioration of plan funding has been recognized in at least one jurisdiction in Canada. In the province of Quebec a pension plan must provide for adverse returns on equity investments by holding additional funds in reserve, over and above the amount required to pay for the plan’s outstanding liabilities. Section 128 of the Supplemental Pension Plans Act³⁶⁰ states:

³⁵⁸ *Ibid.*

³⁵⁹ *Supra*, see note 317.

³⁶⁰ General Regulation respecting supplemental pension plans, CQLR c R-15.1, r 6.2, Online: < www.canlii.ca/t/hjrk >.

At the date of the actuarial valuation to which the pension plan is subject, a reserve must be established equal to the lesser of the following amounts:

- (1) The amount of the actuarial gains determined in the valuation.
- (2) The amount of the provision for adverse deviation calculated in accordance with the regulations.

The amount of the actuarial gains corresponds to the amount by which the plan's assets exceed the plan's liabilities.³⁶¹ This reserve fund is based on the ratio of fixed-income assets to the total assets of the pension fund (Regulation Respecting Supplemental Pension Plans, s. 60.04).³⁶² Since the implementation of the reserve requirement, the number of private DB pension plans declined from 2010 to 2012, while the number of members rose from 2011 to 2012.³⁶³ The verdict is still out on the effectiveness of these plans based on such limited data.

The Quebec government proposed a new strategy in 2013 to begin resolving the 26 billion dollar deficit of the province's private sector DB pension plans, covering approximately one million members (half of them already retired). Quebec Labour Minister Agnes Maltais stated:

Defined-benefit pension plans are in danger. ... These are the best pension plans available to workers, and we need to protect them. We have no choice. We have to settle this problem. The status quo is no longer possible.

³⁶¹ If, at the date of an actuarial valuation, a plan's assets are equal to or greater than the plan's liabilities (reduced by the value of the additional obligations arising from any amendment to the plan considered for the first time in the valuation), any amortization payments remaining to be paid in connection with any technical actuarial deficiency determined in a *prior* actuarial valuation are eliminated. If, at the date of an actuarial valuation, the plan's assets are equal to or greater than the plan's liabilities increased by the provision for adverse deviation referred to in subparagraph 2 of the first paragraph of section 128 (reduced by the value of the additional obligations arising from any amendment to the plan considered for the first time in the valuation), any amortization payments remaining to be paid in connection with any improvement unfunded actuarial liability determined in a *prior* actuarial valuation are eliminated. (1989, c. 38, s. 131; 2006, c. 42, s. 11 (1 January 2010).)

³⁶² *Ibid.*

³⁶³ The number of private sector DB plans in Quebec has fallen steadily from 697 to 608 to 593 in 2010, 2011, and 2012 respectively. The number of DB members has fallen from 507,000 to 473,000 and increased to 482,000 in 2010, 2011, and 2012 respectively. (Statistics Canada, Registered Pension Plans and Members (RPPs), by Jurisdiction of Plan Registration, Sector and Type of Plan, 2008-2012.)

Ms. Maltais said she will table two bills in 2014, one to set the conditions for workers and employers to negotiate how to resolve their companies' pension deficits, and another to define the financial terms to ensure the solvency of defined-benefit plans. The Quebec government's proposal to ease the financial troubles of private DB pension plans gave workers and employers until December, 2014, to negotiate a solution for their company. If talks fail, they will have another six months with the help of a conciliator. If they reject the conciliator's report, the province's labour relations board will determine a final agreement.

The government will also make it mandatory for workers and employers each to bear half of the costs of pensions in the future. Rules will also be changed to provide more flexible and less costly ways for companies to replenish the capital in their pension plans to prevent insolvency and protect benefits in closings or bankruptcies. The province is hoping these changes will encourage companies to stay with defined benefit plans rather than adopting pensions with fewer benefits.

The government plans to hold consultations in 2014 with labour organizations, employer associations, retirees and a coalition of student and young unionized workers on the proposed private pension plan changes. Labour groups also applauded the initiative but criticized the 50/50 cost-sharing and the plan to give more powers to the labour relations board.³⁶⁴

The legislative measures introduced to achieve full funding in Quebec have caught the attention of actuaries and lawyers in other Canadian jurisdictions advising provinces on pension reform. Dan Ovsey of the Financial Post comments:

³⁶⁴ Real Seguin, "Quebec Government Aims to Resolve Pension Deficit", *The Globe and Mail*, Dec. 12, 2013. Online: < www.theglobeandmail.com >.

Outside of New Brunswick,³⁶⁵ Alberta and B.C. appear to be the most progressive on this front and are seen as the mostly likely to be first to enact the needed legislation. Ontario is on a similar track but has been in a holding pattern for the past year. Meanwhile, Quebec has seen the implementation of target-benefit plans but these have been limited to the pulp and paper sector. Curiously, Ontario's prospective pension-legislation reform would restrict target-benefit plans to unionized workplaces...³⁶⁶

Professor Keith Ambachtsheer argues that investing in equities directly challenges the risk bearing model that underlies Canada's pension funding regulation:

The greater the asset shortfall, and/or the greater the liability/asset mismatch, the riskier the pension contract becomes. It follows directly from this conclusion that funding policy and investment policy in [defined-benefit] plans are intimately linked. Both have a direct impact on the riskiness of pension contracts. Further, more risk exposure from one source can be offset by less risk exposure from the other, and vice-versa" (2007, 208).

In short, the risk that is currently carried on pension fund balance sheets in Canada has not been clearly articulated in defined-benefit pension plans. As a result, most plan members naively believe that the current regulatory arrangements are designed to guarantee full funding under the current formula for contribution rates (Ambachtsheer 2007, 11). This belief is simply false.³⁶⁷

Ambachtsheer notes that accepting that this guarantee, in fact, does not exist is thus the starting point for a discussion about what changes should be implemented. Options could include improving pension regulation, addressing the risks through the insolvency law regime, and implementing some form of pension benefit insurance. However, there will be no incentive to start a dialogue about reform unless all involved agree that the current system does not offer a guarantee to those involved.³⁶⁸

³⁶⁵ New Brunswick has legislated the option of target benefit plans to private sector DB pension plans

³⁶⁶ Dan Ovsey, "Will Legislators Allow Effective Defined Benefit Re-Design Before it's too Late", *Financial Post*, 2014. Online: < www.business.financialpost.com/.../will-legislators-allow-effective-def >.

³⁶⁷ Keith Ambachtsheer, *Pension Revolution: A Solution to the Pension Crisis*, 2007. Hoboken, NJ: John Wiley & Sons.

³⁶⁸ Note that Ontario is the only province in Canada with a pension insurance fund that provides a guaranteed minimum income up to \$1000/month.

E. Impact of Adopting Mark to Market Valuation Principles

Scot Blythe of Benefits Canada discusses why actuarial pension valuations for publicly traded companies are now being reported on a mark to market basis in Canada:³⁶⁹

In the pension fund world, accounting rules sometimes attract more attention than actuarial valuations. That's because, at least among DB pension plans in the private sector, funding results are applied to the bottom line—but only in an approximate fashion.

Let's say the plan's valuation assumes an 8% return on assets. Markets go down? No matter: amortize that loss over a reasonable number of years. A company looks healthy and can even include pension gains on its income statement—even if the pension fund has performed dismally when it comes to meeting its long-term actuarial liabilities.

We saw this scenario play out in the auto sector during the Great Recession, when some companies—weighed down, in part, by future pension and benefits obligations—went through a forced-march bankruptcy as optimistic assumptions on asset returns disguised how dreadful the balance sheet really was. The balance sheet (a company's assets and liabilities) is often less visible than its income statement [a company's annual profit and loss (P&L) summary]. And that annual P&L summary can gloss over long-term liabilities, since only a portion is recognized (or amortized) each year.

The change in accounting rules, which came into effect for Canada on Jan. 1, 2011, will not affect how pension plans are funded, as the current pension funding regulations remain in effect. Hvroje Lakota of Mercer Canada noted that “At the end of the day, the objective of funding is benefit security. Accounting has nothing to do with that. Pension accounting is figuring out how an organization should recognize the cost of its benefits plan in its financial statements. But it may have an impact on how pension funds invest, since what was always there in the footnotes to earnings statements will become more transparent.”³⁷⁰

The move to mark to market means two things under International Financial Reporting Standards (IFRS). First, it eliminates the “smoothing” of investment gains and losses; essentially, waiting for

³⁶⁹ Scot Blythe, Benefits Canada, “Bridging the GAAP,” 2011. Online: <
www.benefitscanada.com/pensions/...pensions/bridging-the-gaap >.

³⁷⁰ *Ibid.*

markets to pick up and trend toward their expected value. Second, it transfers gains and losses from the income statement to the balance sheet, where they are recognized as an impact on retained earnings and, ultimately, on shareholder equity.³⁷¹

Prior to 2011, most Canadian publicly traded companies were required to follow the rules of the Canadian Institute of Chartered Accountants Handbook Section 3461 (CICA 3461) for purposes of reflecting their pension plans in their corporate financial statements. CICA 3461 encouraged, or at least did not discourage, assuming DB pension risk. Canadian pension accounting standards were viewed as one of the barriers to employers reducing their pension risk. These barriers included the ability to defer and amortize experience gains and losses, the inclusion of expected additional returns from risky assets in the expected return on assets (EROA) calculation, and the ability to use a smoothed value of assets to calculate the EROA. The adoption of International Accounting Standards Section 19 (IAS 19), which “mark pension plans to market” in the employer’s financial statements, means that these barriers to de-risking should eventually be removed.³⁷² IAS 19 eliminates the following barriers to de-risking:

1. IAS 19 requires that the fair value of plan assets be used to calculate the EROA and the use of a smoothed value of plan assets going forward is no longer permitted.

³⁷¹ *Ibid.*

³⁷² At its November 2011 meeting, the AcSB considered factors for and against the development of a stand-alone fair value measurement standard for private enterprises and decided not to proceed with the project at that time. The AcSB concluded that the need for such a standard is less acute for Part II of the Handbook than it was for IFRSs, given the different focus of financial statement users in this sector and the current view that the existing guidance in Part II for determining the fair value of an item is satisfactory. The AcSB further concluded that any decision to develop a Part II standard based on IFRS 13 should be made only after that IFRS has been in place for a time and experience has been gained with its application. The AcSB will review this experience and reconsider the need for a corresponding standard for private enterprises at a later date. The AcSB and the Private Enterprise Advisory Committee noted that private enterprises that need more guidance on fair value measurement than that currently included in Part II may (but are not required to) refer to IFRS 13 as an “other source of GAAP.” (Deloitte, *Center for Corporate Governance Canada*, “Financial Instruments”. (Online:< www.corpgov.deloitte.com/site/CanEng/financial-reporting >.)

2. IAS19 requires employers to recognize gains and losses immediately on their corporate balance sheet (through other comprehensive income), better reflecting financial risk as plans are “marked to market” on the balance sheet. (However, as of 2011 employers adopting IAS 19 still had the option of continuing to defer and amortize experience gains and losses).³⁷³

On Jan. 1, 2013 the following revisions to IAS 19 further reduced barriers to de-risking which have been historically embedded in public companies’ pension accounting standards:

1. Revised IAS19 required the immediate recognition on the balance sheet of all changes to pension plan surpluses or deficits (i.e., deferral and amortization of experience gains and losses will no longer be permitted).
2. The annual pension cost must be calculated assuming that the annual expected rate of return on pension plan assets is equal to the liability discount rate, which is based on high quality corporate bond yields (i.e., the pension cost reflected in the employer’s profit and loss statement will no longer anticipate incremental returns from risky assets). Any incremental investment returns due to the investment in risky assets that actually emerge over time will be recognized on the corporate balance sheet (through other comprehensive income) once the incremental returns are actually earned.³⁷⁴

F. Actuarial Standards of Practice

The federal PBSA states:

(3) The employer shall file with the Superintendent any information required by or under the regulations at any intervals or times that the Superintendent directs.

(3.1) Except as otherwise specified by the Superintendent,

(a) the actuarial reports must be prepared in accordance with the standards of practice adopted by the Canadian Institute of Actuaries;

The Ontario PBA states:

16. (1) An actuary preparing a report under section 70 of the Act or under section 3, 13 or 14 shall use methods and actuarial assumptions that are consistent with accepted actuarial practice and with the requirements of the Act and this Regulation. O. Reg. 144/00, s. 11; O. Reg. 178/12, s. 16 (1).

³⁷³ Gavin Benjamin, *Benefits Canada*, “Barriers to Pension Plan De-Risking”, 2013. Online: < www.benefitscanada.com/pensions/.../barriers-to-pension-plan-de-risking >.

³⁷⁴ *Ibid.*

(4.1) A person preparing a report under subsection (1) or (2) shall use actuarial cost methods and assumptions,

- (a) that include a benefit allocation method or a cost allocation method; and
- (b) that are consistent with section 3000 of the Canadian Institute of Actuaries Standards of Practice, available to the public from the Canadian Institute of Actuaries at Suite 800, 150 Metcalfe Street, Ottawa, Ontario K2P 1P1 or electronically on its website. O. Reg. 116/09, s. 2.

In other words, both the PBSA and the PBA defer to the Canadian Institute of Actuaries (CIA) for their actuarial funding standards. All DB pension reports and calculations must be prepared by a Fellow of the Canadian Institute of Actuaries (a self-regulating, professional body) in accordance with its standards of accepted actuarial practice. On January 1, 2011 the CIA changed its standards to improve the transparency of actuarial valuations. These updates affect how actuaries determine assumptions, apply actuarial methods and prepare their reports for all funding actuarial valuations.

Phillip Morse of Benefits Canada discusses the details of the new standards:

The new CIA standards require that the actuary's work should take account of the circumstances of the work, including whether the work pertains to advice on the funded status of the plan, advice on the funding of the plan, any applicable laws, the policies of any regulators with jurisdiction on the work of the actuary, and the terms of the engagement between the actuary and the plan administrator. In its most simplified form, the actuary needs to know how the work will be used. This new standards create a greater need for the plan administrator and actuary to make the terms of the actuary's engagement more transparent.³⁷⁵

Solvency and hypothetical windup valuation reports are impacted as follows:³⁷⁶

³⁷⁵ Philip Morse, Benefits Canada, Changes to Actuarial Standards, 2011. Online: <www.benefitscanada.com/.../actuarial-standards-are-changing>.

³⁷⁶ Canadian Institute of Actuaries Actuarial Standards Board, Standards of Practice-Practice Specific Standards for Pension Plans, 2010. Online:< www.fsco.gov.on.ca/en/pensions/policies/active/.../AGN-001.pdf >.

1. The report must now contain a reconciliation of the gains and losses for the plan on a solvency or hypothetical windup basis for the period since the prior valuation, unless such reconciliation was reported on a going concern basis.
2. The report must disclose the hypothetical windup position under the scenario following plan windup which maximizes the RPP's benefits/liabilities on windup;
3. The actuary must determine an "incremental cost," a prescribed calculation showing the estimated change in solvency or hypothetical windup liability between the valuation date and the expected ensuing valuation date; and
4. Required disclosure of the sensitivity of solvency or hypothetical windup valuation results, through determination of the impact that a 1% decrease in the discount rates would have.
5. Going concern valuation assumptions are to be best-estimate assumptions, no longer requiring margins for conservatism, except as required by law or by the engagement.
6. The actuary may no longer assume additional potential returns from active investment management unless the actuary can support, based on relevant data, that such incremental returns will be "consistently and reliably earned over the long term"
7. Required disclosure of the sensitivity of going concern valuation results, through determination of the impact that a 1% decrease in the discount rate would have.
8. Changes in the actuarial cost method or asset smoothing method must now be accompanied by an explanation of the rationale for and the impact of the change.

G. Actuarial Discretion

The Ontario Expert Commission on Pensions focused on the issue of actuarial discretion and its impact on the transparency of valuations, especially in connection with going concern valuations (solvency parameters are mostly legislated) discussed in Chapter 3. The following recommendations were made by the Commission to improve funding transparency.³⁷⁷

1. The Superintendent should work with the Canadian Institute of Actuaries to ensure that actuarial standards and practices continue to evolve in the direction of greater transparency and more structured discretion. For example, actuarial valuations should reveal whether the sponsor intends to take a contribution holiday. [Note that whether or not a sponsor takes a contribution holiday (a reduction or suspension of normal cost payments) is currently undetectable in an actuarial valuation, as it is not factored into the contribution schedule. The rules currently require a valuation to identify surplus in a plan, which would permit it to take a contribution holiday; however, the rules do not require disclosure of whether that holiday has actually been factored into the proposed three-year schedule of contributions.]
2. The Superintendent should have the power to require that plans cease using assumptions that are unreasonable or that depart materially from accepted actuarial practice, and to order an independent valuation or peer review of a report, at the expense of the plan, if there are

³⁷⁷ *Ibid.*

grounds to believe that the actuarial valuation misrepresents a material factor in its funding. [This recommendation has been adopted by both the PBSA and the PBA].

3. Smoothing Calculations

Overview

Professor Ron Davis notes that a technique called smoothing has been incorporated into actuarial practice in Canada to insulate employers from sharp fluctuations in the values of DB pension assets and liabilities, and the resulting plan contributions required to meet funding obligations. However, smoothing methodologies for going concern valuations are not carefully defined by actuarial practice. Consequently, the potential exists for smoothing to be used to opportunistically hide funding problems. More importantly, smoothing can detract from a clear understanding of a plan's funded position if it is not fully explained in a valuation report so pension members are capable of understanding the true risk inherent in their pension contract.³⁷⁸

Smoothing is essential to DB plans because it helps stabilize member and employer contribution rates. It is one of the reasons that DB plans were not compelled to drastically increase contributions after the huge investment losses on the stock market in 2008. Smoothing enables sponsors to make payments over a number of years rather than in the current year (which would be required under normal funding circumstances). An example of smoothing is outlined below:

Suppose in a given set of years DB plan investments earned an annual return in of 30% in Year 1, then lost 10 percent in Year 2, then repeated this pattern for several more years. It would be tempting to increase or decrease... plan contributions in reaction to a single-year performance. However, actuaries employ smoothing methods so that the gains and losses in a single year are evened out over a number of years. This steadies the contribution rates

³⁷⁸ *Supra*, See note 267.

required by the fund, allowing better planning by both employers and employees. It also allows investment managers to create better long-term funding plans.³⁷⁹

A. PBSA

The federal government recently implemented an extension of smoothing techniques to apply to the calculation of solvency deficiencies (funding shortfalls) in defined benefit pension plans.³⁸⁰

Professor Ron Davis discusses the PBSA's new smoothing techniques:³⁸¹

Prior to July 1, 2010, actuaries calculated the solvency status of a plan every three years by comparing the value of the assets in the pension fund to that of its liabilities on the date of valuation. A ratio of .8, for example, means that the value of assets is 80% of the liabilities and, if a plan is terminated with that ratio, members and retirees could expect a 20% reduction in their benefits. Employers were formerly required to make special payments sufficient to raise the solvency ratio to 1 over the following 5 years, based on the funded status of the plan determined via a triennial actuarial valuation.

Amendments have recently been legislated under the federal PBSA allowing actuaries to "average" solvency deficiency ratios over the previous three years in the calculation of a plan's minimum funding requirements (Pension Benefits Standards Act Regulations, 1985, 9(8)). Furthermore, solvency valuations must now be conducted every year in plans under federal jurisdiction. In other words, the special payments required if there is solvency deficiency (funding shortfall) is determined by the average of the current solvency ratio and that of the previous two years. This change could lead to a plan never being fully funded, as the average-of-ratios calculation might generate special payments that never quite extinguish the existing liability. For example, if the ratios for three years are 1, .9 and .8, the average ratio would be .9 and special payments would be calculated to raise the ratio to 1 over the next five years. The following year, the ratios for three years could be .9, .8 and .82, while the average ratio would be .84, and, again, special payments would be calculated to raise the ratio to 1 over the next five years, and so on.

Davis notes that this reform of pension funding rules is based on the implicit assumption that the volatility of equity values is not a random event; rather, equity values will revert to some ever increasing average value over time. The federal Department of Finance stated in a news release that

³⁷⁹ Michael Pramik, *Actuarial Smoothing Evens Out Gains and Losses*, Perspective, 2011. Online: < www.perspective.opers.org/.../actuarial-smoothing-evens-out-market-gains-los >.

³⁸⁰ Regulation Amending Certain Regulations under the Pension Benefits Standards Act, 1985, (2010) SOR/2010/149). Online: < canadagazette.gc.ca/rp-pr/p2/2010/2010.../sor-dors149-eng.html >.

³⁸¹ *Supra*, See note 267.

this new solvency funding standard “will mitigate the effects of short-term fluctuations in the value of plan assets and liabilities on solvency funding requirements.”³⁸² In other words, a reduction in the level of payments required to extinguish a pension fund shortfall is permitted because it is only an “aberration,” or temporary departure from the “true” or “normal” value of the equity investment, which will correct itself with the passage of time. However, critics claim that there is no empirical or theoretical evidence to justify such an assumption (see, Bader and Gold 2003, 9; Sutcliffe 2005, 64-7). University of Texas Law School Professor Henry Hu recently stated:

... whether equity returns follow an ever-increasing trajectory with only temporary aberrations or are truly random and whether investing over longer time horizons allows an investor to capture the “average” returns are hotly contested in both financial economics and the investment industry (2000, 823-36). The problem occurs not when individuals or investment managers defer to these beliefs in their investment decisions, but when governments and regulators promote a particular belief, either expressly or implicitly.³⁸³

There continues to be much debate over whether these new federal solvency rules (which effectively reduce current employer DB contributions) are based on fact or fiction. Only time will tell.

Strengthening Federal Funding Rules

A number of other provisions were also enacted in 2010 to strengthen federal pension funding rules.

Sponsors can no longer amend their pension plan to increase benefits if the funded ratio of the plan is, or would fall, below a prescribed ratio (Pension Benefits Standards Act, 1985, 10.1).

Furthermore, the amount of surplus that a pension fund may hold without facing penalties under income tax regulation was increased from 10 percent to 25 percent in order to address the volatility

³⁸² Office of the Superintendent of Financial Institutions, *InfoPensions*, 2009. Online: < www.osfi-bsif.gc.ca/Eng/pp-rr/ppa-rra/ifp/Pages/infopensions1.aspx >.

³⁸³ Henry Hu, H.T.C. 2000. “Faith and Magic: Investor Beliefs and Government Neutrality.” *Texas Law Review* 78: 777-884.

of asset values and increase the security of members' pension benefits (Income Tax Act, 147.2(2) (d)). Finally, employers are no longer permitted to suspend making normal cost contributions (i.e. taking contribution holidays) until the funding ratio of the plan reaches 105 percent (Pension Benefits Standards Act Regulations, 1985, 9(5)).³⁸⁴

B. OSFI

Pursuant to subsections 9(2) and 12(3.1) of the Pension Benefits Standards Act, 1985 ("PBSA") the federal Office of the Superintendent of Financial Institutions has specified that the following regulations will apply to the valuation of assets used in respect of solvency valuations for actuarial reports with effective dates from November 1, 2008:³⁸⁵

Paragraph (a) of the definition of "solvency deficiency" contained in section 9 of the Pension Benefits Standards Regulations, 1985 ("PBSR") refers to the valuation of assets for actuarial valuations of federally-registered pension plans. The PBSR permits the use of a value of plan assets determined on the basis of a value related to the market value by means of a method using market values over a period of not more than five years to stabilize short-term fluctuations, often referred to as an asset smoothing method. An asset valuation method, defined as either the market value or an asset smoothing method, must be used consistently for a period of at least three years in actuarial reports covering this period.

If an asset smoothing method is used, the resulting asset value must not exceed 110% of the market value of plan assets at the same date. (Specification with respect to the Solvency Funding Relief Regulations, 2009) With respect to actuarial reports with effective dates from November 1, 2008 to October 31, 2009 that were prepared in accordance with and for the purposes of the Solvency Funding Relief Regulation, 2009 (2009 Regulations), the following may be used in lieu of the valuation of assets specified under the PBSR General Specification, provided that the conditions and restrictions set out herein are met. For this purpose, the asset value resulting from the use of an asset smoothing method must not exceed 115% of the market value of plan assets at the same date. However, the actuarial report must disclose the special payments that would be required for the period covered by

³⁸⁴ *Supra*, See note 267.

³⁸⁵ *Pension Benefits Standards Act*, 1985, Specification "2009-1" of the Superintendent of Financial Institutions on Asset Values used in Pension Solvency Valuations.

the report if the asset value was limited under the PBSR General Specification, as well as the special payments required on the basis of the 2009 Regulations Specification.

In essence, these new regulations restrict an actuary's ability to smooth asset values in any given valuation year by limiting both the number of years over which smoothing can occur (5) and the percentage increase in the plan's asset value due to smoothing (10).

Strengthening Provincial Funding Rules

The provinces have also legislated solvency funding relief for sponsors of provincially regulated defined benefit pension plans. The most common relief was the amortization of funding deficits over a 10 year period, instead of the usual 5 years. This will significantly reduce the required employer contributions in the short term.

FSCO

The Financial Services Commission of Ontario enforces the following principles in regulating asset smoothing methods used in solvency valuations in Ontario³⁸⁶.

1. The method should be consistent with the current actuarial practice in Canada, i.e., the guidelines on asset smoothing methods as set out in the Educational Note issued by the Canadian Institute of Actuaries.
2. The method should have the effect of stabilizing the short-term fluctuations in the market value of the plan assets.
3. The method should be appropriate for the circumstances of the plan;
4. Once an asset smoothing method is adopted for a valuation, it must be applied consistently in future valuations unless otherwise justified by the circumstances of the plan (e.g. where the plan is merged with another plan); and
5. The report should describe the method in sufficient detail so as to enable another actuary to follow the development of the smoothed asset value.
6. FSCO's current policy is that it does not intend to impose a limit on the deviation between the smoothed asset value and the actual market value. However, it states

³⁸⁶ FSCO, Update, *Asset Smoothing for Solvency Contributions and Contribution Holidays*, 2015. Online: < <https://www.fSCO.gov.on.ca/en/pensions/administrators/.../actuarial.aspx> >.

“The actuary who prepares a report should apply his or her professional judgment as to whether it is appropriate to impose a limit in light of the circumstances of the plan.” (In other words, the limits on smoothing are left to the discretion of the actuary.)

Is Smoothing a Legitimate Funding Tool?

Smoothing assets and liabilities clearly has no impact on the total value of a DB plan’s liabilities, which are a function of economic (i.e. inflation) and demographic (i.e. longevity) factors (i.e. inflation). However, smoothing may impact the value of assets required to fund liabilities, depending on the rate of return on deferred contributions compared to the rate of return on assets in the year the liability was originally incurred. In other words, a sponsor will ultimately have to meet his or her plan’s total liabilities, regardless of whether or not deferred contributions are higher or lower than if the liability was totally funded in the year it was incurred (i.e. no smoothing).³⁸⁷ The key argument in favour of smoothing is that it provides greater certainty to the sponsor in terms of planning contributions because large funding swings in any given year are spread over a number of years.

In a situation where funding deteriorates over time due to economic and demographic factors (e.g. structurally lower asset returns, lower bond yields, improved longevity, aging workforce), smoothing simply delays the recognition of this trend. In other words, a smoothed discount rate reduces the transparency of the pure “marked-to-market” funded position at a particular point in time and may slow down the recovery of funding levels. This is not problematic where the sponsor is healthy and can eventually catch up with higher contributions. However, in the case of a weak sponsor, delaying bad news will inevitably cause members to run elevated sponsor credit risk and by the time the deterioration is fully recognized, it may be too late for trustees to take preventative steps. In the event the sponsor does eventually fail, the final deficit may be much higher than it

³⁸⁷ Liabilities must be financed by member and sponsor contributions and the investment returns on them, with any shortfalls being funded by the sponsor.

would have been, had an unsmoothed approach been used with more proactive risk management along the way. Equally, smoothing will delay recognition of a steadily improving funded position due to secular factors (i.e. much stronger than expected equity returns, unexpectedly high bond yields etc.).

Proponents of smoothing argue that short term fluctuations in markets are just noise which adds no value and at worst distorts pension fund decision making which should be long- term. The reality is that it is impossible to know, other than with the benefit of hindsight, whether an improvement or deterioration in funding is short term noise or part of a long-term trend. It would obviously be preferable to have all DB plans fully funded based on market derived assets and liability valuations. However, if the smoothing of funding requirements ultimately gives sponsors more time to meet their liabilities in difficult economic times, it is certainly an option that merits consideration in lieu of certain insolvency.³⁸⁸ Cardano Inc., a U.K. risk management consulting company, comments on smoothing:

One of the arguments commonly used to support smoothing is that financial markets are volatile and potentially prone to ‘over shooting’ on both the up and down sides. A smoothed approach, it is argued, gives a more realistic reflection of the pension fund’s long-term health, which surely does not fluctuate on a day to day basis? We believe that the weight of academic and empirical evidence firmly supports the ‘market value’ approach over the ‘smoothed value’ approach. There are many good reviews of the academic literature and we do not intend to cover these arguments in this document.

However, we do want to point out that probably the single most important differentiator between well and poorly funded DB schemes in the UK today is the speed and enthusiasm with which they understood mark to market valuation of the liabilities and adjusted their investment strategies accordingly. Those pension funds that embraced mark to market liability valuation understood that they were running interest rate and inflation risks and generally took steps to manage these risks. On the other hand, those trustees who objected to

³⁸⁸ Cardano, *Whether to Smooth Assets and Liabilities in Scheme Funding Valuations-Response to the Department for Work and Pensions (DWP) Call for Evidence*, 2013. Online: < www.cardano.com/.../130301_Cardano_response_DWP_Regulator_smo >.

mark to market valuations were also slow to accept that they are running interest rate and inflation risk and generally did very little about it. The slow adopters suffered far greater deterioration in their funding position over the last decade than their more technically advanced peers.

We believe that it makes sense for pension funds to hedge the vast majority of their interest rate and inflation risk under most circumstances. An unhedged interest rate (or inflation) position only makes sense if one believes that interest rates (or breakeven inflation) will rise (fall) by more than what is already priced in by markets. We believe that it is difficult for anyone, let alone pension fund trustees, to form a consistently superior view on these complicated macro-economic variables than the market. By taking less interest rate and inflation risk, pension funds potentially have the ability to take more risk elsewhere in their portfolio, in areas where there is a stronger economic rationale for being rewarded.

Cardano concludes that the reality is that market volatility does not have to result in volatile funding ratios and deficits. By using tried and tested risk management techniques, pension funds can navigate their way through volatile financial markets and control the impact that market volatility has on their funding ratio and deficits. However, because risk management uses market tools, it requires mark to market valuation to operate effectively. Risk management is made much more difficult and is, in fact, disincentivised if assets and liabilities are smoothed....³⁸⁹ In short, the more smoothing, the less risk management.

4. Establishment of an Independent External Oversight Board

An independent external actuarial oversight board could be established “to promote more effective scrutiny and monitoring to ensure that actuarial information is produced in accordance with the relevant technical and ethical standards, and also to examine the current framework of self-regulation by the actuarial profession” with respect to potential issues such as:³⁹⁰

³⁸⁹ *Ibid.*

³⁹⁰ Society of Actuaries, *The Morris Review of the UK Actuarial Foundation*, 2009. Online: < <https://www.soa.org/library/newsletters/the.../the2005august.aspx> >.

- Professional standards that have been weak, ambiguous or too limited in range, and perceived as influenced by commercial interests.
- An absence of proactive monitoring of members' compliance with professional standards.
- A profession that has been too introspective, not forward-looking enough and slow to modernize

In particular, an oversight board could monitor the reliability and usefulness of actuarial methods by mandating that:³⁹¹

1. actuaries make effective use of models to complement the use of spreadsheets, the application of which can vary widely from one actuary to another, with due recognition of the power and limitations of the models used.
2. actuaries are directed to the needs of users and measures are taken to ensure that the reliability and usefulness of estimates are proportionate to the benefit they provide. (i.e. actuaries are not unduly constrained by financial and other restrictions).
3. actuaries incorporate checks on the reliability and usefulness of data with full and clear documentation, ensuring that the results are capable of being checked and reproduced by other actuaries.
4. actuaries incorporate robust criteria for:
 - selecting assumptions which incorporate findings from theoretical and empirical research based on past experience and current market information;
 - ensuring consistent treatment in the model of different measures such as assets and liabilities;
 - recognizing and exploring risk and uncertainty; and
 - analysing model outputs against expectations.
5. there is effective and continuing review within and outside the profession of the methods used, so as to encourage innovative, transparent and consistent approaches.
6. actuaries meet technical standards which are principles-based and outcomes-focused and which promote the reliability and usefulness of actuarial methods

³⁹¹ Financial Reporting Council, *Actuarial Reporting Framework*, 2010. Online: <<https://www.frc.org.uk/.../Summary-of-responses-to-Discussion-Paper-Pr...>>.

Conclusion

Chapter 5 discussed the impact of the governance of actuarial methods on the underfunding of defined benefit pension plans. It examined asset/ liability valuations, asset allocation policy, and the role of the actuary, revealing that actuaries are using actuarial methods to push DB funding problems down the road in lieu of addressing them. The chapter concluded by proposing that an independent external oversight board be established to monitor the reliability and usefulness of actuarial methods in Canada.

CHAPTER 6

IMPACT OF GOVERNANCE OF ACTUARIAL SURPLUS ON DEFINED BENEFIT PENSION PLAN FUNDING

Overview

Chapter 5 discussed the impact of the governance (by legislators, regulators (Ontario PBA and federal PBSA), and the Canadian Institute of Actuaries) of actuarial methods on the underfunding of defined benefit pension plans, revealing that governance of these methods has only served to push DB funding problems the road, in lieu of addressing them. The chapter concluded by proposing that an independent oversight board be established to monitor the reliability and usefulness of actuarial methods in Canada.

Chapter 6 examines the impact of the governance of surplus on actuarial underfunding, concluding that Canadian courts' surplus policy (from the "Dominion Stores" case in 1986 to Manitoba Telecom in 2014) has restricted employers' access to surplus, inadvertently promoting underfunding and insolvencies.

Pension Lawyer Ari Kaplan notes that no issue in recent history has been more divisive and polarized in the governance of defined benefit pension plan funding than actuarial surplus, continuing that surplus ownership, use and distribution have dominated the pension landscape both judicially and politically.³⁹² As discussed in Chapter 5, asymmetry (i.e. employers are responsible for funding deficits but have limited access to surplus) has been a major barrier to the funding of DB plans.³⁹³

³⁹² Ari Kaplan, *Pension Law*, 2006.

³⁹³ Normand Gendron, *Battle for the Bulge*, Benefits Canada, 2008. Online: < www.benefitscanada.com/pensions/...law/battle-for-the-bulge-10842 >.

The funded status of a defined benefit pension plan is in a constant state of flux due to its dependence on a number of variables. For example, rising investment returns increase a plan's funded status while falling returns lower it.³⁹⁴ During the 1980s and 1990s (in times of high investment returns) much of the pension funding debate centered around which parties had legal rights to pension surpluses (also coined "actuarial errors"). The 1994 Supreme Court of Canada landmark decision *Schmidt v. Air Products* ([1994] 2 S.C.R. 611) referred to the distinction between "actual" surplus and "actuarial" surplus, stating that during the ongoing operation of a pension plan, a surplus is simply an actuarial number, only becoming actual or certain upon the wind-up of a plan. Since the 2000 stock market collapse, the pension debate has shifted to pension deficits. The court in *Schmidt* characterized deficits as follows:

An on-going pension plan may have an actuarial deficit that will go up and down as actuarial assumptions, economic conditions, and the experience of the pension plan change whereas an actuarial deficit becomes "actual" or certain only upon wind-up of the pension plan. In other words, it is only upon wind-up that the extent of the underfunding and the impact on plan members is determined.³⁹⁵

³⁹⁴ High interest rates on fixed investments such as bonds mean that less money needs to be invested today to meet future pension obligations. Conversely, low interest rates mean that more money needs to be invested today to meet future pension obligations. Pension funds estimate their future liabilities (the payouts they will make to retirees) using a discount rate based on the expected return of the fund's assets. When the discount rate increases, the fund's liabilities decrease, which is a good thing. However, low interest rates lead to lower discount rates, which leaves pension funds with greater liabilities. The point is that interest rates affect both sides of the investor's balance sheet, which is why pensions manage their risk by maintaining a strategic allocation to bonds. In other words, increases and decreases in a plan's pension liabilities are offset by gains and losses on the Liability Hedge Portfolio. In 2013, for example, the Healthcare of Ontario Pension Plan (HOOPP) Liability Hedge Portfolio lost \$1.44 billion because a spike in interest rates drove down the prices of its bond holdings. However, those rising rates mean higher expected returns going forward, so the fund raised its discount rate by 25 basis points. As a result, its future liabilities fell by about \$1.5 billion, more than offsetting the loss in the portfolio's value. The opposite occurred in 2012, an outstanding year for bonds. That year the Liability Hedge Portfolio rose in value, but the fund managers had to lower their discount rate by 0.30%, which caused its future liabilities to increase. (Canadian Couch Potato, *How Pension Funds Think About Bonds*, 2014. Online: < canadiancouchpotato.com/2014/.../how-pension-funds-think-about-bond >.)

³⁹⁵ Mark Newton, *Heenan Blaikie Pensions and Benefits Monitor* "Pension Insolvency, Intelligent Solutions Needed", 2008. Online: < www.bpmagazine.com >.

Courts have been applying classic trust principles to actuarial surplus ownership issues since Schmidt (1994),³⁹⁶ making it extremely difficult for both employers and employees to freely access surplus in an ongoing plan. In Schmidt, the Court decided that pension trusts are classic trusts, and not trusts for purpose.³⁹⁷ (Classic trusts hold funds for the benefit of specified persons and not for a general purpose like building a hospital in which the trust expires once the hospital is built). The 1994 Schmidt decision was to have profound implications for actuarial surplus cases, some of which were not likely foreseen by the court. In deciding that pension trusts were analogous to classic trusts, the Court mandated that the law of trusts, which developed over hundreds of years in Britain, would apply to all pension trusts in Canada.³⁹⁸

The plan documents that legally create both the plan and its pension fund should establish the authority for ownership of any surpluses that may occur in defined benefit plans. However, research by Normand Gendron of Benefits Canada revealed that many originating documents drafted in the 1940s, '50s and '60s did not anticipate the litigious environment that has developed in Canada over the past several decades and as such, did not preserve the employer's right to surplus ownership indefinitely, while other documents contain language indicating that surplus assets are for the

³⁹⁶ Note that the first case law concerning the defined benefit (DB) pension plan surplus ownership debate in Canada began in 1986 with the Dominion Stores case (Collins and Pension Commissioner of Ontario). In 1984, Conrad Black withdrew for shareholders over \$56 million from the Dominion workers' pension plan surplus without consulting plan members. The firm said it considered the surplus the rightful property of the employer (Dominion Stores Ltd.). The Dominion Union complained, a public outcry ensued, and the case went to court. The Ontario Superior Court ruled against the company, and ordered the company to return the money to the pension fund, claiming that though the most recent language in the plan suggested the employer had ownership of the surplus, the original intention was to keep the surplus in the plan to increase members' benefits. Eventually, the pension dispute was settled in equal shares between the shareholders and the plan members. (*Wikipedia* < www.en.wikipedia.org/wiki/Conrad_Black>.)

³⁹⁷ Some lower court decisions previous to Schmidt had found that a pension trust was a special kind of trust called a "purpose trust" (A trust is set up for a specific purpose, and once that purpose is fulfilled, the trust expires).

³⁹⁸ Ian McSweeney and Douglas Rienzo, Benefits Canada, *Trust Law and Pension Plans*, "An Evolution in Progress", 2008. Online:< www.benefitscanada.com/pensions/governance-law/trust-law >

exclusive benefit of the plan members.³⁹⁹ These historical documents giving members rights to surpluses have discouraged sponsors from maintaining surpluses, promoting minimum funding. Sponsors and members, respectively, make the following arguments regarding surplus ownership:⁴⁰⁰

Plan sponsor's argument – We support the risk of funding shortfalls through deficiency amortization payments. We should therefore benefit from any surplus (the positive side of that risk).

Plan member's argument – Employer contributions are really deferred wages. All funds in the pension plan, therefore, belong to us.

In 2008 Gendron proposed the following legislative and regulatory amendments to address these surplus ownership issues:⁴⁰¹

1) The government should introduce legislation to ensure that pension plans are interpreted under contract law as opposed to trust law. Under contract law, a general power of amendment would allow an employer to amend the plan in respect of surplus ownership. Since surplus ownership would not be governed by classic trust law principles, surplus ownership would not be established at the time that the trust was originally established.⁴⁰²

2) Pension plan regulation should be clear on surplus ownership and how it will be determined. Some new potential provisions include:

³⁹⁹ Normand Gendron, Benefits Canada, *Battle for the Bulge*, 2008. Online: < www.benefitscanada.com/pensions/...law/battle-for-the-bulge >.

⁴⁰⁰ *Ibid.*

⁴⁰¹ *Ibid.*

⁴⁰² As per Schmidt, if a defined-benefit pension plan is funded through a trust, then, practically speaking, the only way a firm could gain exclusive access to a surplus on plan windup was if it expressly reserved that right at the time the trust was set up. In some cases, a sponsor could still potentially access a surplus by obtaining a sufficient level of member consent. (Schmidt does not preclude a sponsor from taking a contribution holiday when the plan is in surplus. See Gillese (1996) for additional background information.) If the pension plan was not a trust, however, the Court ruled that ownership of a surplus could be determined according to the principles of contract law. It should be noted, however, that there is nothing to prevent any new DB plan from defining, in the trust agreement, who owns the surplus under what conditions. (Jim Armstrong and Jack Selody, Bank of Canada, *Financial System Review*, "Strengthening Defined Benefit Pension Plans" at 32. (Online: < www.bankofcanada.ca/wp-content/uploads >.)

- A. Allowing the use of a side fund for deficiency contributions. Money in the side fund could be used for contribution holidays if no longer needed to cover liabilities.
- B. Establishing a “banker’s rule” arrangement whereby a sponsor could recuperate deficiency payments made to the fund when the fund returns to a surplus position (with or without a safety margin being required).
- C. In the absence of clear rules, providing for an arbitration mechanism that would allow each party to present its arguments. (IMPLEMENTED IN ONTARIO’S PBA)

3) A safety margin should be held in the fund before any contribution holidays are taken or benefit improvements adopted. This would benefit both sponsors and members, as the plan could sustain greater fluctuations in asset values without incurring deficiency payments while the members would benefit from greater benefit security. (IMPLEMENTED FEDERALLY (PBSA) AND IN ONTARIO (PBA))

4) The maximum surplus allowed by the Canada Revenue Agency should be increased to allow for the buildup of greater margins. (IMPLEMENTED-INCREASED FROM 10% TO 25%)

In short, plan sponsors want the greatest possible predictability and flexibility to manage their costs while members want benefit security. It is obvious that greater security can be achieved through higher contributions; in other words, funding with a margin. However, court decisions restricting use and ownership of surplus have made plan sponsors wary about funding above the minimum actuarial requirements, increasing the volatility of pension costs and reducing benefits security.⁴⁰³

This chapter will focus on the impact of the governance of “actual” and “actuarial” surplus on defined benefit pension plan funding. It is divided into three sections. Section 1 discusses the major legal concepts associated with actuarial surplus. Section 2 reviews the major court rulings on actual and actuarial surplus, while Section 3 discusses the policy issues relevant to actuarial surplus.

⁴⁰³ *Ibid.*

Section 1-Major Surplus Issues

1. Introduction

The Ontario Pension Benefits Act (PBA) defines surplus as:

The excess of value of assets of a pension fund related to a pension plan over the value of the liabilities under the pension plan, both calculated in the prescribed manner.⁴⁰⁴

A pension plan is not able to disclose a surplus without the assistance of an actuary. This is because it is the actuary who calculates and values the plan's liabilities and assets and, until the actuary prepares a plan valuation report, it will not be known whether the plan has a surplus or, for that matter, an unfunded liability or a solvency deficiency. In this respect, a surplus cannot exist until it is disclosed in a valuation report. Such a report must be prepared at least triennially and may, at the request of the administrator, employer or regulator, be prepared on a more frequent basis.

Pension Lawyer Ari Kaplan notes that a surplus can only exist, if at all, in a pension fund related to a defined benefit pension plan:

A defined contribution plan can never have a surplus; all monies, after deduction of taxes and expenses, must be paid out to the pensioners. In a defined benefit plan, pensions are calculated by reference to a specific formula set out in the plan text. An actuarial valuation report discloses the total value of the aggregate defined benefit liabilities; that is, the present value of the pensions promised to be paid in the future. Surplus assets arise at any given point in time when the value of the assets in the pension fund exceed what is necessary to discharge all present and future defined benefit liabilities. Surplus is sometimes characterized as those assets in the pension fund over and above the assets required fund required to discharge the so-called pension promise. The promise refers to the pension benefits calculated under the plan's defined benefit formula.⁴⁰⁵

⁴⁰⁴ PBA, s.1 surplus (A similar definition exists in the federal PBSA, s. 2(1)).

⁴⁰⁵ Kaplan, *Pension Law*, 2006.

2. Actual and Actuarial Surplus in Canada

In 1919 an amendment to the Income Tax Act allowed employer contributions to employer sponsored pension plans to be claimed as a tax deduction.⁴⁰⁶ During the 1950s and 1960s, the Department of National Revenue maintained its “Blue Book” (later Information Bulletin No. 14) which set out conditions for pension plan registration. One of the requirements was that employer contributions had to be irrevocable.⁴⁰⁷ Kaplan notes that there were a number of different ways that employers were able to structure their pension plans to comply with this rule:

The most common and popular funding models proved to be by way of either investment annuity contracts with insurance companies or trust agreements with institutional custodial trustees. These models were perceived to provide the requisite degree of “irrevocability” of contribution to entitle the employer to obtain tax relief on its pension contributions. Between these two models the pension trust proved to be a preferred and efficient choice by employers, not least of all because of the commercial realities in the custodial marketplace at the time.

In the late 1960s and early 1970s the irrevocability requirements were relaxed until finally, in 1981, the Canadian Revenue Agency expressly changed its registration requirements to provide that future defined benefit pension plans must contain a provision permitting all surplus to be refunded to the employer on termination of the plan.⁴⁰⁸ Therefore, the debate over surplus ownership upon

⁴⁰⁶ Statistics Canada, *Section 1, Tax Treatment of Private Retirement Savings Plans in Canada*. Online: < www.statcan.gc.ca/pub/13f0026m/2010001/section1-eng >.

⁴⁰⁷ Until 1960 income tax registration required surplus allocation among members on plan termination. It was a requirement that plans prohibit any return of surplus to the employer. When this rule was relaxed, most employers amended their plans accordingly. Notwithstanding, some recent court cases have concluded, more than 20 years after the fact, that any such amendment is contrary to trust law. As significant surpluses began to accumulate, regulatory authorities then found themselves in the uncomfortable position of having to approve or disapprove surplus refund applications. The almost universal response was to require employers to show irrefutable proof, including unquestionably clear documentation and possibly a court order on the right to surplus. Failing that, surplus had to be left in the plan or used for the benefit of plan members. (David F. Howe and Paul F. Saunders, *International Perspectives on Pension Surplus*, 1991 at 215. Online: < www.actuaries.org/IACA/Colloquia/Vancouver >.)

⁴⁰⁸ See Information Circulars 72-13R7 (1981) and 72-13 R8 (1988), which were eventually incorporated into the Income Tax Regulations C.R.C., ss. 8502 (c) and 8503(4) (c).

plan termination is only relevant in DB pension plans registered prior to 1981. The Ontario Pension Benefits Act (PBA) and the federal Pension Benefits Standards Act (PBSA) provided little, if any direction on surplus ownership until the late 1980s, focusing mainly on procedure, specifically on the employer's procedure for applying to the pension regulator to withdraw surplus. Due process and notice to employees are prominent in these regulatory schemes.⁴⁰⁹

As mentioned above, high profile litigation over surplus ownership, withdrawal, and usage in Canada commenced in the mid-1980s and climaxed in the 2000s. High interest rates in the early 1980s lowered plan liabilities (which are bond-like in nature) and increased asset values, triggering large surpluses. The surplus ownership issue gained significant media coverage through legal disputes involving high-profile institutions including Dominion Stores, Bank of British Columbia and the National Hockey League, among others.

Poor economic conditions in the early 1990s triggered mass lay-offs, plant shutdowns, and corporate restructuring, resulting in the premature termination of many company pension plans. Consequently, groups of terminated employees and employers (or their creditors) engaged in legal disputes over the ownership of plan surplus.⁴¹⁰

As discussed above, it wasn't until 1994 in the landmark ruling *Schmidt v. Air Products of Canada Ltd.*⁴¹¹ that the Supreme Court of Canada prescribed a principled framework of analysis for determining, on a case by case basis, the ownership of surplus on the wind-up of pre-1981 plans. The Court also set out the applicable interpretive principles for determining when an employer has the right to use the actuarial surplus to take a so-called "contribution holiday" in an ongoing

⁴⁰⁹ Kaplan, *Pension Law* at 555. (Note that the Ontario PBA and the federal PBSA both introduced new regulatory schemes in 2010 pertaining to surplus withdrawal and contribution holidays).

⁴¹⁰ *Ibid.*

⁴¹¹ (1994) 115 D.L.R. (4TH) 631 (S.C.C.) [*Schmidt*].

pension plan. However, Schmidt did not resolve the scope of an employer's right to use actuarial surplus in an ongoing plan for purposes other than contribution holidays (for example, to pay administrative expenses out of the pension fund, merge two or more pension funds that are in a state of surplus or deficit, or convert a defined benefit plan to a defined contribution plan). Judicial consideration of these issues took place in the post-Schmidt Supreme Court of Canada cases *Monsanto Canada Inc. Ontario (Superintendent of Financial Services)* (2004), *Buschau v. Rogers Cablesystems Inc.* (2006), *Canada (Kerry Inc.) v. Ontario (Superintendent of Financial Services)* (2009), *Burke v. Hudson's Bay Company* (2010), and *Manitoba Telecom* (2014).

3. Surplus Use and Allocation

Professor Ron Davis distinguishes between two different concepts of surplus pension assets, those in an ongoing plan and those in a terminated plan:

In the case of an ongoing plan, the surplus assets are an estimate that, if all of the variables concerning future economic trends used by a pension plan actuary in forecasting the future costs of future benefits behave as predicted, not all of the assets in the plan will be needed to pay those future benefits. Of course, a change in any variable will affect this forecast, and a subsequent forecast may find that there is no surplus, or that the plan is actually in a deficit position.

The second concept of surplus refers to the calculation made when the pension plan is terminated. Since there will be no future accrual of benefits, there is no need to forecast future pension costs or investment performance, the calculation of the surplus is not an estimate and the existence of the surplus is not contingent on future economic performance. The distinction between these two concepts of surplus is important in assessing the circumstances in which there is a dispute over the use or ownership of surplus assets.

Except in circumstances in which a plan is terminated, partially terminated or proposed to be terminated, the disputes concerning the use of actuarial surplus involve the first concept; that is, surplus assets in an ongoing plan. These include extraction of surplus by an employer from an ongoing plan; funding contribution holidays, funding benefit improvements, funding deficits in other pension funds sponsored by the employer and funding new types of pension benefits. In the event a plan is terminated, the issue is who is entitled to share in the actuarial surplus available for distribution and whether or not the plan

members and pensioners can terminate a pension plan in order to obtain a distribution of the surplus in the plan.⁴¹²

Davis notes that the problems of competing claims concerning the legitimate use of excess assets in a pension fund are complex and multi-layered, involving conflicting views of the implications of the defined benefit pension “bargain,” the allocation of the burdens of the significant risks in such a bargain, and the proper distribution of the increases in income that can result from an increase in certain risks. Competing claims in an ongoing plan include:

1. The plan sponsor’s interests in the continuation of a valuable human resource management benefit plan on a cost effective basis.
2. The plan members interests in receiving the full benefit of past employer contributions as part of their compensation for past services rendered.
3. The need to provide reasonable assurance that accrued benefits will continue to be fully funded, and the concerns of tax authorities about excessive contributions to tax-exempt funds.

Davis continues that both regulation and judicial pronouncements have played a role in balancing employer and employee claims, with the emphasis varying by jurisdiction. The use of the trust as a funding medium has not played a significant role in questions about surplus use in ongoing plans except for the use of surplus in one plan to fund benefits accrued in another. Rather, regulatory requirements are central to resolving these issues. For example, in Ontario, any extraction of surplus by an employer from an ongoing plan must meet minimum standards with respect to the funding left in the plan following the withdrawal, and receive the unanimous consent of the plan members, pensioners and beneficiaries.⁴¹³

Professor Davis concludes that the use of actuarial surplus in ongoing plans to fund employer contribution holidays, either in respect of the original members of the plan or for new employees,

⁴¹² Ron Davis, *Report for the Ontario Commission on Pensions*, “Protecting the Pension Fund,” 2007.

⁴¹³ *Ibid.*

whether hired directly or acquired by the employer through mergers with other entities, is permitted in all jurisdictions. Also permitted is the use of actuarial surplus from a defined benefit plan to fund employer contribution holidays in a defined contribution pension plans, provided the DB and DC benefits are being delivered as part of the same plan (i.e. hybrid benefits). Davis discusses the policy implications of these permissive surplus regulations:

Courts have interpreted broad amending powers in a trust instrument and pension plan as including the power to make amendments to accomplish these goals. This interpretation is based primarily on the courts' views about the private pension system as a voluntary system in which an employer may terminate participation at any time and in which the choice of the benefits to be provided is left to the employer. Although recognizing the interests of employees in receiving the full benefit of past contributions, the courts have held that the retention of control by the employer over prospective benefit design and the utilization of surplus assets to fund benefits does not involve a trespass on the reasonable expectations of plan members in a defined benefit pension plan and recognizes legitimate employer interests in controlling its costs and utilizing the plan as a human resource asset for all of its employees.⁴¹⁴

Different considerations apply when the issue concerns the allocation of surplus assets on plan termination, as an employer's interests in the continuation of the plan for its benefit are no longer an issue, nor are the interests in controlling its costs and benefit design. These issues are addressed in the next section of this chapter.⁴¹⁵

⁴¹⁴ *Ibid.*

⁴¹⁵ As mentioned earlier, the allocation of surplus between plan members and the plan sponsor upon plan termination is no longer determined by legislation or case law for plans introduced after 1981. The Canadian Revenue Agency (CRA) expressly changed its registration requirements to provide that all new defined benefit pension plans must contain a provision permitting surplus to be refunded to the employer on termination of the plan

4. Actuarial vs. Actual Surplus-Legal and Policy Issues

Kaplan notes that actuarial and actual surplus, more than anything else, frame the competing legal and policy viewpoints expressed by employers and employees regarding the use and ownership of surplus in defined benefit pension plans.⁴¹⁶ He discusses employers' viewpoint on actuarial surplus:

An actuarial surplus in an ongoing DB plan is sometimes said to exist "only on paper" because it is a notional sum that results from actuarial assumptions and calculations. Employer advocates point to this attribute of surplus to support the proposition that employees have no legal entitlement to actuarial surplus in an ongoing plan. In other words, any employee rights to surplus arise only when the actuarial surplus becomes an actual surplus, which crystallizes upon termination of the plan. In support of this proposition, employers point to the legal principle that affirms that an employer's right to take contribution holidays from an actuarial surplus does not, in and of itself, represent an "encroachment upon the [pension] trust nor a reduction of accrued benefits" under the plan.⁴¹⁷ Under this predominantly employer-sponsored view of actuarial surplus, there is a crucial qualitative and legal distinction between actuarial and actual surplus. An actuarial surplus does not truly exist because it is not definite and, therefore, employees can have no legal interest or expectation in an employer's use of that surplus while the plan is ongoing. It is only when a pension plan is wound up, if ever, that any existing surplus must be distributed. Only at this time (from the employers' viewpoint), do employees have a vested right to challenge the ownership or use of that surplus and claim a share of the proceeds.⁴¹⁸

Employee advocates acknowledge that while actuarial surplus is of necessity an estimate, employers frequently place a real financial value on it in ongoing plans by:

1. Disclosing its existence in solvency and going-concern valuations.
2. Taking contribution holidays.
3. Agreeing to transfer pension assets including surplus during purchase and sale transactions.
4. Withdrawing surplus from the ongoing plan itself.⁴¹⁹

In 2003 *Markle v. Toronto (City)* held:

⁴¹⁶ Kaplan, *Pension Law*, 2006 at 556.

⁴¹⁷ (1994), 115 D.L.R. (4th) 631 (S.C.C.) [*Schmidt*] as cited in Kaplan, *Pension Law*.

⁴¹⁸ Kaplan, *Pension Law*, 2006

⁴¹⁹ See *Monsanto Canada Inc. v. Ontario (Superintendent of Financial Services)* (2004), 242 D.L.R. (4th) 193 at 213-14 (S.C.C.).

...the actuarial surplus in this case constitutes part of the trust fund held for the employees. The fact that the employees entitlement to those funds may not crystallize until the Plan is terminated, at which point an actuarial surplus (if one exists) becomes an actual surplus, does not change the fact that the actuarial surplus is part of the trust fund and that as such it may only be dealt with during the life of the trust and in a manner that is consistent with the principles of trust law or relevant statutory provisions.⁴²⁰

In other words, under this predominantly employee supported view of surplus, the court held that there was no qualitative difference between an actuarial and actual surplus. Any surplus, whether characterized as actuarial or actual, is part of the total assets of the pension fund and under trust law, the surplus exists solely for the benefit of the employees who are equitable and ultimate beneficiaries of that surplus. Under this theory, the only material legal distinction between an actuarial surplus and actual surplus is that, subject to the plan terms, employees do not have an immediate right to compel a cash distribution of that surplus while it is an actuarial surplus, as they do when it crystallizes into an actual surplus.⁴²¹

Section 2-Major Court Cases and Legislative Amendments on Surplus

A. Court Cases

1. Collins (1986)-Ontario Court of Appeal (ONCA)

In the 1986 case *Collins and Pension Commissioner of Ontario*,⁴²² otherwise known as the “Dominion Stores Case,” the issue at hand was whether or not an employer could access actuarial surplus for its own benefit without a surplus sharing agreement. The court’s decision was “no.”

The employer (i.e. Conrad Black) withdrew \$56 million from the pension fund without consulting plan members. Conrad Black considered the actuarial surplus his own rightful property. The

⁴²⁰ *Markle v. Toronto (City)* (2003), 223 D.L.R. (4th) 459 at 467-68 (Ont. C.A.), aff’g (2002), 213 D.L.R. (4th) 362 (Ont. S.C.J.). See also *Nolan v. Ontario (Superintendent of Financial Services)*, [2006] O.J. No. 960 at para 43 (Div. Ct.).

⁴²¹ Kaplan, *Pension Law* at 560, 2006.

⁴²² *Collins and Pension Commission of Ontario, Re* (1986), 56 O.R.

Ontario Court of Appeal ruled against Black and ordered him to return half of the surplus to the pension fund. According to the court, while the most recent language in the plan documents suggested that the employer had ownership of the actuarial surplus, the original intention was to keep the surplus in the plan in order to increase members' benefits. The decision resulted in employers being unable to access actuarial surplus in Ontario without entering into a surplus sharing agreement with their employees.⁴²³

2. Schmidt (1994)-S.C.C.

The 1994 case *Schmidt v. Air Products of Canada Ltd.*⁴²⁴ is a landmark case in Canadian pension law. The main issue was whether or not surplus belonged to employers or employees upon plan wind-up. The court held that pension trusts are classic trusts and therefore employees own the surplus upon wind-up unless the pension text says otherwise.

In *Schmidt*, the employer merged two defined benefit pension plans and used actuarial surplus that had accumulated in the two prior plans to take contribution holidays. The employer claimed that it was entitled to the surplus when the merged plan was terminated. The plan members commenced an action, arguing that they were entitled to the surplus and that the employer had to pay back the surplus it had used to fund its contribution holidays.⁴²⁵

After a series of appeals, the case reached the Supreme Court of Canada, which established the legal framework for analyzing pension plans that continues to be applied today. More significantly,

⁴²³ Norman Gendron, *Benefits Canada, Battle of the Bulge*, 2008.

⁴²⁴ (1994) 115 D.L.R. (4th) 631 (S.C.C.) [*Schmidt*].

⁴²⁵ Sonya Felix, *Benefits Canada, 7 Cases That Have Shaped the Industry*, 2010. Online:<
www.selectpath.ca/organizations/articles/7-cases-that-have-shaped-the-industry/ >.

the Court held that a pension plan funded pursuant to a trust is a classic trust and, as such, is subject to all common law trust principles.⁴²⁶

Based on these principles, the Court found that surplus is *always* included in the trust unless the original trust agreement says it is not. The employer will only be entitled to it in the following circumstances:

- (i) The employer was made a beneficiary of the trust from the outset;
- (ii) The employer reserved a power to revoke the trust when it was established; or
- (iii) The doctrine of the resulting trust is applicable.⁴²⁷

⁴²⁶ Classic trust principles, however, do not translate neatly into the pension context. They were developed in the context of testamentary estates (wills) where the trust product was left by a settlor who was deceased. The trust was “fixed” and, except for gains or losses realized through investment, it did not change over time. All of the beneficiaries were entitled to a specific benefit – whether that be a specific portion or part of the trust or the residue of the trust after all of the specific benefits had been provided. The beneficiaries were typically set at the time the trust was created, and could not be changed by the settlor from time to time. Pension trusts are fundamentally different from classic trusts in a number of ways. A classic trust is a form of gift involving the transfer of property to a trustee for the benefit of one or more beneficiaries. A pension trust, on the other hand, is primarily a funding vehicle to provide security for future pension obligations. A pension trust is fluid in nature – new beneficiaries join the pension plan and current beneficiaries leave on a regular basis – and are closely intertwined with employment. Unlike a classic trust situation, the trustee of a pension fund typically has very little discretion in the investment or administration of the trust fund; rather, investments and payment of benefits are performed at the direction of the plan administrator and/or investment managers.

The result of applying traditional trust law principles to pension plans has been, in a word, unsatisfactory. Allowing a series of archaic rules not designed with pension plans in mind to take precedence over contractual arrangements between employers and employees adds an unnecessary complexity and uncertainty into what is intended to be a contractual (employment) relationship, capable of being changed from time to time. It also means that the DB pension promise is being overridden by extraneous factors. (The Association of Canadian Pension Management (ACPM), *Back from the Brink: Securing the Future of Canadian Defined Benefit Pension Plans* at 10, 2005. Online: < www.acpm.com/ACPM/ >.)

⁴²⁷ A resulting trust is a trust implied by law (as determined by a court) that a person who holds title or possession was intended by agreement (implied by the circumstances) with the intended owner to hold the property for the intended owner. Thus, the holder is considered a trustee of a resulting trust for the proper owner as beneficiary. Although a legal fiction, the resulting trust forces the holder to honor the intention and prevents unjust enrichment. Example: Mahalia leaves \$100,000 with her friend, Albert, while she is on a trip to Europe, asking him “to buy the old Barsallo place if it comes on the market.” Albert buys the property, but

At the same time, the Court held that, in the absence of provincial legislation stating otherwise, a pension plan may explicitly or implicitly permit an employer to take a contribution holiday or may explicitly or implicitly prohibit this practice:

When permission is not explicitly given in the plan, it may be implied from the wording of the employer's contribution obligation. Any provision which places the responsibility for the calculation of the amount needed to fund promised benefits in the hands of an actuary should be taken to incorporate accepted actuarial practice as to how that calculation is made. That practice currently includes the application of calculated surplus funds to the determination of overall current service cost. It is a practice that is in keeping with the nature of a defined benefits plan, and one, which is, encouraged by the tax authorities.⁴²⁸

The Court ruled that contribution holidays and other uses of surplus in an ongoing plan are not a revocation of trust, because in an ongoing plan, actuarial surplus exists only on paper. This compromise resulted in stringent restrictions on employer entitlement to surplus on windup but gave employers more latitude when dealing with surplus in the context of an ongoing plan.

Canadian courts have struggled to implement this compromise in subsequent cases. In short, what was supposed to end all surplus ownership disputes, instead fuelled another 20 years of litigation. This post-Schmidt litigation centered primarily on how to apply classic trust law principles to pension plans (which are not well suited to many pension common law principles), considering pensions are also subject to pension standards legislation and are a component of the employment law (contractual) relationship between employee and employer.⁴²⁹

has title put in his own name, which the court will find is held in a resulting trust for Mahalia. (The Free Dictionary, Online: < [www. legal- dictionary.thefreedictionary.com/Resulting+Trust](http://www.legal-dictionary.thefreedictionary.com/Resulting+Trust) >.)

⁴²⁸ *Supra*, see note 424.

⁴²⁹ Kaplan, *Pension Law*, 2006.

Application of Schmidt Principles in Court Cases⁴³⁰

The following decisions applied the contribution holiday principles set out in Schmidt. They found that the pension plan text permitted the taking of contribution holidays because the wording in the plan did not mandate a specific employer contribution formula, but made the employer's contribution subject to the advice and discretion of an actuary.

Schmidt v. Air Products⁴³¹

The Company shall contribute from time to time, but not less frequently than annually, such amounts as are not less than those certified by the Actuary as necessary to provide the retirement benefits accruing to Members during the current year pursuant to the Plan...

Askin v. Ontario Hospital Association⁴³²

Each Contributing Member Hospital shall make contributions to the Plan as determined by the Actuary from time to time.

Maurer v. McMaster University⁴³³

The University shall pay into the Fund each year the amount required to fully fund the current service cost of the Plan, as determined by the Actuary, after allowing the Members required contributions.

Kerry (Canada) Inc.⁴³⁴

The Company shall contribute from time to time but not less frequently than annually such amounts as are not less than certified by the Actuary as necessary to provide the retirement income accruing to members during the current year pursuant to the Plan...

Correspondingly, a number of decisions found that pension plan texts implicitly or explicitly prohibited the taking of contribution holidays because the plans mandated an exact employer

⁴³⁰ *Ibid.* at 408.

⁴³¹ *Supra*, see note 424.

⁴³² *Askin v. Ontario Hospital Association* (1991), 2 O.R. (3d) 641 at 651 (Ont. C.A.)

⁴³³ *Maurer v. McMaster University* (1991), 82 D.L.R. (4TH) 6 (Ont Gen Division), var'd (1995), 125 D.L.R. (4TH) 45 (C.A.).

⁴³⁴ 2009 S.C.C.30 [2009] 2 S.C.R. 678.

contribution formula and did not make the employer's contributions subject to the advice of an actuary.

Ontario Hydro⁴³⁵

The Corporation shall contribute towards the cost of the benefits...the amount of the difference between the amount of the contributions of the employees and the amount of the cost of the benefits as determined by actuarial calculations.

Trent University⁴³⁶

...the University shall deposit each year into the Fund the balance of the cost of benefits earned that year, after allowing for Members' Required Contributions.

Hockin v. Bank of British Columbia⁴³⁷

The employer shall contribute the balance of the cost required to provide benefits under the plan.

Note that the pension text in each of these cases mandated that the employer make contributions each fiscal year, thereby prohibiting contribution holidays.

3. Monsanto (2004)-S.C.C.⁴³⁸

The issue in *Monsanto Canada Inc. v. Superintendent of Financial Services* was whether or not employees affected by the partial windup of their DB plan were entitled to a pro-rata share of the actuarial surplus. The Court ruled in the affirmative.

In 1997 and 1998, Monsanto laid off 146 employees and took steps to partially wind up its pension plan. At the time of the partial wind-up, the plan contained an actuarial surplus of over \$19 million.

The pro-rata share of the surplus relating to the portion of the plan that was being wound up was

⁴³⁵ *C.U.P.E., Local 1000 v. Ontario Hydro*, above note 107 at 554 and 561-62.

⁴³⁶ *Trent University Faculty Association v. Trent University* (1997), 150 D.L.R. (4th) 1 at 5 (Ont. C. A.).

⁴³⁷ *Hockin v. Bank of British Columbia* (1995), 123 D.L.R. (4th) 538 at 555 (B.C.C.A.).

⁴³⁸ *Monsanto v. Ontario (Superintendent of Financial Services)*, [2004], 3 S.C.R. 152.

just over \$3 million. The Superintendent of Financial Services refused to approve Monsanto's partial wind up report on the basis that it did not provide for the distribution of the pro-rata portion of the surplus on the partial wind-up as required by section 70(6) of the Ontario Pension Benefits Act at that time, which provided:

70(6) On the partial wind up of a pension plan, members, former members and other persons entitled to benefits under the pension plan shall have rights and benefits that are not less than the rights and benefits they would have on a full wind up of the pension plan on the effective date of the partial wind up.

However, a majority of the Financial Services Tribunal ordered the Superintendent to approve the report. It held that section 70(6) of the Act provided no more than a right to participate in surplus distribution when (if ever) the pension plan fully winds up.

The Divisional Court overturned the Tribunal's decision and the Court of Appeal dismissed Monsanto's appeal. Monsanto then took the case to the Supreme Court of Canada. It argued that it had no obligation to distribute surplus to employees on a partial wind-up; rather, it maintained, section 70(6) merely gave affected employees a vested right to participate in any full wind-up in the future.⁴³⁹ The Supreme Court dismissed the appeal. Looking at the plain language of section 70(6), the legislative scheme and the object of the Act, the Court concluded that employees affected by a partial wind-up are entitled to their share of the surplus at the time of the partial wind up. The Court concluded:

Section 70(6) requires the distribution of a proportional share of actuarial surplus when a defined benefit pension plan is partially wound up. The ordinary and grammatical meaning of s. 70(6) indicates that the assessment of rights and benefits is to be conducted as if the pension plan was winding up in full on the effective date of partial wind-up. The realization of rights and benefits, including the distribution of surplus assets, then occurs for the part of the plan actually being wound up. Therefore, the affected members, if entitled, may receive

⁴³⁹ Steven Shrybman, *Notable Cases*, 2004. Online: < www.sgmlaw.com/en/Lawyers >.

their pro rata share of the surplus existing in the fund on a partial wind-up, as if the plan was being fully wound up on that day. The members affected by a partial wind-up are thus accorded the rights and benefits that are not less than the group would have if there were a full wind-up on the date of partial wind-up.⁴⁴⁰

In essence, the Supreme Court of Canada held that for partial wind ups, a pro rata share of any existing actuarial surplus must be distributed to terminated employees. However, the decision was not clear about whether the distribution should be in proportion to liabilities or assets.

The Monsanto decision almost certainly impacted the future funding of defined benefit pension plans because it took away employers' incentive to maintain a surplus. Consider a plan that was in surplus years ago that is in deficit position today. In the event of a partial wind-up at the time of a surplus say, 10 years ago, the sponsor would have been required to distribute some of the actuarial surplus to those former members affected by the partial wind-up, thereby reducing plan assets and increasing the level of the plan's current deficit. The Ontario PBA and federal PBSA have since retracted the distribution of surplus to employees upon partial plan wind-up.

4. Buschau (2006)-S.C.C.⁴⁴¹

The issue in the 2006 case *Buschau v. Rogers Communications Inc.* was whether or not trust law could be applied to permit members to unilaterally terminate their pension plan and take the actuarial surplus. The Court's decision was 'no.'⁴⁴²

The recent trend in the case law to apply traditional trust law principles to pension trusts without regard to the regulatory context in which such trusts were created and maintained was halted, or at

⁴⁴⁰ *Monsanto v. Ontario (Superintendent of Financial Services)*, [2004], 3 S.C.R. 152.

⁴⁴¹ [2006] 1 S.C.R. 973

⁴⁴² The Ontario Court of Appeal in *Buschau* held that allowing members to force a wind-up by any means would be contrary to the societal purposes for which pension plans exist, the scheme of the legislation governing pension plans, and the language of the plans themselves, which generally provides only the employer with the right to terminate the plan. Furthermore, under the Ontario PBA, only the employer and the Superintendent of Financial Services have the power to initiate a wind-up.

least significantly curtailed by the Supreme Court of Canada in *Buschau*. In *Buschau*, the Court specifically stated that its prior decision in *Schmidt v. Air Products Canada Ltd.*⁴⁴³ does not mean that all trust law principles are applicable to a pension trust. Rather, regard must be had to the context and purpose of pension plans, the terms of the particular plan documents and the specific legislation governing the pension plan.

McSweeney notes that the *Buschau v. Rogers Communications* case is perhaps the most notorious of the pension surplus cases in Canada, as plan members attempted to take ownership of their DB plan's actuarial surplus by invoking a very old trust law principle called the Rule in *Saunders v. Vautier*. The Rule in *Saunders v. Vautier*, from an 1841 English case, states that notwithstanding what the wishes were of the person who set up the trust, if all of the beneficiaries want to, they can vary the terms of the trust or terminate the trust, and use the trust funds as they see fit. The pension plan members in *Buschau* wanted to use this rule (after attempting to get all of the pension plan members to agree to wind up the plan) to distribute the surplus amongst themselves. McSweeney comments on the application of trust law in *Buschau*:⁴⁴⁴

While the Court of Appeal found that the members hadn't managed to obtain the necessary consents from all the plan's beneficiaries, it nevertheless held that this old trust law principle could in fact apply to modern pension trusts. The Court of Appeal was clearly uncomfortable with the idea, but felt bound by the Supreme Court's 1994 decision in *Schmidt* which, as noted above, held that pension trusts were classic trusts, and not some special kind of trust. If they are indeed classic trusts, then all trust law rules are applicable, including *Saunders v. Vautier*. Plan sponsors found this very surprising, since up until then the assumption was that plan terminations were in the control of the employer, which could decide if and when to terminate the pension plan. It was unheard of for plan members to have the unilateral right to terminate their own pension plan.

⁴⁴³ (1994) 3 C.C.P.B.1(S.C.C.) (*Schmidt*).

⁴⁴⁴ McSweeney and Rienzo, *Benefits Canada, Trust Laws and Pension Plans- An Evolution in Progress*, 2008. Online: < www.benefitscanada.com/pensions/...law/trust-law-and-pension-plans—a >.

The Supreme Court, when deciding the appeal of the Buschau decision in 2006, introduced into the pension area what many plan sponsors felt was a badly needed dose of common sense. The Supreme Court first went back to its decision in Schmidt and the seminal finding in that case that pension trusts were “true” or “classic” trusts. In Schmidt, the Court held that “when a pension fund is impressed with a trust, the trust is subject to all applicable trust law principles.” In its decision in Buschau, it added to the Schmidt decision by saying “It is thus necessary to determine which trust law principles are applicable before considering how they apply.” It is unlikely that the Supreme Court in 1994 had intended that the word “applicable” would carry so much weight. However, in Buschau it became central.

In essence, the Court held that it is necessary to look at the statutory and regulatory framework for pension plans, and not just look at them as trusts existing in a legislative void. In some instances where the statute contains rules and guidelines in a given area, trust law principles are simply not applicable and cannot be used to circumvent the statutory process. In those circumstances where pension legislation contains detailed rules regarding when a pension plan can be terminated, the Supreme Court held that the members could not apply an old trust law concept to unilaterally force a wind-up of their pension plan to access the actuarial surplus. In other words, the Court ruled that the legislation trumped the trust agreement with respect to the application of *Saunders v. Vautier*.⁴⁴⁵ Subsequent to Buschau, plan sponsors wondered whether the case signalled a trend towards more

⁴⁴⁵ Deemed trusts are another example of legislation trumping a strict interpretation of trust law. Put simply, a “deemed trust” is shorthand for a particular deeming rule, or legal fiction, imposed by legislation. It operates off the well-established legal principle that where a person holds property in trust, that property will be excluded from the person’s estate in the event of bankruptcy, so that the trust beneficiary can claim such property ahead of the person’s creditors. This principle is sound enough when applied to actual property which is being held in a true trust separate and apart from the trustee’s own property. But beginning around the 1970s, Canadian federal and provincial legislators decided it might be a good idea to extend this principle—and thus the protection it would afford to particular parties in the event of default—by treating certain amounts as if they were held in trust under statutes governing everything from tax collection to travel agents, notwithstanding that no assets had in fact been put aside and that no trust had in fact been created.

In particular, virtually every pension reform statute of the late 1980s and early 1990s created a deemed trust over specified categories of contributions which were not remitted to pension funds. The thinking was that current and retired employees of an employer which failed to remit contributions to its pension fund within the required statutory deadline should stand first in line with regard to such “missed” contributions. (Gary Nacshen, Benefits Canada, *Demystifying the Deemed Trust*, 2009. Online: < www.benefitscanada.com/...law/demystifying-the-deemed-trust >.)

practical and common-sense interpretations on actuarial surplus, or whether the case was simply an anomaly.⁴⁴⁶

5. Kerry (2009)⁴⁴⁷-S.C.C.

The issues in *Nolan v. Kerry* were whether or not a sponsor could use actuarial surplus to pay the plan's administration expenses and also, whether or not the Ontario food products company violated trust law when it moved surplus cash from its DB plan (closed to new employees) to a new DC plan (opened for new employees)? The Court ruled "yes" and "no" respectively.

The Kerry case involved a DB plan established in the 1950s funded through a trust. The plan was amended in the 1970s to permit plan expenses to be paid from the fund, and again in 2000 to introduce a DC component for new employees, using the DB surplus to fund DC contribution holidays. The plan members complained about the payment of expenses from the trust and also about the employer taking of contribution holidays in the new DC plan using the old DB plan's funds. On appeal from the Financial Services Tribunal, the case made its way to the Ontario Divisional Court.

The Divisional Court made some rather startling findings, again on the basis that the pension trust was a classic trust established generally for the benefit of the plan members. It held that in creating a new DC component in the plan, the sponsor created two pension plans, with two pension funds and two classes of members. It also held that because the historical trust language in the DB component said that funds must be used for the "exclusive benefit" of members, the employer could not use it for any other groups, including the members in the DC component. In other words,

⁴⁴⁶ *Ibid.*

⁴⁴⁷ 2009 S.C.C.30 [2009] 2 S.C.R. 678.

adding a new DC component to a an old DB pension plan and treating the pension fund as a single fund was rejected by the court on the basis that only the originally defined group of trust beneficiaries could benefit from the DB actuarial surplus.⁴⁴⁸

The sponsors appealed the decision to the Ontario Court of Appeal which held that an employer could stop paying pension plan expenses in the DC plan and take the money from the original DB if the plan text itself did not specifically forbid it. The Court also ruled that Kerry would not have to refund any money it took from the DB fund to pay for contribution holidays taken in the DC plan. The Supreme Court of Canada agreed, saying there was nothing in the plan preventing the company from transferring funds from one part of the plan to the other. The Court cited the leading case of *Schmidt v. Air Products*, which held that an employer may take contribution holidays if permitted by the terms of the plan. In the event that the plan is silent on the issue, the right to take a contribution holiday is not objectionable so long as actuaries continue to accept the application of existing surplus to current service costs as a standard practice.

The Court continued that nothing prevented the Company from taking a contribution holiday where the actuary certified that no further contributions were necessary to provide the required retirement income to members. It also stated that the creation of two different pension components (i.e., a DB and a DC component) does not necessarily result in two distinct pension plans and trusts. In addition, where surplus in the DB portion is used to fund DC contributions under the same trust, there is no violation of the “exclusive benefit for employees” trust provision, providing that it is not otherwise prohibited by the plan and trust documents.⁴⁴⁹ Justice Rothstein ruled that “the plan documents do not preclude combining the two components in one plan and nothing in these

⁴⁴⁸ National Union of Public and General Employees, *Pension Ruling a Big Blow from Canada’s Top Court*, 2009. Online: < www.nupge.ca/content/2479/pension-ruling-big-blow-canadas-top-court >.

⁴⁴⁹ Sonya Felix and Jana Steele, *7 Cases that Helped Shape the Industry*, Benefits Canada, 2011. Online: < www.benefitscanada.com/pensions/.../how-law-has-shaped-the-pension-a...>.

documents or trust law prevents the use of the actuarial surplus for the contribution holidays.” The Supreme Court of Canada’s decision also stated Kerry was not obligated to pay pension expenses out of pocket because those expenses were incurred for the benefit of pension plan members. The Court held:

The payment of plan expenses is necessary to ensure the plan's continued integrity and existence, and the existence of the plan is a benefit to the employees. It is therefore to the exclusive benefit of the employees that expenses for the continued existence of the plan are paid out of the fund.

6.Burke (2010)-S.C.C.⁴⁵⁰

The issue in *Burke v. Hudson’s Bay Company* was whether or not transferred employees had access to the surplus in their original DB plan when a successor plan was established for them in their new company. The Court ruled “no.”

The 2005 lower court decision in *Burke v. Hudson’s Bay Company* followed in the same vein as the earlier pension surplus cases relying on the characterization of pension trusts as classic trusts in *Schmidt*, meaning all trust rules were applicable.

In 1987 the Hudson’s Bay Company (HBC) sold its Northern Stores Division to the North West Company. The HBC pension plan was in surplus at the time. Employees who were transferred to the new company had their accrued pension benefits and assets of equal value transferred into their new employer’s pension plan. However, no surplus was transferred into the new plan. The transferred members sued, claiming that their share of the surplus should have been transferred into their new pension plan.

⁴⁵⁰ [2010] 2 S.C.R. 273.

The basis for the members' claim was that from time to time HBC had improved benefits for pensioners, using the surplus in its pension plan. Transferring members to the buyer's pension plan without their share of the surplus, they argued, meant that their share of the surplus would ultimately be used to improve other members' benefits in the original plan, rather than their own benefits. In order to understand why this case caused plan sponsors such concern, it is very important to note the following facts:⁴⁵¹

1. The affected members conceded that HBC had no contractual obligation to make future benefit improvements for pensioners.
2. The court held that HBC had the legal right to use surplus in its pension plan to pay administrative expenses and to take contribution holidays. That is, it could simply have used the entire surplus and members would have had no recourse.
3. The amount of assets transferred by HBC into the buyer's pension plan was negotiated at "arms" length and permitted by pension statute. There was no legal requirement to transfer any surplus.

The lower court held that "the employees had some expectation that improvements would be made" to their pensions and that they had been deprived of "the possibility of improvement to the new plan." In short, the failure to transfer surplus "represented a breach of trust on the part of HBC." Therefore, relying on the fact that the HBC pension trust was a "classic trust," the court held that a mere expectation had to be protected, and ordered that surplus be transferred out of the HBC plan into the buyer's plan.⁴⁵²

⁴⁵¹ Ian McSweeney and Douglas Rienzo, *Trust Law and Pension Plans: Part 2*, Benefits Canada, 2008. Online: < www.benefitscanada.com/...law/trust-law-and-pension-plans-part-ii-2456 >.

⁴⁵² Note that the Long-awaited amendments to the Ontario Pension Benefits Act ("PBA") regarding the transfer of assets between pension plans became effective on January 1, 2014. New supporting Regulations under the PBA[1] (the "Asset Transfer Regulations") also came into force on January 1, 2014 mandating that if the original plan has a surplus as of the effective date of transfer, the amount of assets to be transferred must include a portion of the surplus determined in accordance with the Asset Transfer

However, in 2008 the Ontario Court of Appeal overturned the lower court's decision. The first important finding of the Court of Appeal was that the expectation of certain beneficiaries is not a "legitimate basis for creating legal rights and obligations at odds with the provisions of the plan documentation." This is a common-sense result based on the fact that HBC had a duty to ensure that the transferred employees' defined benefits were adequately funded, not that an actuarial surplus be funded. In other words, HBC's fiduciary duties as plan administrator did not obligate it under the duty of even-handedness⁴⁵³ to confer benefits upon a class of employees who had no rights under the Plan. The Court ruled that neither the retained nor the transferred employees had an equitable interest in the ongoing plan's actuarial plan surplus. Waters comments on the application of the duty of even-handedness in Burke:⁴⁵⁴

The duty of even-handedness must be anchored in the terms of the pension plan documentation. It does not operate in a vacuum. The duty of even-handedness requires that where there are two or more classes of beneficiaries, each class receives exactly what the terms of the documentation confer. In its role as pension plan administrator, HBC was a fiduciary and had fiduciary obligations. However, just because HBC has fiduciary duties as plan administrator does not obligate it under any purported duty of even-handedness to confer benefits upon one class of employees to which they have no right under the plan. It was the obligation of HBC to carry out the terms of the pension plan documents and to ensure that in the administration of the plan they do not give an advantage or impose a burden when that advantage or burden is not found in the terms of the plan documents. Neither the **retained nor the transferred** employees had an equitable interest in the plan surplus. Accordingly there is no duty of even-handedness applicable to the surplus. HBC's legal obligations with respect to its employees, including the fiduciary duties that it owed to

Regulations. In other words, Section 80 of the Ontario PBA legislation (mandating the transfer of DB pension surplus to the transferred employees' new DB plan) trumps the Supreme Court of Canada's 2010 decision in Burke.

⁴⁵³There are four fundamental duties of a trustee that inform all aspects of trust management and administration, including the investment of trust property. They include the duty of loyalty, duty of care, duty not to delegate and the duty of even-handedness. Under the duty of even-handedness, each beneficiary is to receive exactly what they are entitled to, no more and no less. No beneficiary receives preferential treatment. Pursuant to this rule, when investing trust property, the trustee must always strive for impartiality between the conflicting interests of income and capital beneficiaries. (Elaine Blades, *The Quintessential Fiduciary*, 2011. Online: < www.advisor.ca/tax/estate-planning/the-quintessential-fiduciary-64189 >.

⁴⁵⁴ 43rd Annual Employees Benefits Concert, Legislative Developments and the Top 20 Cases of 2009-2010 at 8, 2010.

the transferred employees, were satisfied by protecting their defined benefits. Based on the plan documentation, HBC did not have a fiduciary obligation to transfer a portion of the actuarial surplus (Waters at p. 966).

Professor Ron Davis notes that although recognizing the interests of employees in receiving the full benefit of past contributions, the courts have held that the retention of control by the employer over prospective benefit design and the utilization of surplus assets to fund benefits in ongoing plans does not involve a trespass on the reasonable expectations of plan members in a defined benefit pension plan and recognizes legitimate employer interests in controlling its costs and utilizing the plan as a human resource asset for all of its employees.⁴⁵⁵

McSweeney notes that the application of even handedness is itself rooted in traditional trust law concepts, it is a departure from the lower court's reasoning which, according to the Court of Appeal, seemed to be rooted more in "basic notions of fairness" than in any firm legal concept. The Court addressed the lower court's "fairness" concern that failing to transfer surplus would benefit only the members retained in the original plan, holding that since there was no termination of the pension plan, and thus no "crystallization" of surplus, the "actuarial" surplus was properly retained in the original plan to be accessed for improvement of benefits or contribution holidays. The transferred employees had benefited equally from the surplus up to the date of the transfer.

The Supreme Court of Canada upheld the Ontario Court of Appeal's decision regarding the transfer of surplus. It held that it was necessary to examine all previous and current HBC plan documents (as per Schmidt) to determine whether the transferred employees had an "equitable interest" in the plan's surplus. Noting that the "exclusive benefit" language in the HBC trust agreement was restricted to "promised" benefits and did not give employees entitlement to surplus, the Supreme Court of Canada concluded that no such equitable interest in surplus existed. The SCC made it clear

⁴⁵⁵ *Supra*, see note 412.

that its decision was *specific to the wording and context of the HBC pension plan documents*, which did not grant a specific right to surplus to plan members. However, it is noteworthy that on the issue of whether a transfer of surplus is required when the plan language entitles employees to surplus, the court stated “that is best left to another case in which the issue arises.”⁴⁵⁶

In particular, Justice Rothstein rejected the affected employees’ argument that HBC had a duty to “hold an even hand” between transferring and non-transferring employees in its allocation and use of surplus. He noted that such duty is fiduciary in nature, and while HBC has a fiduciary duty in its role as plan administrator, that role required only that the company protect the members’ defined benefits. Its actions in regard to surplus were held not to be fiduciary in nature, and therefore not to be subject to the duty of even-handedness. Gary Nachsen of Benefits Canada comments:

This analysis reflects the well-known “two hats” doctrine of pension law, even if it does not expressly use that terminology. That is, the same corporation may act administrator of a pension plan for certain purposes and will be considered as a fiduciary for those purposes, while it may act as sponsoring employer for other purposes and it will not be considered as a fiduciary for those other purposes. It would appear that the Supreme Court has implicitly blessed the two hats doctrine and, in doing so, has offered some novel thoughts on how that doctrine should be applied.⁴⁵⁷

7. Sutherland (2011) ONCA⁴⁵⁸

The issue in *Sutherland v. Hudson’s Bay Co.* was whether or not surplus funds from the original Simpson’s DB plan could be used to pay for employer contributions to the defined contribution

⁴⁵⁶ National Union of Public and General Employees, *Pensions and Retirement Security*, 2010.

⁴⁵⁷ Gary Nachsen, *Supreme Court Upholds HBC Pension Ruling*, Benefits Canada, 2010. Online: <www.benefitscanada.com/pensions/.../supreme-court-upholds-hbc-pensio.>.

⁴⁵⁸ 2011 ONCA 606.

pensions of Zellers and Kmart employees (subsidiaries of HBC, the company which had taken over the ownership of Simpsons). The Ontario Court of Appeal's answer was "no."⁴⁵⁹

In 1971 Simpsons Ltd. established a defined benefit pension plan for its employees. In 1994 and 1998, HBC, as the successor to Simpsons under the pension plan, amended the plan by adding a defined contribution section to the plan and introduced employees of its wholly owned subsidiaries (Zellers and Kmart) to the plan, which was also renamed. Between January 1, 1994, and December 31, 2006, approximately \$111 million of surplus assets in the HBC plan was applied to pay employer annual defined contribution costs for Zellers and Kmart employees. Simpson's retirees who were members of the Simpsons pension plan (the plaintiffs) commenced a class action against HBC, alleging, inter alia, that HBC improperly used surplus funds that had accrued in the trust fund for the Simpsons pension plan to pay for the employer contributions to the defined contribution pensions of Zellers and Kmart employees.⁴⁶⁰

In 2011 the majority of the Court of Appeal held that Plan members were entitled to plan surplus assets based on principles from the 1994 decision of the Supreme Court of Canada in *Schmidt v. Air Products of Canada Ltd.* The language of the original trust agreement and the Plan text, including "exclusive benefit" language, demonstrated the intention to establish a trust for the benefit of the members, including the surplus. However, the plan text said that HBC could amend the Plan, meaning it had the power to revoke the trust. The Court ruled that the original trust

⁴⁵⁹On May 17, 2012, the Supreme Court of Canada denied leave to appeal from the Ontario Court of Appeal's decision in *Sutherland v. Hudson's Bay Company*. The Court of Appeal's decision re-affirmed the principles for determining rights to surplus on pension plan termination.

⁴⁶⁰ Gillese, MacFarland and Rouleau, J.J.A. Ontario Court of Appeal, 2011. *Online*: < www.files.slaw.ca/cases/Sutherland >.

agreement, not the Plan text, “trumped.” Level Chan of Stewart McKelvey Lawyers commented on the Sutherland case:

The Court distinguished the Supreme Court of Canada’s decision in *Burke v. Hudson’s Bay Co.*, although the language in the Plan text was similar. The Supreme Court found in *Burke* that employees who were transferred when HBC sold its Northern Stores division did not have an interest in the surplus while the Plan was ongoing. HBC was therefore not required to transfer any share of the surplus when the employees were transferred. The Court of Appeal in *Sutherland* distinguished the language in the different plan documents. The original plan documentation in *Burke* limited members’ entitlements to the promised pension benefits and therefore excluded entitlement to surplus assets. There was no “exclusive benefit” language in the originating documents, unlike the *Simpsons Plan*.

The Supreme Court of Canada’s decision re-affirms the principles from *Schmidt*, and the application of trust principles to pension plans. The same principles were applied by the Nova Scotia Court of Appeal in *Smith v. Michelin North America (Canada) Inc.* The Supreme Court’s decisions in *Burke* and *Buschau v. Rogers Communications Inc.* suggested a more flexible application of trust law principles to pension plans and recognized the interests of employers and plan sponsors in pension plans. In denying leave to appeal, the Supreme Court has therefore confirmed the same framework from *Schmidt* continues to apply and that the differences with its decision in *Burke* are the result of key differences in the language of plan documents. The cases re-affirm the importance of carefully considering plan language and the history of how that language has changed to determine plan member entitlements.⁴⁶¹

Since the *Dominion Stores* case (*Collins and Pension Commissioner of Ontario-ONCA*) in 1986, wherein Conrad Black absconded his company’s pension surplus of 50 million dollars, the Supreme Court of Canada has implemented a policy of protecting DB plan surpluses (in ongoing plans) from being removed by both employers and employees. The S.C.C.’s policy began in 1994 in *Schmidt* (surpluses generally belong to employees on plan termination and are subject to all trust principles; however, employers using actuarial surplus to fund ongoing plans is not a revocation of the trust).

⁴⁶¹ Level Chan, *Stewart McKelvey Lawyers*, *Sutherland-A Tale of Two Agreements*, Pension Surplus 2012. Online: < www.stewartmckelveyblogs.com/.../pension-surplus-sutherland >.

The courts have been consistent in implementing pension surplus policy since Schmidt, from Buschau (statute trumps trust law) to Kerry (surplus can be transferred by employer from original DB plan to a new DC component of the same plan) to Burke (transferred employees have no access to surplus) to Sutherland (S.C.C. agreed with ONCA that all surplus remains in the original members' DB plan). It is clear that the Supreme Court of Canada and the Ontario Court of Appeal have applied trust law, legislation and plan text based on the circumstances of each case in order to protect actuarial surpluses. I argue, therefore, that the decisions in Burke (plan text trumps law of trusts) and Sutherland (law of trusts trumps plan text) are not so much the result of "key differences in the language of plan documents" as Chan suggests, but rather, the result of the Supreme Court's application of trust law, legislation and plan text (based on the circumstances of each case) to implement its policy of protecting actuarial surpluses for use in DB plan funding.

8. Manitoba Telecom (2014) (SCC)⁴⁶²

The issue at hand in Telecommunications Employees Association of Manitoba Inc. v. Manitoba Telecom Services Inc. was whether or not Manitoba Telecom company's employees were entitled to their public DB plan's "actuarial surplus" when it was transferred into a private plan (note that "surplus" only exists when a plan is wound up). The Supreme Court of Canada's answer was "yes".

Crown MTS was privatized in 1997, resulting in approximately 7,000 employees and retirees of Crown MTS and its subsidiaries having their assets and pension rights transferred to a new pension plan. The plan members' initial contribution to the new fund was an "actuarial surplus" of \$43 million dollars (i.e. an amount transferred from the old plan solely attributable to the members) on the implementation date of the new plan. This contribution was not matched by MTS. Rather, MTS

⁴⁶² 2014 [SCC 11].

used the Initial Surplus to take contribution holidays, reducing its contributions to the new plan. In other words, only MTS benefitted from the actuarial surplus.

In the old plan the government as employer did not contribute to the plan fund. Rather, the government paid its share of the benefits on a “pay-as-you-go” basis, meaning that instead of matching employee contributions at the time they were paid into the pension fund, the government instead paid half of the benefits owed to retirees at the time they became due. The effect of this arrangement was that the Old Plan’s pension fund, referred to as the Civil Service Superannuation Fund (“CSSF”), contained only employee contributions and “interest” based on the returns on the fund’s assets. Those funds were used to pay for 50 percent of the plan’s liabilities to its plan members, with the other 50 percent being paid for by the government on an ongoing basis.⁴⁶³

During the privatization process, the Plan Members received several assurances from Crown MTS and the government that any surplus that existed in the old plan would not be used to reduce MTS’ costs of and share of contributions in the new pension plan. Pursuant to the statute that governed the privatization of Crown MTS, the *Manitoba Telephone System Reorganization and Consequential Amendments Act* (the “*Reorganization Act*”), all of the old plan’s assets attributable to the plan members, including the actuarial surplus were transferred to the new pension plan. Section 15(2)(a) of the *Reorganization Act* states that MTS is required to establish “a new plan which shall provide for benefits which on the implementation date are equivalent in value to the pension benefits to which employees have or may be entitled to under [the old plan].”

⁴⁶³ 47th Annual Employee Benefits Conference, Legislative Developments and the Top 20 Cases of 2013-14. Online: < www.kmlaw.ca/upload/PENPUB_IF_1314.pdf >.

The Supreme Court considered a number of cases in which the applicable legislation and plan texts do not give plan members the right to an actuarial surplus in a typical defined benefit pension plan (see Buschau, Kerry above). However, the Court noted that entitlement to an actuarial surplus must always be decided based on the governing legislation and that in this case the governing legislation led to a different conclusion regarding the treatment of the actuarial surplus. In Manitoba Telecom the applicable legislation required the establishment of a new plan providing benefits on its implementation date, equivalent in value to the benefits provided under the prior plan. In other words, the actuarial surplus that existed at the time of the transfer of assets from the prior plan must be taken into account when determining whether the new plan fulfilled this requirement.

The Supreme Court of Canada reinstated the 2010 order of the Manitoba Court of Queen's Bench that the Initial Surplus plus interest (140 million dollars) be used to enhance members' pension benefits and that the parties negotiate the related implementation process. Justice Rothstein stated:

The New Plan can only be held to comply with the requirements of s. 15(2)(a) if the Initial Surplus is used for the exclusive benefit of the plan members, or if plan members received some other compensatory benefits of equivalent value. Therefore, the outcome of the privatization of Crown MTS is found to violate section 15(2)(a) of the *Reorganization Act*.⁴⁶⁴

In other words, the Supreme Court of Canada held that the applicable legislation trumped the application of trust law.

B. Amendments to the Federal Income Tax Act (ITA), the Ontario PBA and the Federal PBSA Regulations on Surplus

Regulatory amendments to the Federal Income Tax Act (ITA), the Ontario PBA and the Federal PBSA on Surplus were introduced from 2010 to 2012. These amendments allowed employers to maintain larger surpluses in their DB plans. However, as discussed above, the real underfunding

⁴⁶⁴ Supra, See note 462 at para. 80.

problem is not related to the amount of surplus, but rather, inability of employers to access surplus. Consequently, these amendments did virtually nothing to alleviate the underfunding problem. See Appendix 6 on page 299 for details.

Section 3-Pension Surplus Policy in Canada

Schmidt implemented the policy that pension trusts as classic trusts, imposing severe restrictions on removing surplus from ongoing plans. In *Buschau*, the Supreme Court of Canada (SCC) further developed the policy established in *Schmidt* that pension plans funded pursuant to trust agreements are classic trusts and, as such, are subject to all common law trust principles. The Court in *Buschau* recognized that DB pension plans are regulated by a unique set of legal principles in federal and provincial jurisdictions that cannot and should not automatically be overridden by traditional common law trust principles. Accordingly, the SCC ruled that plan members could not use trust principles to effect the termination of the pension trust to access actuarial surplus and that the legislative scheme established the appropriate process for dealing with this issue.⁴⁶⁵ The Supreme Court of Canada in *Buschau* held that its prior decision in *Schmidt v. Air Products Canada Ltd.*⁴⁶⁶ did not mean that all trust law principles were applicable to a pension trust. Rather, it ruled that regard must be also be had to the context and purpose of pension plans, the terms of the particular plan documents and the specific legislation governing the pension plan. Pension surplus policy in Canada is summarized below:

1. **Collins (1986)**-Employer cannot access actuarial surplus without surplus sharing agreement with employees.
2. **Schmidt (1994)**-Pension trusts are classic trusts and therefore employees own the surplus upon wind-up unless the pension plan text says otherwise.

⁴⁶⁵ Becky West, *Buschau Policy*, Benefits Canada, 2006. Online: < www.benefitscanada.com/news/the-law-the-right-direction-8394 >.

⁴⁶⁶ (1994) 3 C.C.P.B.1 (S.C.C.) (*Schmidt*).

3. **Monsanto (2004)**-A pro-rata share of actuarial surplus must be distributed to employees on partial wind-up (Trumped in 2012 by Ontario PBA legislation).
4. **Buschau (2006)**-Plan members cannot effect termination of a pension trust using general trust principles in order to access actuarial surplus (i.e. plans are not simply trusts existing in a legislative void-statutory and regulatory frameworks must both be considered to access actuarial surplus). **LEGISLATION TRUMPS LAW OF TRUSTS**
5. **Kerry (2009)** - Nothing in trust law prevents sponsors from taking contribution holidays or paying expenses using actuarial surplus, even if the plan has both DB and DC components.
6. **Burke (2010)**-As per the trust agreement, transferred employees have no access to actuarial surplus (i.e. plan documentation can displace classic trust principles). **PLAN TEXT TRUMPS LAW OF TRUSTS**
7. **Sutherland (2011)** - Plan assets were impressed with a trust in favour of the plan members, and therefore they were entitled to any surplus assets. **LAW OF TRUSTS TRUMPS PLAN TEXT**
8. **Manitoba Telecom (2014)** – Plan members are entitled to actuarial surplus if mandated by legislation. **LEGISLATION TRUMPS LAW OF TRUSTS**

Actuarial Surplus Policy Recommendations

The Canadian Institute of Actuaries (CIA) has recommended the creation of pension security trusts (PSTs). Under its proposal, these trusts would only be funded by employers and would be separate from regular defined benefit pension funds. Any additional contributions over and above those arising from going concern valuations would be placed in a PST, including any amounts required to fund solvency deficiencies. Funds in the PST would be released back to the employer if actuarial solvency valuations showed that any excess amounts were no longer needed. Amounts contributed to the PST would be tax deductible, while amounts released back would be taxable.⁴⁶⁷

Steve Bonnar proposes taking this idea a step further by only allowing sponsors access to actuarial surplus in excess of an established margin that would vary in accordance with the asset/liability mismatch of their DB plan's investment policy. At one extreme, that of a fully immunized investment policy, the funding target would be 100% of the solvency liability. For a typical asset mix, the funding target might be 110% of the solvency liability. In the case of an extremely

⁴⁶⁷ Canadian Institute of Actuaries, Pension Security Trusts, 2010. Online:<
www.parl.gc.ca/.../411_FINA_PBC2011_Briefs%5CCanadian%20Institut >.

aggressive asset mix, the funding target might approach 125% of the solvency liability. These are meant to be examples only, but should reasonably represent the expected range of margins that might be appropriate. This type of surplus regime would promote more stable funding policies by giving sponsors incentives to better fund DB plans beyond minimum levels.⁴⁶⁸

Conclusion

Chapter 6 examined the impact of the governance of surplus on actuarial underfunding, concluding that courts' surplus policy (from the Dominion Stores case in 1986 to Manitoba Telecom in 2014) has restricted employers' access to surplus, inadvertently promoting underfunding and insolvencies.

Professor Ron Davis notes that the exercise of an actuary's professional judgment and discretion is the first source of insolvency risk for a pension plan's members. Therefore, unless the actuary uses conservative assumptions, the plan members face the risk that minute variations in actual experience will require large unexpected contributions from the plan sponsor and either the plan sponsor will not be able to make them due to its insolvent status, or the size of the payments will drive the plan sponsor into insolvency proceedings. In short, by giving employers very limited access to surplus while making them wholly responsible for deficits (Schmidt), actuaries (as agents of employers) are often pressured by employers to project higher than market estimates of investment returns (thereby reducing plan contributions and surpluses).⁴⁶⁹ In other words, the Supreme Court of Canada's application of trust law to DB plan surpluses (Schmidt) has

⁴⁶⁸ Steve Bonnar, *New Idea for Funding DB Pension Plans*, Benefits Canada, 2008. Online: < www.benefitscanada.com/pensions/db/a-new-idea-for-funding-db-pension >.

⁴⁶⁹ Why would a company contribute more than the minimum amount to its DB plan if it is known that later, as markets recover and grow, any resulting excess above that needed to secure the pension promise cannot be removed re: Schmidt? In fact, surplus was even awarded to departing employees following partial wind ups (based on the Monsanto decision). In short, any contributions above the minimum are likely to be regarded as "trapped capital" by employers. (Note that Monsanto was trumped by legislation in Ontario, disallowing employee's access to surplus upon partial wind-up).

compromised the role of the actuary to make objective funding estimates. The Canadian Institute of Actuaries states:⁴⁷⁰

Objectivity is the ability to work without regard to any personal considerations and without regard to any influence from, interest in or relationship with another party, such as a client or employer, which would affect one's professional judgment. There will always be an actual or perceived challenge to an actuary's objectivity where a client represents a significant percentage of the actuary's firm's business, or the actuary's firm wishes to expand its business with the client, since the actuary and the firm have a self-interest in preserving and increasing the revenue derived from the client. That challenge may be even more difficult to manage where the firm provides multiple services to the client. Nonetheless, the actuary must manage the challenge.

The obvious remedy to this conflict of interest position is to mandate that a third party (such as an independent external actuarial oversight board) mandate that pension regulators appoint and pay (through fees levied on employers) DB valuation actuaries. This would give plan members assurance that their plans' funding valuations would be more objective and reliable. However, implementing such a policy would almost certainly increase employers' funding requirements, making DB plans unaffordable for many sponsors in these times of low investment returns.

Another possible legal remedy would be to allow sponsors access to actuarial surplus in excess of an established margin (determined by an independent external actuarial oversight board) that would vary in accordance with the asset/liability mismatch of their DB plan's investment policy. At one extreme (that of a fully immunized investment policy) the funding target would be 100% of the solvency liability. For a typical asset mix, the funding target might be 110% of the solvency liability. In the case of an extremely aggressive asset mix, the funding target might approach 125% of the solvency liability. These funding targets are only meant to be examples, but should reasonably represent a range of appropriate margins. This type of surplus regime would

⁴⁷⁰ Task Force on the Role of the Pension Actuary, Discussion Report on the Role of the Pension Actuary and Challenges to Professional Integrity, Canadian Institute of Actuaries, 2005. Online: < www.cia-ica.ca/docs/default-source/2005/205019e.pdf?sfvrsn=0 >.

undoubtedly promote more stable funding policies, providing DB pension sponsors with more incentive to fund their plans beyond minimum levels.

No issue in recent history has been more divisive and polarized in the governance of defined benefit pension plan funding than surplus. Surplus issues will almost certainly continue to dominate the DB pension funding landscape in Canada as long as the policy of asymmetry continues to give employers very limited access to actuarial surplus while making them wholly responsible for deficits.

CHAPTER 7

TARGET BENEFIT PLANS

Overview

Chapter 6 examined the impact of the governance of surplus on actuarial underfunding, concluding that courts' surplus policy (from the Dominion Stores case in 1986 to Manitoba Telecom in 2014) has restricted employers' access to surplus, inadvertently promoting underfunding and insolvency. Chapter 7 discusses the merits of "target benefit plans" (TBPs) as a legal remedy to underfunding.

TBPs can be an attractive legal remedy to both members and employers. Members receive many of the same benefits as if they had participated in a traditional DB plan, including pooling of investment and longevity risk, but the employer no longer bears all of the funding risks associated with DB benefits (this funding risk is seen as a key motivating force behind the decline in DB plans in the private sector). The actuarial valuation of a TBP determines the ability to fund promised benefits, with no concept of actuarial "deficit" or "surplus" as at the valuation date. In other words, funding is fixed and benefits vary based on the trigger points identified in the benefit/funding policy including:

1. Benefit/funding test conducted by actuaries on a regular cycle and incorporating a projection valuation.
2. Sensitivity and/or stochastic testing conducted by actuaries to estimate the probability that the plan benefits are sustainable.
3. A moderate approach when setting reserve levels, to minimize the probability of benefit cutbacks. The ideal would be to achieve a wide range where the target benefit level would be maintained.
4. Benefit affordability testing must be highly sensitive to member equity. This would include past versus future benefits, application of benefit reductions and improvements, and reserving levels that strike the balance between being conservative without being unduly risk averse.

It is important to note that target benefit plans are not being proposed as a panacea to replace fully funded single employer defined benefit pension plans already meeting sponsors' and members' retirement goals. However, TBPs do offer both funding and benefit certainty in the wake of underfunded and/or underperforming DB pension promises.

A. The Failed Promise of the Classic Single Employer Defined Benefit Plan

Actuary Malcolm Hamilton of the C.D. Howe Institute argues that although legislation, regulation, plan design and poor governance are often cited as important contributors to the decline of defined benefit plans, they are not the root causes. He argues that as important as it is to improve in these areas, no amount of improvement will return the DB plan to the position of prominence it once enjoyed or cause the next generation of companies to establish new DB plans:⁴⁷¹

The goal was to deliver safe, adequate, affordable pensions—to insulate plan members from risk in an uncertain world. This was to be accomplished by investing DB pension funds in securities that while risky and volatile in the short term, were thought to generate high, reliable returns in the long run. The argument for DB plans is similar to the case for investing retirement savings in common stock, as articulated in Jeremy Siegel's 1994 classic book, *Stocks for the Long Run*. Over long periods of time (25 years or longer), equities will usually outperform safe investments such as bonds, treasury bills and GICs. Those with long investment horizons can turn this to their advantage by investing heavily in equities and patiently waiting for the superior returns to materialize. However, as individual retirement savers grow old and retire, their investment horizons contract and their ability to bear risk diminishes. Thus, while it makes sense for young investors to emphasize equities in their retirement portfolios, they are well advised to de-risk as they age.

The DB experiment failed because the economic foundation on which it was built proved faulty. The concept, while plausible, did not work as advertised. It did not work because equities can, in unusual circumstances, underperform safe investments for decades. It did not work because, in the private sector, neither pension plans nor their sponsors can be relied on to continue perpetually as going concerns. It did not work because shareholders, aided by investment analysts and accountants, came to realize that the pension risks they

⁴⁷¹ Malcolm Hamilton, *Is There a Future for DB: Part 1?* Benefits Canada, 2011. Online: < www.benefitscanada.com/.../db/is-there-a-future-for-db-part-1-15402 >.

were bearing without compensation were real, large and expensive. Most importantly, it did not work because DB plans, even plans that continue perpetually as going concerns, are not forever young. They, and the organizations that sponsor them, do not grow old in the same manner as people do, but they age nonetheless. The symptoms of pension plan aging are well known to those who have experienced them. The pension fund grows large relative to payrolls and corporate profits. The ratio of retired to active members increases, first to 0.5, then, for some plans, to more than 1.0. The proportion of the pension fund held for those who are at or near retirement moves well past 50%. The operating cash flow (the excess of contributions over benefit payments) becomes decidedly negative (i.e., the pension plan pays \$2 or \$3 in benefits for each \$1 of regular contribution). The process is gradual but irreversible and, as it proceeds, DB plans become less able to tolerate and bear investment risk.

Hamilton's point on the symptoms of aging is illustrated in the Ontario Teacher's Plan (OTP), the largest DB plan in Ontario with \$140 billion in assets. A 1970s actuarial report predicted that OTP's members would live an average of 20 years after retirement. However, OTP retirees are now living an average of 32 years post- retirement, resulting in their numbers (129,000) rapidly catching up to the number of active members (182,000).⁴⁷²

B. What Exactly Are Target Benefit Plans?

Barry Gros of Aon Hewitt⁴⁷³ notes that target benefit (TB) plans are not simply the "flavour of the day." Rather, they are one viable alternative for mitigating pension plan risk—and mitigating risk is crucial to providing sustainable retirement income. Further, he states that the TB concept follows the same principles as those required to effectively manage any pension arrangement on a sustainable basis. In other word, a sustainable pension plan is one that can consistently deliver, both in favourable and adverse circumstances, an appropriate range of benefits within an acceptable

⁴⁷² Alan Freeman, *The Coming War Over Retirement*, Sage Magazine, 2015. Online: < www.pensioncoalitionnb.ca/.../610-feature-article-on-pensions-article-sur>.

⁴⁷³ Aon Hewitt is the leading global provider of risk management, insurance and reinsurance brokerage, and human resources solutions and outsourcing services. Through its more than 66,000 colleagues worldwide, Aon unites to empower results for clients in over 120 countries via innovative and effective risk and people solutions and through industry-leading global resources and technical expertise.(Online: < www.aon.com/human-capital-consulting >.)

range of costs over the long term. The whole point of sustainability is to avoid severe corrections to contributions and benefits. Gros discusses the advantages of TB plans over traditional DB plans:⁴⁷⁴

The TB approach involves fixed contributions, or a fixed range of contributions, similar to a DC plan, which are not expected to vary over time. Benefits are then based on what the plan is projected to be able to afford. In this way, contributions and benefits are directly linked in a way that doesn't currently exist in traditional DB and DC plans. Furthermore, TB plans never have a deficit per se as the plan liabilities can never exceed the plan assets. Any identifiable surpluses not used to improve benefits are treated as reserves, providing a buffer against future adverse experience. No excess assets would ever revert back to the plan sponsors as their commitment to the plan is the fixed funding rate; once contributions have been made, the sponsors no longer have any direct interest in the plan fund. Key elements of a TB plan include:

1. Fixed employer and/or member contributions. These fixed contributions can also exist within an acceptable, narrow predefined range.
2. Target DB plan formula, but without the same degree of risk. This means less emphasis on (1) options where members can select against the plan, as with traditional subsidized early retirement or spousal benefits and (2) benefits that are both hard to cost and have greater volatility, such as indexing. The promise can also be constructed as a minimum guaranteed benefit and a target benefit that will be delivered if the plan can afford it.
3. Margins built into the costing of the benefit options used in setting and testing the sustainability of benefit levels.
4. Benefit variability based on affordability with pre-set reserve levels and a predetermined order of benefit adjustments (both improvements and cutbacks).
5. Full integration of benefit, funding and investment policies.

In short, target benefit (TB) pension plans are a type of hybrid plan containing both DB and DC characteristics. However, traditional hybrid plans in Canada consist of two separate DB and DC plans, whereas the target benefit approach leverages the best aspects of DB and DC plans. TB plans have fixed contributions, a targeted defined benefit level, and a benefits/funding policy that prescribes the methods for varying benefits based on affordability, with pre-set reserve levels and a

⁴⁷⁴ Barry Gros, Karen Hall, and Claude Lockhead, *Target Benefit Plans-A New Approach for Sustainable Retirement Income*, Plans and Trusts, 2013. Online: < www.ifebp.org/inforequest/0163251.pdf >.

pre-determined order of benefit adjustments. A key principle of target-benefit plans is a greater ability to share risks through rebalancing the benefit/funding equation depending on economic conditions. This is one of the few ways that intergenerational equity can be managed.⁴⁷⁵ Actuary Malcolm Hamilton discusses target benefit plans:

The current DB plan tells members that they will get a specific benefit and that the sponsor will guarantee it. But the guarantee is just not sustainable.... Target benefit plans remove that guarantee and instead have a specific benefit goal for each member that the plan sponsor tries to deliver. If the pension fund performs as expected, members get the target benefit. If the experience is better or worse than expected, benefits are adjusted up or down in a gradual and reasonable way. The message is quite straightforward....The plan will try to deliver the target benefit but reserves the right to pay more or less depending on the circumstances. I think employees can live with that, and it makes pension plans much more resilient.⁴⁷⁶

However, Hugh Wright of McInnis Cooper notes that the implementation of target benefit plans gives rise to important questions such as:⁴⁷⁷

1. How will active members, retirees and unions be involved in plan governance?
2. What level of transparency for members and retirees should be required?
3. Is intergenerational equity a concern? If so, how is it to be achieved and at what cost?
4. What benefit design features may support the success of a target benefit plan?
5. What is the required funding level to support the targeted benefit?
6. Under what circumstances may benefits be reduced, a key provision of such plans?
7. Should the rules be prescriptive, as in New Brunswick, or will the parties be able to take into account their particular circumstances?
8. On conversion of a defined benefit plan, what is the treatment of existing benefits and any employer covenant related to those benefits?

⁴⁷⁵ In order to measure the risk of intergenerational inequity, current contributions can be split into the portion to fund the normal actuarial cost and the portion to fund any deficits (or reductions to take advantage of any surplus). The greater the amount by which current contributions differ from the normal actuarial cost, the greater is the wealth transfer among past generations, current generations, and future generations. In addition, it would be of value to stakeholders to understand the potential for changes in this relationship due to future experience gains and losses that the plan may experience. Accordingly, the actuary would address and communicate this risk. (H. Claire Pitcher, *MEPPs-The Next Piece of the Pension Pie?* Benefits Canada, 2011. Online: < www.benefitscanada.com/.../are-mepps-and-tbps-the-way-of-the-future >.)

⁴⁷⁶ Leigh Doyle, *Inspiration: How Malcolm Hamilton Helped Reform Canada's Pension System*, Benefits Canada, 2012. Online: < www.benefitscanada.com/.../inspiration-how-malcolm-hamilton-helped >.

⁴⁷⁷ Hugh Wright (McInnis Cooper), *Defining Your Ambition-Target Benefit Plans in Canada*, Canadian Pension and Benefits Institute- National Webinar 2014. (Online: www.cpbi-icra.ca/.../2014/06-19-National-Webinar-Defining >.)

As mentioned above, most Canadian jurisdictions do not currently permit single employer target benefit plans.⁴⁷⁸ In each of Alberta, British Columbia, Nova Scotia and Ontario, target benefit provisions have been introduced into the legislation. However, only in Alberta has the legislation been brought into force with accompanying regulations. Pension lawyer Jana Steele discusses the current legal landscape of target benefit pension plans in Canada:⁴⁷⁹

In Canada, TBPs are not new in the multi-employer environment. However, pension standards legislation has not traditionally permitted single-employer plans to provide target benefits. Alberta, B.C., Nova Scotia, Ontario and P.E.I. have introduced legislation recognizing TBPs.... Quebec introduced a “member-funded” TBP in 2007 with fixed employer contributions for workplaces with collective agreements or employee associations. The legislation in Ontario, P.E.I. and Nova Scotia sets an employer’s contribution obligation to a fixed amount as indicated in a collective agreement— therefore restricting TBPs to unionized workplaces. Alberta⁴⁸⁰ and B.C. legislation does not include this limitation.

New Brunswick introduced a model known as a shared risk plan (SRP) in 2012.⁴⁸¹ This design contains elements of the target benefit design, such as a DB-type formula, fixed contributions (subject to adjustments in accordance with the funding policy) and the

⁴⁷⁸ Outside of New Brunswick, Alberta and B.C. appear to be the most progressive on this front and are seen as the mostly likely to be first to enact the needed legislation. Ontario is on a similar track but has been in a holding pattern for the past year. Meanwhile, Quebec has seen the implementation of target-benefit plans but these have been limited to the pulp and paper sector. Curiously, Ontario’s prospective pension-legislation reform would restrict target-benefit plans to unionized workplaces. (Dan Ovsey, *Will Legislators allow defined benefit pension plan redesign before it’s too late?* Financial Post, 2014. Online: < www.business.financialpost.com/.../will-legislators-allow-effectiv >.

⁴⁷⁹ Jana Steele, *Trends-A Newer Model*, Benefits Canada, 2013. Online: < www.benefitscanada.com/uploads/2013/01/019_BC0113_Pensions >.

⁴⁸⁰ Alberta moved forward with sweeping pension reforms in the new Employment Pension Plans Act (EPPA) and regulations, which came into effect on Sept. 1, 2014. Alberta’s new approach of providing comprehensive and specific rules for various types of pension plan designs is a welcome change from the one-size-fits-all model employed in many other Canadian jurisdictions.

⁴⁸¹ The legislation implementing the model forms a second part to the existing New Brunswick *Pension Benefits Act* and was proclaimed in force as of July 1, 2012. The new legislation was enabling legislation and detailed regulations were filed in August, which were also deemed to have come into force on July 1, 2012. The shared-risk model adopted in New Brunswick was, in part, developed based on the highly-regarded Dutch pension regime. It is the first of its kind in Canada and the New Brunswick Nurses Union, the New Brunswick Union, the Canadian Union of Public Employees (CUPE) Local 1252 and the New Brunswick Pipe Trades have said that this new model will be adopted for specific plans. (Jana Steele, *New Brunswick’s Innovative Answer to Pension Reform*, Benefits Canada, 2012. Online: < www.benefitscanada.com/pensions/.../new-brunswick’s-innovative-anws >.)

possibility of benefit adjustments. However, the province's model also incorporates sophisticated risk management requirements to help ensure that the targeted benefits will be provided. Regulations require that SRPs have a primary risk management goal of ensuring that there is at least a 97.5% probability that base benefits will not be reduced over a 20-year period. There are also enhanced disclosure requirements for SRPs as well as strict governance and funding requirements tailored to these plans.

Ari Kaplan, a pension lawyer representing New Brunswick retirees, is blunt about the impact of the new TBP legislation on them:

It's no different than the government passing legislation allowing it to remove money out of an older person's account. It expropriates their money. It's money they earned. It was deferred wages. It was part of their hourly wage... This is not a gratuitous gift from the employer.⁴⁸²

However, Keith Ambachtsheer, Director Emeritus of the Rotman International Centre for Pension Management, counters that retirees are also at risk of losing money in defined benefit plans when their employers declare insolvency, rendering them unable to guarantee full pension payments in underfunded plans.⁴⁸³

In August, 2014 Alberta introduced sweeping pension reforms in its new *Employment Pension Plans Act* (EPPA). Regulations came into force on Sept. 1, 2014. Among the many changes in the new EPPA was the introduction of a comprehensive target benefit plan (TBP) regime. Alberta is the second jurisdiction, after New Brunswick, to implement comprehensive TBP rules as a design option for plans registered in the province. Under the EPPA, TBPs will not be limited to collectively bargained workforces, as has been proposed in some other jurisdictions. Jana Steele compares TBPs in Alberta to those in New Brunswick:⁴⁸⁴

⁴⁸² Alan Freeman, *The Coming War Over Retirement*, Sage Magazine, 2015. Online: <www.pensioncoalitionnb.ca/.../610-feature-article-on-pensions-article-sur>.

⁴⁸³ *Ibid.*

⁴⁸⁴ Jana Steele, *Alberta's New Target Benefit Regime*, Benefits Canada, 2014. Online: <www.benefitscanada.com/.../alberta's-new-target-benefit-regime-55928>.

Unlike New Brunswick, the Alberta TBP rules do not, at this time, permit the conversion of a traditional DB plan provision to a target benefit provision on a retroactive basis. However, a traditional DB plan may convert to target benefit for future service and new hires. Bill 10, the Employment Pension (Private Sector) Plans Amendment Act, 2014, which is currently under review by the all-party Standing Committee on Alberta's Economic Future, proposed amendments that would permit such retroactive conversion of accrued DB benefits to a TBP regime.

The new Alberta rules also contemplate temporary improvements in retiree pensions under TBP provisions. Where the target benefit component of a plan has accessible going-concern excess, the plan can be amended to provide for a temporary improvement in pension payments, provided that it will continue to have accessible going-concern excess after taking into account the costs of the temporary improvement.

Alberta has adopted an adverse deviation approach (PfAD) to risk management, as opposed to the probabilistic approach adopted by the New Brunswick TBP legislation. The PfAD under the Alberta rules is determined by two components: (i) a certain percentage based on the percentage of the fund that is invested in equities and (ii) the amount, if any, by which the assumed discount rate exceeds the benchmark discount rate. For example, if a plan's equity allocation is 20%, and the assumed discount rate exceeds the benchmark discount rate by 0.01%, the PfAD would be 10.15%. Based on a table in the regulations, the equity allocation of 20% requires that 10% be added to the PfAD. The second component is the addition of 0.15% to the PfAD for every 0.01% that the assumed discount rate exceeds the benchmark discount rate. The regulations also require that stress testing be performed in respect of elements that the actuary believes may pose a material risk to the TBP's ability to meet funding requirements. Such testing must be done in a manner satisfactory to the Alberta superintendent.

Under the new Alberta TBP rules the normal cost of the target benefits and PfAD are required to be funded. Where there is an unfunded liability, either the actuarial valuation must show that the expected contributions will be sufficient or a plan text amendment must be filed concurrently to reduce or eliminate benefits or increase contributions, such that the funding requirements can be satisfied. Although not required to fund on a solvency basis, Alberta's target benefits are required in actuarial valuations either to include a statement that the target benefit component does not have a solvency deficiency or disclose the total amount of the target benefit component's solvency deficiency.

The new legislation requires all types of pension plans to have a written governance policy that meets the prescribed rules. In addition, for plans that contain a benefit formula provision (i.e., a target benefit provision or traditional DB provision), a funding policy that complies with prescribed requirements is required. Although such policies need not be filed with the regulator, Alberta registered plans must have them in place by Aug. 31, 2015.

Steele notes that the Alberta Employment Pension Plans Act (New Act) and its associated regulation also states that the administrator of a plan, other than a TBP, that contains a benefit formula (i.e. defined benefit plans) may set up a solvency reserve account within the pension fund. A solvency reserve account is an account to which are deposited payments made in respect of a solvency deficiency. Despite the wording of the plan text, the prescribed portion of the actuarial excess or surplus in the solvency reserve account may be withdrawn, subject to the Superintendent's consent. Effectively, this amendment mitigates the risk of "trapped surplus" if a plan's solvency ratio improves considerably in between valuations. The cost certificate must account separately for the solvency reserve account, and the actuarial excess in relation to a solvency reserve account is to be calculated on a plan termination basis. This should go a long way in addressing the issue of asymmetry, wherein employers are currently reluctant to fund DB plans above minimum levels because of their limited access to surplus (as per the application of trust principles in *Schmidt v. Air Products of Canada*).⁴⁸⁵ In other words, there should be less pressure on actuaries to project higher investment returns in order to reduce employer funding requirements.

On September 30, 2015 British Columbia introduced sweeping changes to its Pension Benefits Standards Act, many of which mirror Alberta's amended Employment Pension Plans Act and regulations. The amendments are part of an effort by British Columbia and Alberta to harmonize their respective pension laws, including the introduction of target benefit regimes. However, a distinguishing feature of British Columbia's amendments is the ability to convert accrued DB

⁴⁸⁵ Lorraine Allard, McCarthy Tetrault, *Alberta's New Pension Legislation: Noteworthy Changes*, 2014. Online: < www.mccarthy.ca › Publications >.

benefits to target benefits (In Alberta, a proposed amendment which would have permitted the conversion of accrued benefits was defeated).⁴⁸⁶

In 2014 the federal government launched consultations regarding a potential framework for target benefit plans. TBPs are being proposed as a voluntary, sustainable and flexible pension option available to federally regulated private sector employers and Crown Corporations under the Pension Benefits Standards Act (PBSA).⁴⁸⁷

Steele continues that potential tax issues associated with single employer TBPs will need to be addressed, noting that federal tax legislation is designed to accommodate only DB and DC plans in the single employer environment. Also, she reveals that DB tax rules are generally designed for a plan in which an employer assumes all funding risk, meaning that pension adjustments (PAs)—which must be calculated each year by the employer (and which reduce members' RRSP room)—do not consider the difference in value between different types of DB plans, such as plans that provide final average benefits as compared to those providing career-average benefits.

⁴⁸⁶ Jana Steele, Target Benefit Plans Go West, Pension and Benefits Law, 2015. Online: < www.pensionsbenefitslaw.com/target-benefit-plans-2/ >.

⁴⁸⁷ On April 24, 2014, the federal government announced the start of public consultations on the potential introduction of Target Benefit Pension Plans for employees of Crown Corporations and federally-regulated workers. While the government stated that it has no immediate plans to change members' existing Defined Benefit Pension Plans, the Professional Institute of the Public Service of Canada countered that the current government certainly does not enjoy a stellar track record when it comes to keeping its promises to, or respecting its public service employees. It stated:

There is unfortunately no long-term guarantee that our pensions are “untouchable” – just ask our fellow public servants in New-Brunswick, where the provincial government recently adopted a so-called Shared Risk Plan, which is basically a form of TBP. We therefore need to challenge the implementation of Target Benefit plans, whether or not the changes currently impact our members' accrued benefits. (The Professional Institute of the Public Service of Canada, *Target Benefit Plans* Fact Sheet, 2014. Online: < www.pipsc.ca/portal/page/portal/website/issues/pensioninfo/.../053014 >.

The Canada Revenue Agency would likely regard a TBP as a DB plan for PA reporting purposes. Tax regulations also generally limit employee contributions to 50% of the pension cost in a plan that provides DB-type benefits. This may restrict plan design options, because if benefits under a TBP are reduced, an employee may effectively have contributed more than half where contributions are shared. New Brunswick has worked to address this issue by requiring that the employee contribution share not exceed 50% of the total amount of contributions.⁴⁸⁸

Steele concludes that jurisdictions across Canada should move quickly to permit single employers to implement TBPs, noting that a TBP model with robust governance and risk management processes—as seen in New Brunswick’s model—may be an important step to increasing pension benefit security for pension plan members and plan sustainability for employers.⁴⁸⁹

⁴⁸⁸ There are currently no proposals for amending the Income Tax Act (ITA) to specifically provide for target benefit pension plans. There are target benefit plans operating under the current environment; however, to be most supportive of target benefit pension arrangements, the following questions should be clarified: What Pension Adjustment (PA) rules apply to target benefits? We suggest that the most appropriate approach would be for the PA to equal the annual contributions made to the plan on behalf of the member, as for a defined contribution plan. This avoids the need to determine retroactive PA adjustments (PSPAs and PARs) when benefits are altered.

- There is currently a provision in the ITA that specifies pension benefits cannot be variable. This provision could be problematic for target benefit plans that wish make retroactive benefit reductions.
- How would "excess surplus" be defined?
- Would a funding Provision for Adverse Deviations (PfAD or margin) be recognized as a plan liability and be included as an "eligible contribution"?

We understand that Finance is reviewing several of these questions. We also note that Specified Multi-Employer Pension Plans (SMEPPs) have different treatment which addresses most of the above questions and allows them to operate as true target benefit pension plans. (Aon Hewitt, *Legislation and Standards, Target Benefit Plans*, 2013. Online: < www.aon.com/canada/products-services/.../legislation_print.html >.)

⁴⁸⁹ *Supra*, see note 484.

Target Benefit Design Options

Aon Hewitt notes that private sector single employer DB plans seem particularly ripe for conversion to the TB model, considering only 18% were fully funded as of March 30, 2015, compared to 36% a year earlier.⁴⁹⁰

Under traditional DB plans, benefit and funding policies are often separate documents, and often one or the other, or both, might not even exist. In developing a TB plan, it is critical to outline a policy for the relationship between benefits and funding. In a TB plan, the contribution rate is fixed and the target benefit, while a desired outcome, is ultimately a variable commodity. This means that under a TB plan the two policies covering benefits and funding are inseparable and must be dealt with together. Furthermore, the risk sharing arrangement between the sponsor(s) and members must be properly documented and fully and openly communicated.⁴⁹¹

The ideal private sector situation for a DB plan is one where a single employer is suffering from a poorly funded plan, hasn't been able to invest its way out of its pension deficit, is contemplating getting out of DB, and has strong unions and/or a culture that limits the viability of a move to DC.

Aon Hewitt presents a TB funding policy in Appendix 7 on page 304.⁴⁹²

⁴⁹⁰ Aon Hewitt (formerly known as Hewitt Associates) is a provider of human capital and management consulting services headquartered in Lincolnshire, United States. It operates 500 offices in 120 countries providing consulting, outsourcing, and reinsurance brokerage services. (*Wikipedia*. Online: < [en.wikipedia.org/wiki/Aon_>](http://en.wikipedia.org/wiki/Aon_).)

⁴⁹¹ By definition, the TB plan starts with an agreement concerning the contribution rate. This is identical to a traditional Defined Contribution (DC) plan, where the agreement between sponsor and members concerns the contributions being made to the plan. Further, it is the direct opposite of a traditional Defined Benefit (DB) plan where the guaranteed element of the plan is the benefits upon retirement, and the contribution rate is driven by the plan design selected, the actuarial methods and assumptions adopted, and plan experience. However, unlike a traditional DC plan, TB plans pool benefit risk to enable a more stable and predictable retirement income stream. Any risk management approach must include a sustainability analysis evaluating the probability, over an appropriate period of time, that the plan will be able to deliver the targeted benefit with a high degree of certainty. Therefore, it is critical for target benefit plans to have a well thought out benefit/funding policy consisting of testing methodology, actuarial assumptions, reserve levels, benefit priorities, and a disaster plan. Aon Hewitt, *Unpacking the Target Benefit Plan*, 2012. Online: < www.aon.ca/pubs/tbp/2/tbp_Guide2.pdf >.

⁴⁹² *Ibid.*

C. Governance and Risk Alignment⁴⁹³

In a target benefit plan, members clearly have the greatest exposure to financial risk (i.e. the risk of not receiving the benefits at the targeted level). However, Aon Hewitt points out that employers involved with setting up a target benefit plan also bear risk- reputational and talent risk. (From both a human resources perspective and a financial perspective, the employer will not want the plan to appear to have failed and will therefore also have a large stake in its success).

Governance and risk alignment presents several considerations impacting the governance of a target benefit plan. For example, whether or not the arrangement is collectively bargained will clearly impact the governance structure. The need to align governance with the unique risk sharing arrangement inherent in the target benefit plan design suggests that a substantial measure of governance control be transferred from the employer. One possible answer lies in New Brunswick's new target benefit legislation which requires an independent plan administrator. The choice of administrator would be influenced by a plan's stakeholders' views on balancing security, transparency, and control. Aon Hewitt discusses three possible choices for administrator:

1. Commercial Trustee

The Commercial Trustee model involves contracting the work to a trust company, an option which could be expected to provide a high degree of security.

⁴⁹³ Aon Hewitt, *Delivering on the Target Benefit Plan: Governance and Risk Alignment*, Aon Hewitt, 2013. Online: < www.aon.com/canada/.../report_TargetBenefitPlansGuide3_Summary.pdf>.

2. Pension Committee

The Pension Committee option contemplates a committee with member representation that is assigned the powers of administrator, as already provided for in Manitoba and Quebec pension legislation. A well-functioning Board of Trustees or Pension Committee, with member representation, provides the most opportunity for transparency to members. One of the most vital aspects of the target benefit concept is that members understand the true nature and extent of the plan's promises.

3. Employer Management Team

An employer management team would give the employer the most control. Some might be concerned about the concept of the employer as administrator. While there are certainly reasons an employer might not want the role of administrator, there are reasons supporting the idea:

A. There are no such concerns in respect of the typical DC pension plan, where the employer is often the administrator, even though employees bear more risk than with a target benefit plan.

B. By setting up a target benefit plan, the employer takes on the role of helping individual employees manage their pension risks. This is perhaps a paternalistic view, but it is also one of the reasons for considering target benefit instead of DC.

Policymakers will likely want to protect members by implementing a fairly strict regulatory burden regarding benefit/funding policies and ongoing sustainability testing, while allowing more flexibility with governance. However, a key question which needs to be addressed is the extent to which plan members would be bound by decisions made by pension committee members, particularly in cases where no union (and no voting) exists. Pension standards legislation clarifying this issue could strengthen the hands of non-union and retiree representatives.

The Ontario Expert Commission on Pensions Report suggested that the presence of plan member appointees on the governance body is one of the strongest governance safeguards possible, noting that the allocation of risk between employer(s), employees, and potentially retirees, makes member involvement in the administrator's function critical to the long-term success of target benefit plans.

There is also a role for the administrator to play in providing professional assistance to members to manage their risks. The governance of target benefit plans requires a distinction between the administrator and the stakeholders, with clear responsibilities and powers for each. Barry Gros notes that rigorous legislation of governance and risk management expectations should considerably lessen concern about exactly who must be involved in the governance of such plans.⁴⁹⁴

He discusses the governance of TB plans as follows:

In Canada, we have regulated the DB and DC design to death, but with little positive impact on actually delivering sustainable retirement systems. While it is time for change, we don't necessarily need radical change. We actually have the tools in place – we just need to use them more effectively and permit more flexibility in their application. The policy applies a moderate approach when setting reserve levels, to minimize the probability of benefit cutbacks. The ideal would be to achieve a wide range where the target benefit level would be maintained. Benefit affordability testing must be highly sensitive to member equity. This would include past versus future benefits, application of benefit reductions and improvements, and reserving levels that strike the balance between being conservative without being unduly risk averse.⁴⁹⁵

The Association of Canadian Pension Management outlines the funding requirements of target benefit plans in Appendix 8 on page 306.

Conclusion

A debate currently underway within the pension industry concerns the relative merits of traditional actuarial practices (which tend to obscure the economic value of defined benefit (DB) pension plans) and the valuation principles of financial economics. Actuaries frequently stretch their professional judgement (as agents of employers) in estimating higher equity returns than actual market returns, thereby underestimating DB funding requirements.⁴⁹⁶ In other words, actuarial discretion has

⁴⁹⁴ *Ibid.*

⁴⁹⁵ *Ibid.*

⁴⁹⁶ Actuaries are agents of plan sponsors.

become an integral part of the funding policy of defined benefit pension plans, distorting true market valuations.

TBPs can be an attractive legal remedy to both members and employers. Members receive many of the same benefits as if they had participated in a traditional DB plan, including pooling of investment and longevity risk, but the employer no longer bears all of the funding risks associated with DB benefits (this funding risk is seen as a key motivating force behind the decline in DB plans in the private sector). The actuarial valuation of a TBP determines the ability to fund promised benefits, with no concept of actuarial "deficit" or "surplus" as at the valuation date. In other words, funding is fixed and benefits vary based on the trigger points identified in the benefit/funding policy including:

1. Benefit/funding test conducted by actuaries on a regular cycle and incorporating a projection valuation.
2. Sensitivity and/or stochastic testing conducted by actuaries to estimate the probability that the plan benefits are sustainable.
3. A moderate approach when setting reserve levels, to minimize the probability of benefit cutbacks. The ideal would be to achieve a wide range where the target benefit level would be maintained.
4. Benefit affordability testing must be highly sensitive to member equity. This would include past versus future benefits, application of benefit reductions and improvements, and reserving levels that strike the balance between being conservative without being unduly risk averse.

It is important to note that target benefit plans are not a panacea to replace fully funded single employer defined benefit pension plans already meeting sponsors' and members' retirement goals. However, TBPs do offer both funding and benefit certainty in the wake of underfunded and/or underperforming DB pension promises.

CHAPTER 8-CONCLUSION

A. Current Funding Status of Defined Benefit Pension Plans in Canada

Since the 2000 bear market in Canada, actuaries have consistently overestimated returns on private sector single employer defined benefit (DB) pension plan investments, lowering employer contributions below the “fully funded” level required by legislation (i.e. the value of a plan’s assets must be sufficient to meet its liabilities), to the point of causing chronic underfunding and insolvencies. In short, funding has become opaque.

Defined benefit (DB) plans (in which retirement benefits are guaranteed for a worker’s life based on income and years of service) provide advantages to both employers and employees. Employees receive security with respect to mortality and investment risk, while employers are better able to recruit and retain high quality employees. In addition, DB plans offer employers funding flexibility (through actuaries, who they hire, using their discretion to estimate lower than market contribution levels). DB plans have recently faced serious funding challenges resulting from a perfect storm of weak equity markets, low interest rates, and weak economic conditions. In 2000 asset values began a downward trajectory while liabilities continued their steady rise, resulting from ever increasing years of service, wages, and longevity, among other factors. Consequently, annual accrued assets were often lower than annual accrued liabilities, resulting in asset-liability mismatching and associated underfunding. As asset values began to fall below liability values, employers were required to make additional contributions (special payments) to meet their plans’ annual liabilities (i.e. assets must equal liabilities for full funding). Unfortunately many employers were unable to afford these additional funding requirements. In response to funding deficits, companies moved a

higher percentage of their asset allocations into riskier equity investments in an attempt to increase returns. Actuarial projections of returns on these equities were often higher than actual market returns, resulting in further underfunding and insolvencies. The Economist Magazine describes the scenario stating:

False precision and reckless approximation have defined the actuarial profession's role in the DB funding crisis that has enveloped corporate pensions on both sides of the Atlantic. Although actuaries have not been the only cause—companies, trustee boards, governments and accounting rules have all played their part—they have been surprisingly hapless at their main task: forecasting funds' future liabilities and assessing how many assets will be required to meet them. Their failure has hastened the collapse of final-salary (defined-benefit) pension schemes, many of which have ballooning financial deficits.⁴⁹⁷

Professor Divya Anantharaman of Reuters Business School concluded (from her survey of the American actuarial profession) that economic bonding created by fee dependence does appear to affect the chosen discount (interest) rate, a primary driver of the reported pension obligation and the resulting funding status. Clients from whom actuarial practice offices derive a large fraction of their revenues receive recommendations for obligation-reducing (higher) discount rates when the plan sponsor has strong incentives to understate the pension obligation, and for obligation-increasing (lower) discount rates when the plan sponsor has incentives to overstate the pension obligation.

Anantharaman's study revealed that actuaries' pension assumptions are a conduit for earnings manipulation for many reasons. First, statutory accounting requirements for pensions and post-retirement benefits are complex, and even sophisticated investors have trouble understanding them fully (Brown 2004; Franzoni and Marin 2006; Picconi 2006). Second, actuarial assumptions involve very long-term forecasts about the future. Disentangling deliberate manipulation of these forecasts from honest errors is difficult (Brown 2004). The "take away" from Anantharanman's study is that

⁴⁹⁷ The Economist, *Actuaries and the Pension Crunch-When the Spinning Stops*, 2006. Online: < www.economist.com/node/5436947 >.

the conflict of interest between the actuary and the employer (i.e. the actuary is paid by the employer) tends to bias actuarial projections of investment returns toward the high side, resulting in lower employer contributions and the underfunding of DB plans in these times of low investment returns.⁴⁹⁸ Although no such study has been conducted in Canada, there is plenty of anecdotal evidence suggesting that similar actuarial biases exist in the valuation of private sector single employer DB pension plans (See Arthurs, Ontario Expert Commission on Pensions, 2008).

Incidentally, actuarial biases also exist in public sector DB pension valuations. Actuary Malcolm Hamilton of the C.D. Howe Institute discusses the federal Public Service Pension Plan (PSPP):

The payroll for members of the federal Public Service Pension Plan (the largest in Canada with more than 300,000 active and 170,000 retired members) was about \$20 billion in 2012, with pension contributions totaling about \$4 billion. At fair market value, pension contributions would have been about \$8 billion. As a consequence, the federal government underestimated the 2012 compensation of these members by \$4 billion and reached a long list of erroneous conclusions about the cost of its pension plans and the compensation of its employees.

Actuarial and accounting standards do not explicitly advocate or endorse the use of funding or accounting numbers in compensation studies but the standards-setting bodies and the professionals involved know, or ought to know, that numbers prepared for one purpose are being used for other purposes to which they are ill-suited. In this sense, actuarial and accounting standards have become the enablers of bad financial practice even though the standard-setting bodies do not advocate or condone bad practice.⁴⁹⁹

⁴⁹⁸ A survey of private sector sponsors of Canada's 100 largest defined benefit pension plans, based on data at the end of fiscal 2001, found that:

- for 31 sponsors, the fair market value of pension assets was at least 20% of the sponsor's total corporate assets,
- for several of the 31, the percentage was in the 30-50% range, and
- for two sponsors, the pension assets were essentially equal to the total corporate assets.

The survey found as well, that 58 of these 100 plans had an aggregate pension asset shortfall (off balance sheet) of \$11.2 billion at the end of fiscal 2001 and 27 of the 58 reported a pension-related asset on their balance sheets of \$2.8 billion. (Wiedman et al, "Whither the Pension Plan? Accounting rules mask increasing debt," Research into pension sponsors disclosures, Ivey Business Journal, January/February 2003.)

⁴⁹⁹ Malcolm Hamilton, C.D. Howe Institute, *Commentary 405-Evaluation of Public Sector Pensions*, 2014. Online: < www.cdhowe.org/pdf/Commentary_405.pdf >.

The legal issue emanating from systemic underfunding of private sector single employer defined benefit pension plans in Canada is whether or not actuaries have been using their discretion in a manner which is within a reasonable interpretation of the margin of manoeuvre contemplated by the legislature, in accordance with the principles of the rule of law. This thesis argued that the complex and often times confusing regulatory regimes currently governing pension actuaries in Canada affords them too much scope for discretion, contributing to DB plan underfunding, insolvency, and retirement income losses in the hundreds of billions of dollars.

The federal PBSA and Ontario PBA both introduced numerous regulatory amendments in an attempt to address DB plan underfunding. For example, they increased the time allowed to fund accumulated deficits by 5-10 years, permitted annual deficits to be spread over a number of years (smoothing), and required actuaries to provide sensitivity analyses of the impact of a range of discount (interest) rates on funding requirements. The PBSA also implemented an extension of smoothing techniques to apply to the calculation of solvency deficiencies (i.e. funding shortfalls), allowing actuaries to average annual solvency deficiencies over the previous three years in calculating minimum funding requirements. In other words, it permitted a reduction in the level of payments required to extinguish an annual shortfall under the assumption that a pension deficit is only an aberration or temporary departure from the normal value of a plan's equity investments (i.e. market forces will eventually increase investment returns, eliminating any deficits). However, critics claim there is no empirical evidence to justify such an assumption (Bader and Gold, 2009). The reality is that numerous regulatory amendments have only served to push funding problems down the road, as investment returns have remained stubbornly low since 2000.

Canadian pension accounting standards, including the ability to defer and amortize experience gains and losses, the inclusion of expected additional returns from risky assets in the expected return on assets (EROA) calculation, and the ability to use a smoothed value of assets to calculate the EROA have also contributed to DB plan underfunding by permitting companies to under-report pension liabilities on their balance sheets. In other words, until 2011 employers were pressuring actuaries to use these accounting rules to underestimate their plans' liabilities in order to improve their companies' reported profits. In 2011 the adoption of International Accounting Standards Section 19 (IAS 19) disallowed the use of these accounting standards to artificially inflate corporate profitability through the underfunding of defined benefit pension plans.

Underestimating costs of changing demographics (i.e. operating on the assumption that plan members will die sooner than they likely will) has also contributed to DB underfunding. Mark Yamada, CEO of PUR investing (a firm specializing in DC plan investments) comments on this underfunding phenomenon:

There's no actuary who correctly anticipated the nature of the changing demographics. I've not seen a single actuary take responsibility for this problem...As the car is careening down the road, the actuary is yelling directions to the driver while staring out the back window (Benefits Canada, 2015).

In 2014 the Canadian Institute of Actuaries (CIA) issued the first-ever mortality tables based solely on Canadian pensioner mortality (actuaries previously used United States-based pension mortality tables to help them arrive at their assumptions). As a result, pensioners' life expectancies will typically increase by about 2 years, increasing DB plan liabilities by approximately 3% to 10%.⁵⁰⁰

⁵⁰⁰ Eckler Consultants, *Special Notice- Impact of New Mortality Tables from the Canadian Institute of Actuaries*, 2014. Online: < www.eckler.ca/analysis >.

B. Governance of Funding Valuations

In the 1980s and 1990s Canadian regulators introduced minimum funding levels (i.e. solvency valuations) required to pay a plan's liabilities in the event a plan was discontinued (wound-up) for any reason. Solvency valuations⁵⁰¹ estimate a plan's asset and liability values using market rates, whereas actuarial discretion is used to estimate asset and liability values in going concern valuations. All single employer plans must be funded at the higher of the two valuations. In other words, if the going concern funding level⁵⁰² falls below the solvency funding level, the DB plan must be funded at the higher solvency level.

Market discount rates have been in a downward trend for many years, whereas actuaries' estimates of discount rates have only dropped slightly, resulting in lower going concern funding requirements than solvency valuation requirements (because the higher the interest (discount) rate, the lower the level of current funding required to meet future pension obligations). Consequently, the higher solvency valuations have become the driving force in the funding of DB plans. When solvency funding rules were first designed in the 1980s, their primary objective was to protect plan members' benefits in the event of plan termination. This benefit security was to be achieved by requiring additional employer contributions to the plan (over a 5-year horizon) if a solvency test, required to be conducted at each actuarial valuation, revealed a deficit. Unfortunately, the theory behind solvency funding rules has not turned out as well in practice as was hoped. The unexpected high incidence of insolvent organizations winding up their underfunded DB pension plans has subverted this benefit security objective. It was probably never contemplated that solvency valuations could

⁵⁰¹ Solvency valuations, introduced in the 1980s to establish a minimum funding level, are conducted by comparing a DB fund's assets with its liabilities based on market rates. They are done as if the plan is being wound up on the date of the valuation. Any deficiency of assets below liabilities must be amortized over no more than five years.

⁵⁰² Going concern valuations assume the plan will continue indefinitely and are based on future economic and demographic assumptions.

result in a measurement of liabilities that far exceeded going concern liabilities, mandating repayment in 5 years instead of 15. In 2013 50% of DB plans in Ontario (Canada's largest pension jurisdiction with 1.5 million private sector single employer DB member workers and retirees) were less than fully funded on a going concern basis, compared to 91% on a solvency basis.⁵⁰³ Similarly, 95% of DB plans in Canada were less than fully funded on a solvency basis in 2013.⁵⁰⁴

Corporate plan sponsors with otherwise healthy balance sheets have been put into difficult financial situations because of the funding requirements and short funding periods required for solvency deficits, resulting in repeated rounds of solvency relief granted by governments. In short, as DB pension plans have matured in a low interest rate environment, "as and when needed" solvency funding exemptions have become the norm. These underfunding issues are, to some extent, the result of trying to support benefits that were implemented in an era when costs were substantially lower than they are today, raising the question of whether the funding problems that DB pension plans have encountered since 2000 are truly a funding requirement issue or in reality, a benefit issue. Numerous regulatory amendments have not prevented plans from being insufficiently funded for long periods of time, and they certainly have not prevented plans from terminating with deficits.

C. The Superintendent of Financial Services

The Superintendent of Financial Services is the actor with the most significant and numerous responsibilities with respect to the regulation of defined benefit pension plans both federally under the PBSA and in Ontario (Canada's largest pension jurisdiction) under the PBA. For example, the Superintendent may require the preparation of actuarial valuation reports on an annual rather than a

⁵⁰³ Financial Services Commission of Ontario, Overview and Selected Findings, 2013 Report on the Funding of Defined Benefit Pension Plans in Ontario, 2013. Online: < www.fsco.gov.on.ca/en/pensions/.../risk-based_supervision.aspx >.

⁵⁰⁴ Jim Middlemiss, Bracing for the Pension Timebomb- Report on Business-Special Edition, Canadian Lawyer. Online: < www.canadianlawyermag.com/.../Bracing-for-the-pension-time-bomb.ht >.

triennial basis if a plan's solvency ratio (assets/liabilities) falls below a certain threshold. In 2013, 816 defined-benefit plans or 60% of all active Ontario plans with solvency concerns were required to file annually rather than triennially. Federally regulated plans (which constitute 6% of all regulated pension plans in Canada) are held to a higher standard than Ontario plans, being required to file annually if their solvency ratio is below .120. OSFI estimates that approximately 61% of federally regulated defined benefit plans were underfunded on a solvency basis at December 2013, compared to an estimated 90% at December 2012. At December 2013, 7% of plans had an estimated solvency ratio of less than 0.80, compared to 61% at December 2012.⁵⁰⁵ Amazingly, nearly all of Ontario's active plans (except 33) would be required to file annual actuarial valuation reports if the federal solvency threshold of .120 was applicable in Ontario. According to the Auditor General the proportion of underfunded defined benefit pension plans in Ontario increased from 74% to 92% from 2005 to 2013, while the total funding shortfall increased from \$22 billion to \$75 billion over the same period.

In 2011 the Financial Services Commission of Ontario (FSCO) carried out reviews of 30% of the 1700 actuarial reports it received, ensuring that actuaries' data, methods and assumptions met its standards. However, since 2011 FSCO has conducted detailed reviews of a much smaller number of actuarial reports (on a sample basis), no longer formally tracking the number of reviews it performs or reporting the results. In contrast, the federal Office of the Superintendent of Financial Institutions (OSFI) conducts detailed actuarial valuation reviews on 30% of its DB plans annually, publicly reporting its observations to help educate plan sponsors and actuaries on its standards. The Auditor

⁵⁰⁵ Office of the Superintendent of Financial Institutions, *Info Pensions*-Issue 11, 2014. Online: < www.osfi-bsif.gc.ca >.

General of Ontario's 2013 Report expressed grave concerns about the Ontario Superintendent's regulatory standards:

FSCO's Superintendent has limited powers under the Pension Benefits Act (Act) to deal with administrators of severely underfunded plans, or those who do not administer plans in compliance with the Act. FSCO's federal counterpart, the Office of the Superintendent of Financial Institutions, has the legal authority to terminate a plan, appoint a plan administrator or act as an administrator even if the plan is not terminated, and to require more frequent actuarial valuations of pension plans. FSCO can only prosecute an administrator or must order a plan to terminate before it can then appoint or act as the administrator. In addition, FSCO cannot impose fines on those who fail to file information returns on time; we noted that FSCO took little or no action against late filers.

...FSCO should make better use of the powers it already has under the Act to monitor pension plans, especially those that are underfunded. Over the last three fiscal years (2010/11-2013/14), FSCO conducted on-site examinations of only 11% of underfunded plans on its solvency watch list; at this rate, it would take about 14 years to examine them all. As of September 2014, it was still in the process of finalizing its risk-based methodology for selecting higher-risk plans to examine. The examinations FSCO did conduct did not adequately cover significant areas, such as whether investments complied with federal investment rules required for pension plans.... The information provided by plan administrators and made public by FSCO is of little use to plan members for assessing and comparing the performance and administration of their pension plans with other plans or relevant benchmarks; nor would members find it of value in assessing whether FSCO had adequately protected their interests.⁵⁰⁶

In 2008, FSCO was given the power to impose administrative monetary penalties (AMPs) in the mortgage sector, resulting in a 95% compliance rate by mortgage brokers submitting statutory filings in 2013/14. However, no such action has been taken in the pension sector. In 2014, 1,384 Ontario pension plan administrators had not submitted one or more statutory filings on their due dates and were past due for over one year. FSCO followed up on only 13% of these cases (176 plans) by sending a letter requesting compliance with filing requirements. No action was taken on the other 1,208 plans, including 127 with pension assets of more than \$1 million. Furthermore,

⁵⁰⁶ Auditor General of Ontario, *Annual Report of the Auditor General of Ontario*, Financial Services Commission of Ontario-Pension Plan and Financial Service Regulatory Oversight, 2014. **Online:** < www.auditor.on.ca/en/reports_en.htm >.

FSCO levies no penalties on administrators who file persistently late and has taken legal action against plan administrators only twice who fell years behind in filings (the courts imposed fines in these cases). In contrast, OSFI has a five-stage rating system to determine the level of intervention required:

- **Stage Zero:** No significant problems. Ongoing monitoring of the plan continues.
- **Stage One:** Early warning. Deficiencies in the plan's financial position are identified and it could be placed on a watch list. OSFI increases monitoring of the plan and may require additional relevant filings.
- **Stage Two:** Risk to solvency. OSFI intensifies its supervisory interventions, requiring that the administrator take actions such as submitting a revised or early actuarial report or holding meetings with plan members.
- **Stage Three:** Future solvency in serious doubt. OSFI escalates its intervention because of immediate threats to plan members' benefits. OSFI can remove the plan administrator and appoint a replacement; designate an actuary to prepare a report for funding purposes; bring action against the administrator; or terminate the plan.
- **Stage Four:** Permanent insolvency. OSFI facilitates the wind-up of the plan.

In short, the Auditor General left no doubt that FSCO's oversight of actuarial discretion has been sub-standard.

D. Governance of Actuarial Discretion

As noted above, current pension funding policy in Canada permits actuaries to use their discretion to estimate higher than market investment returns to reduce employers' contributions, with the goal of sustaining financially troubled DB plans. However, the fact that the number of workers enrolled in private sector single employer defined benefit (DB) pension plans in Canada has declined by 500,000 (from 2 to 1.5 million) since 2000 is evidence that this policy is not working. The economic impact of losing private single employer defined benefit pensions is significant, considering they pay each retired member approximately $\frac{3}{4}$ of a million dollars more than defined contribution plans (see CFIB study in Appendix 1-page 269). Greater transparency would flag

many of these financially troubled plans before they become insolvent. Nicholas Le Pan, former OSFI Superintendent of Financial Services discusses the issue of transparency:

The days of basing assumptions and valuation solely on “actuarial judgment” are just about over. That doesn’t mean there isn’t room for judgment, but judgment needs to be adequately supported and explained. Too many people still perceive a lot of this to be the “actuarial black box”. Most users that I talk to still perceive it that way, and that’s partly their fault, but it’s partly actuaries fault because communication requires both sides to be committed to try to better explain what they’re doing.⁵⁰⁷

In short, the risk that is currently carried on defined benefit pension fund balance sheets in Canada has not been clearly articulated, resulting in most plan members naively believing that the current regulatory arrangements are designed to guarantee full funding under the current formula for contribution rates. This belief is simply false.⁵⁰⁸

There is no doubt that Canada’s current DB pension funding policy is dated. It was implemented in the early 2000s as a short term solution to a short term problem (i.e. low investment returns) which has morphed into a chronic problem. In other words, the policy may have been successful if investment returns remained low for only a short time period (i.e. 2 -3 years) and subsequently returned to more normal (i.e. higher) levels, thereby eliminating actuarial deficits. However, the reality is that actuaries’ estimates of investment returns have been consistently higher than actual returns over the past 15 years, resulting in chronic underfunding and insolvencies. The actors governing pension funding in Canada have clearly failed to address this reality.

⁵⁰⁷ Nicholas Lapan, Superintendent of Financial Institutions, OSFI, *Accountability and Transparency-A Challenge for the Actuarial Profession*, 2004. Online: < www.actuaries.ca/members/publications/proceedings/ag/.../204074-F1.pdf >.

⁵⁰⁸ Keith Ambachtsheer, *Pension Revolution: A Solution to the Pension Crisis*, 2007. Hoboken, NJ: John Wiley & Sons.

Although the Canadian Institute of Actuaries (a self-regulating, professional body) changed its standards in 2011 to improve the transparency of actuarial valuations (by updating how actuaries determine assumptions, apply actuarial methods and prepare their reports for all funding actuarial valuations), it has been complicit in permitting actuaries to use wide discretion in estimating higher than market discount rates in order to potentially reduce funding requirements. The exercise of an actuary's professional judgment and discretion is the first source of insolvency risk for defined benefit pension plan members. Therefore, unless the actuary uses conservative assumptions, the plan members face the risk that minute variations in actual experience (from actuaries' estimates) will require large unexpected contributions from the plan sponsor and either the plan sponsor will not be able to make them due to its insolvent status, or the size of the payments will drive the plan sponsor into insolvency proceedings.

The Supreme Court of Canada's surplus policy over the past 20 years (from Schmidt in 1994 to Manitoba Telecom in 2014) has restricted employers' access to surplus, while making them wholly responsible for deficits (i.e. asymmetry). Employers, fearing trapped surpluses, have responded by pressuring actuaries (agents of employers) to use their overly broad discretion to project higher than market estimates of investment returns to reduce plan contributions levels. In other words, the Supreme Court of Canada's surplus policy has (advertently or inadvertently) compromised the ability of actuaries to make conservative funding estimates.

Numerous Ontario PBA and federal PBSA regulatory amendments (see Appendix 3-page 278) over the past decade have not prevented plans from being insufficiently funded for long periods of time, and certainly have not prevented plans from terminating with deficits. The reality is that legislators have refused to adopt potentially more effective remedies to control actuaries' discretion such as

making actuaries fiduciaries, abolishing employer-actuary agency, increasing the Superintendent's oversight powers and mandating the use of lower discount rates.

E. Legal Remedies

1. Adopting Single-Employer Target Benefit Plans

Adopting target benefit plans as a legal remedy to actuarial underfunding would serve to eliminate the impact of actuarial discretion on DB plan underfunding, considering that benefits are adjusted up and down to match investment returns (i.e. continually adjusting the level of benefits based on investment returns effectively eliminates actuarial surpluses and deficits), guaranteeing full funding.

Clare Pitcher of Benefits Canada sums up the benefits of target benefit plans:⁵⁰⁹

Opening up access to private pension plans via the TBP for the remaining 60% of Canadian workers will cost nothing to the government or taxpayers, as there is no Pension Benefits Guarantee Fund safety net. In fact, the ultimate beneficiary—along with the newly covered employees themselves—will be future taxpayers, as the potential need for government social assistance down the road will be reduced significantly.

What's needed now is to take this "new" plan design from the point of conception to the actual birth of the new TBP for use in the single- as well as multi-employer environment—and in the non-union as well as union environment—thereby increasing the pie and broadening pension plan coverage across the province and the country.

However, Robert Drummond (Professor emeritus at York University) tempers Pitcher's enthusiastic portrayal of target benefit plans, noting that they are really only defined contribution plans in disguise:

To say, 'This is the target benefit, but if we don't reach it, well, too bad'— then, in effect, you're saying it's a DC plan.'" While the targeting may give employees a sense they'll achieve the income

⁵⁰⁹ H. Clare Pitcher, *MEPPs: The Next Piece of the Pension Pie*, Benefits Canada, 2011. Online: < www.benefitscanada.com/.../are-mepps-and-tbps-the-way-of-the-future >.

they're aiming for, there's no guarantee. And without the guarantee, you still put the risk on the shoulders of the employee.⁵¹⁰

It is important to point out that target benefit pensions are not being proposed in this thesis as replacements for the vast majority of private sector single employer defined benefit pensions which provide their members with $\frac{3}{4}$ of a million dollars more in retirement income than DC plans (see the Canadian Federation of Independent Businesses' 2013 study discussed on page 9 of Chapter 1). However, they are certainly an attractive alternative to DB plans which are chronically underfunded and in danger of insolvency. It is time for governments to adapt the multi- employer target benefit model for use by employers in serious financial trouble in order to arrest the continuing decline of private sector single employer defined benefit pensions in Canada.

2.Fixing Discount Rates

Public policy in Canada has made actuaries an important factor in the sustainability of DB plans by permitting them to estimate higher than market discount rates (For example, a 2% increase in the discount rate reduces an employer's steady state pension contribution rate by a whopping 30-40%). Unfortunately, this policy has resulted in excessive DB plan underfunding and insolvencies. While mandating fixed rates (effectively eliminating actuaries' discretion) would eliminate underfunding resulting from actuaries estimating higher than market returns, it would also greatly increase the cost of funding DB plans, making them unaffordable for many employers.

3.Eliminating Agency and Making Actuaries Fiduciaries

Actuaries are impacted by two major legal factors. Firstly, actuaries are agents of plan sponsors, meaning that they are prone to being influenced by their employers' wishes to make minimum

⁵¹⁰ Robert Drummond and Chris Roberts, Pension Confidential, 2012 as quoted in Yadez Sadakova, Top 100 Pension Funds Report: Still Got Some Spark, 2015. Online: <www.benefitscanada.com/pensions/.../top-100-pension-funds-report-still>.

contributions. Secondly, because actuaries are not fiduciaries, they are not liable for plan deficits. These two factors have been instrumental in allowing employers to pressure actuaries into estimating lower, more affordable contribution levels (by projecting higher investment returns on pension assets than actual market rates). In short, actuarial discretion has (either advertently or inadvertently) become an important factor in the funding policies of both the Ontario PBA and the federal PBSA, allowing financially challenged plans to remain solvent through unrealistically low employer funding.⁵¹¹ The problem with this type of funding policy is that chronically low returns have resulted in large deficits. Many DB sponsors have responded by switching to defined contribution (DC) plans, freezing their DB plans (i.e. not allowing new employees to join), or declaring bankruptcy (note that pensioners are unsecured creditors). Two potential legal remedies to this underfunding problem include eliminating employer-actuary agency by mandating that regulators hire pension actuaries and also making actuaries fiduciaries (thereby making them legally liable for any funding deficits). However, to date legislators have been more fixed on permitting actuaries to use their wide discretionary scope to underfund DB plans in an attempt to sustain them, rather than curbing their discretion.

4.Increasing Superintendent's Regulatory Oversight

The Ontario Superintendent of Financial Institutions should be given more effective oversight powers to more quickly identify those plans with serious underfunding problems.

⁵¹¹ Because actuaries are self-regulating, they make many of the rules that govern their own profession. This is a recipe for conflict; actuaries competing for lucrative HR consulting work may not have the guts to deliver hard news to the same employer who is also administering a pension plan. Nothing could be more dangerous to the industry than this cozy relationship. (Murray Gold, *The Law-A World of Concerns*, Benefits Canada, 2005).

5.Restricting the Use of Smoothing to Push Funding Problems Down the Road

A technique called smoothing has been incorporated into actuarial practice in Canada to insulate employers from sharp fluctuations in the values of DB pension assets and liabilities, and the resulting plan contributions required to meet funding obligations. However, smoothing methodologies for going concern valuations are not carefully defined by actuarial practice. Consequently, the potential exists for smoothing to be used to opportunistically hide funding problems. More importantly, smoothing can detract from a clear understanding of a plan's funded position if it is not fully explained in a valuation report so pension members are capable of understanding the true risk inherent in their pension contract. Stricter regulation of smoothing would make DB funding problems more transparent to regulators.

6.Establish An Actuarial Oversight Board

Since the 2000 bear market in Canada, actuaries have consistently overestimated returns on private sector single employer defined benefit (DB) pension plan investments, lowering employer contributions below the "fully funded" level required by legislation (i.e. the value of a plan's assets must be sufficient to meet its liabilities), to the point of causing chronic underfunding and insolvencies. In short, funding has become opaque. I argue that the best remedy to this systemic underfunding is the establishment of an independent external actuarial oversight board comparable to the Canadian Public Accountability Board (CPAB) established in 2003 to regulate auditors.

The issues surrounding the professional independence of actuaries are not, in principle, unlike those that faced the auditing profession before regulatory changes were legislated in the early 2000s (Gunz, McCutcheon and Reynolds 2009). Actuaries render a professional opinion for a fee, leaving

them susceptible to the conflict between providing advice based on objective analysis on the one hand, and serving the needs of their plan sponsor clients on the other hand, whose objective may be to justify ways of spending as little as possible on the plan (Financial Times 2004). A recent review of the U.S. actuarial profession stated “as long as a client can threaten to find another actuary to provide actuarial services, the implied leverage might well have an effect on the actuary’s work product” (CRUSAP Task Force 2006).

The Canadian Board’s mandate would be similar to the U.K. Actuarial Public Oversight Board (POB) established in 2005 “to promote more effective scrutiny and monitoring, to ensure that actuarial information is produced in accordance with the relevant technical and ethical standards, and to examine the current framework of self-regulation by the actuarial profession with respect to potential issues such as professional standards that have been weak, an absence of proactive monitoring of compliance and professional standards, and a profession that has been too introspective, not forward-looking enough.”⁵¹²

Similar to the U.K., Canada’s Oversight Board would be responsible for providing more effective scrutiny of actuarial discretion, as well as establishing clearer lines of accountability of actuaries to regulators, to the profession and to clients and employers. It could conduct detailed studies on how to best to govern actuaries’ discretion, addressing issues such as the conflict of interest that surrounds actuaries as agents of employers. The U.K. model (discussed below) could be adapted to Canada:

While the U.K. Actuarial Profession is still responsible for setting and operating its own regulatory arrangements, these are subject to review and scrutiny by the POB. If it has any concerns—in the

⁵¹² Society of Actuaries, *The Morris Review of the UK Actuarial Profession*, 2009. Online: < www.soa.org/library/newsletters/the.../the_2005august.aspx >.

public interest—about the efficacy of the arrangements, it may make recommendations to the Profession. The Profession will then comply with the recommendations within a reasonable period, or explain in writing why it is not doing so, on the basis that its reasons will be published and be subject to public scrutiny and media comment. The Profession will naturally think very carefully before it decides not to follow a POB recommendation.

The Profession's staff supplies the POB with explanations and statistics about its regulatory operations and have regular meetings. This activity has added to operating costs, but can be a useful discipline as it provides an external challenge to our work which might otherwise be lacking in a member-led organisation. For example, two recent FRC/POB consultations—on promoting actuarial quality, and the monitoring and scrutiny of actuarial work—have looked at how the Profession's activities fit with the work of financial services and pensions regulators, and the responsibilities of senior management and governing bodies, auditors and actuarial consulting firms.⁵¹³

More specifically, an independent external oversight board could mandate that all provincial pension regulators implement a five-stage rating system (similar to that of Canada's federal pension plan regulator (OSFI)) in order to standardize intervention into underfunded DB plans (before potential insolvency results in secured creditors claiming all of a company's assets):⁵¹⁴

- **Stage Zero:** No significant problems. Ongoing monitoring of the plan continues.
- **Stage One:** Early warning. Deficiencies in the plan's financial position are identified and it could be placed on a watch list. Provincial regulator increases monitoring of the plan and may require additional relevant filings.
- **Stage Two:** Risk to solvency. Provincial Regulator intensifies its supervisory interventions, requiring that the administrator take actions such as submitting a revised or early actuarial report or holding meetings with plan members.
- **Stage Three:** Future solvency in serious doubt. Provincial Regulator escalates its intervention because of immediate threats to plan members' benefits. Regulator can remove the plan administrator and appoint a replacement; designate an actuary to prepare a report for funding purposes; bring action against the administrator; or terminate the plan.
- **Stage Four:** Permanent insolvency. Regulator facilitates the wind-up of the plan.

Similar to the U.K., a Canadian actuarial oversight board could be combined with the Canadian Public Accountability Board (CPAB) for efficiency reasons.

⁵¹³ Caroline Instance, *Regulatory Environment of the U.K. Actuarial Profession: Background*, 2007. Online: < www.actuaries.org/CSO/Documents/Limassol_Item3.pdf >.

⁵¹⁴ *Supra*, See note 506.

E. Conclusion

One can only wonder how many post United Steel pension funding fiascos are currently brewing in Canada. Considering that private sector single employer defined benefit pension plans must be fully funded by law (i.e. the value of a plan's assets must be sufficient to meet its liabilities), the legal issue emanating from their systemic underfunding is whether or not actuaries have been using their discretion in a manner which is within a reasonable interpretation of the margin of manoeuvre contemplated by the legislature, in accordance with the principles of the rule of law.

This thesis argued that the complex and often times confusing regulatory regimes governing pension actuaries affords them too much scope for discretion, contributing to DB plan underfunding, insolvencies, and retirement income losses in the hundreds of billions of dollars. It concluded that the best legal remedy to arrest the underfunding and decline in the number of private sector single employer defined benefit pensions in Canada (by half a million since 2000) would be the establishment of an independent external actuarial oversight board.

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APPENDIX 1

CANADIAN FEDERATION OF INDEPENDENT BUSINESS (CFIB)

PENSION CALCULATIONS AND EXPLANATORY NOTES

Mary (public sector)

Year	CPI	Salary increase ^a	Salary ^{**}	PSSA contributions (self) ^{***}	Total self (\$)	PSSA contributions (employer)	Total employer (\$)	Total contributions (%)	Total contributed (\$)	10Y Canada Bond (yields & projections)	Total balance (\$)
1995			\$34,900	4.8%	\$1,675	7.8%	\$2,731	12.6%	\$4,406		\$4,406
1996	1.5%	3.00%	\$36,471	4.7%	\$1,714	7.7%	\$2,794	12.4%	\$4,508	6.4%	\$9,195
1997	1.7%	3.00%	\$38,185	4.5%	\$1,718	7.3%	\$2,801	11.8%	\$4,519	5.6%	\$14,230
1998	1.0%	3.00%	\$39,712	4.3%	\$1,708	7.0%	\$2,783	11.3%	\$4,491	4.9%	\$19,416
1999	1.8%	3.00%	\$41,618	4.0%	\$1,665	6.5%	\$2,714	10.5%	\$4,378	6.2%	\$24,995
2000	2.7%	3.00%	\$43,990	4.0%	\$1,760	10.3%	\$4,522	14.3%	\$6,282	5.4%	\$32,614
2001	2.5%	3.00%	\$46,410	4.0%	\$1,856	10.3%	\$4,771	14.3%	\$6,627	5.4%	\$41,015
2002	2.2%	3.00%	\$48,823	4.0%	\$1,953	10.3%	\$5,019	14.3%	\$6,972	4.9%	\$49,989
2003	2.8%	3.00%	\$51,655	4.0%	\$2,066	10.3%	\$5,310	14.3%	\$7,376	4.7%	\$59,694
2004	1.8%	3.00%	\$54,134	4.0%	\$2,165	10.3%	\$5,565	14.3%	\$7,730	4.4%	\$70,045
2005	2.2%	3.00%	\$56,949	4.0%	\$2,278	10.3%	\$5,854	14.3%	\$8,132	3.9%	\$80,930
2006	2.0%	3.00%	\$59,797	4.3%	\$2,571	9.5%	\$5,657	13.8%	\$8,228	4.1%	\$92,436
2007	2.2%	3.00%	\$62,906	4.6%	\$2,894	10.0%	\$6,279	14.6%	\$9,173	4.1%	\$105,390
2008	2.3%	3.00%	\$66,240	4.9%	\$3,246	10.8%	\$7,141	15.7%	\$10,386	2.7%	\$118,611
2009	0.3%	3.00%	\$68,426	5.2%	\$3,558	9.9%	\$6,761	15.1%	\$10,319	3.6%	\$133,200
2010	1.8%	3.00%	\$71,711	5.5%	\$3,944	10.7%	\$7,652	16.2%	\$11,596	3.2%	\$149,005
2011	2.9%	3.00%	\$75,942	5.8%	\$4,405	9.5%	\$7,180	15.3%	\$11,584	2.0%	\$163,509
2012	1.7%	3.00%	\$79,511	6.2%	\$4,930	10.1%	\$8,035	16.3%	\$12,965	1.8%	\$179,450
2013	1.7%	3.00%	\$83,248	6.9%	\$5,702	9.5%	\$7,867	16.3%	\$13,569	2.5%	\$197,506
2014	1.9%	3.00%	\$87,327	7.5%	\$6,550	8.8%	\$7,685	16.3%	\$14,234	3.5%	\$218,653
2015	1.9%	3.00%	\$91,606	8.2%	\$7,466	8.2%	\$7,466	16.3%	\$14,932	4.5%	\$243,424
2016	1.9%	3.00%	\$96,095	8.2%	\$7,832	8.2%	\$7,832	16.3%	\$15,663	5.1%	\$271,502
2017	1.9%	3.00%	\$100,803	8.2%	\$8,215	8.2%	\$8,215	16.3%	\$16,431	5.1%	\$301,780
2018	1.9%	3.00%	\$105,743	8.2%	\$8,618	8.2%	\$8,618	16.3%	\$17,236	5.1%	\$334,407
2019	1.9%	3.00%	\$110,924	8.2%	\$9,040	8.2%	\$9,040	16.3%	\$18,081	5.1%	\$369,542
2020	1.9%	3.00%	\$116,359	8.2%	\$9,483	8.2%	\$9,483	16.3%	\$18,967	5.1%	\$407,355
2021	1.9%	3.00%	\$122,061	8.2%	\$9,948	8.2%	\$9,948	16.3%	\$19,896	5.1%	\$448,026
2022	1.9%	3.00%	\$128,042	8.2%	\$10,435	8.2%	\$10,435	16.3%	\$20,871	5.1%	\$491,746
2023	1.9%	3.00%	\$134,316	8.2%	\$10,947	8.2%	\$10,947	16.3%	\$21,894	5.1%	\$538,719
2024	1.9%	3.00%	\$140,898	8.2%	\$11,483	8.2%	\$11,483	16.3%	\$22,966	5.1%	\$589,160
2025	1.9%	3.00%	\$147,802	8.2%	\$12,046	8.2%	\$12,046	16.3%	\$24,092	5.1%	\$643,299
2026	1.9%	3.00%	\$155,044	8.2%	\$12,636	8.2%	\$12,636	16.3%	\$25,272	5.1%	\$701,379
2027	1.9%	3.00%	\$162,641	8.2%	\$13,255	8.2%	\$13,255	16.3%	\$26,510	5.1%	\$763,660
2028	1.9%	3.00%	\$170,610	8.2%	\$13,905	8.2%	\$13,905	16.3%	\$27,809	5.1%	\$830,416
2029	1.9%	3.00%	\$178,970	8.2%	\$14,586	8.2%	\$14,586	16.3%	\$29,172	5.1%	\$901,940
Total					\$218,254		\$269,016		\$487,269		

Retires at age 65

Average best 5 years	\$163,013	
Annual pension in 2030	\$114,109	(based on standard formula for 70% income replacement in retirement)
Annual CPP (max) ^{*****} in 2030	\$19,476	
Net PSSA pension in 2030	\$94,633	
Total retirement benefit:	PV	\$1,382,221.51 (5.1% ROR; CPI indexed at 1.9%/yr ^{**} ; 20 yrs in retirement=age 85 ^{*****})
(over 20 years until age 85)		

Notes:

- *assumes an average salary increase of 3.0%/year (merit + service increases, promotions)
- **assumes 1.9% CPI indexation in line with projections
- *** assumes the 1995 YMPE as a starting salary
- **** assumes contributions are on income under the YMPE for any given year
- ***** based on maximum monthly CPP benefit: \$1,012 in 2013, increasing with the YMPE rate (3.0%/yr) over 16 years = \$1,623/month in 2030
- ***** assumes average life expectancy = age 85

Column E includes actual employee contribution rates between 1995 and 2011; 2013-2029 rates are projected based on changes announced in 2012 Federal Budget.
Column G reflects the approximate share of employer contribution rates for the same period.

Appendix 1: Calculations and Explanatory Notes

Jane (private sector)

Year	CPI	Salary increase ^a	Salary ^{***}	PSSA contributions (self) ^{****}	Total self (\$)	contributions employer ^{**}	GRRSP contributions employer (\$)	Total contributed (\$)	10Y Canada Bond (yields & projections)	Total balance (\$)
1995			\$34,900	4.8%	\$1,675	3.8%	\$1,326	\$3,001		\$3,001
1996	1.5%	3.00%	\$36,471	4.7%	\$1,714	3.8%	\$1,386	\$3,100	6.4%	\$6,293
1997	1.7%	3.00%	\$38,185	4.5%	\$1,718	3.8%	\$1,451	\$3,169	5.6%	\$9,815
1998	1.0%	3.00%	\$39,712	4.3%	\$1,708	3.8%	\$1,509	\$3,217	4.9%	\$13,512
1999	1.8%	3.00%	\$41,618	4.0%	\$1,665	3.8%	\$1,581	\$3,246	6.2%	\$17,593
2000	2.7%	3.00%	\$43,990	4.0%	\$1,760	3.8%	\$1,672	\$3,431	5.4%	\$21,965
2001	2.5%	3.00%	\$46,410	4.0%	\$1,856	3.8%	\$1,764	\$3,620	5.4%	\$26,780
2002	2.2%	3.00%	\$48,823	4.0%	\$1,953	3.8%	\$1,855	\$3,808	4.9%	\$31,895
2003	2.8%	3.00%	\$51,655	4.0%	\$2,066	3.8%	\$1,963	\$4,029	4.7%	\$37,411
2004	1.8%	3.00%	\$54,134	4.0%	\$2,165	3.8%	\$2,057	\$4,222	4.4%	\$43,275
2005	2.2%	3.00%	\$56,949	4.0%	\$2,278	3.8%	\$2,164	\$4,442	3.9%	\$49,418
2006	2.0%	3.00%	\$59,797	4.3%	\$2,571	3.8%	\$2,272	\$4,844	4.1%	\$56,263
2007	2.2%	3.00%	\$62,906	4.6%	\$2,894	3.8%	\$2,390	\$5,284	4.1%	\$63,848
2008	2.3%	3.00%	\$66,240	4.9%	\$3,246	3.8%	\$2,517	\$5,763	2.7%	\$71,329
2009	0.3%	3.00%	\$68,426	5.2%	\$3,558	3.8%	\$2,600	\$6,158	3.6%	\$80,055
2010	1.8%	3.00%	\$71,711	5.5%	\$3,944	3.8%	\$2,725	\$6,669	3.2%	\$89,254
2011	2.9%	3.00%	\$75,942	5.8%	\$4,405	3.8%	\$2,886	\$7,290	2.0%	\$98,294
2012	1.7%	3.00%	\$79,511	6.2%	\$4,930	3.8%	\$3,021	\$7,951	1.8%	\$108,034
2013	1.7%	3.00%	\$83,248	6.9%	\$5,702	3.8%	\$3,163	\$8,866	2.5%	\$119,600
2014	1.9%	3.00%	\$87,327	7.5%	\$6,550	3.8%	\$3,318	\$9,868	3.5%	\$133,654
2015	1.9%	3.00%	\$91,606	8.2%	\$7,466	3.8%	\$3,481	\$10,947	4.5%	\$150,616
2016	1.9%	3.00%	\$96,095	8.2%	\$7,832	3.8%	\$3,652	\$11,483	5.1%	\$169,781
2017	1.9%	3.00%	\$100,803	8.2%	\$8,215	3.8%	\$3,831	\$12,046	5.1%	\$190,485
2018	1.9%	3.00%	\$105,743	8.2%	\$8,618	3.8%	\$4,018	\$12,636	5.1%	\$212,836
2019	1.9%	3.00%	\$110,924	8.2%	\$9,040	3.8%	\$4,215	\$13,255	5.1%	\$236,946
2020	1.9%	3.00%	\$116,359	8.2%	\$9,483	3.8%	\$4,422	\$13,905	5.1%	\$262,936
2021	1.9%	3.00%	\$122,061	8.2%	\$9,948	3.8%	\$4,638	\$14,586	5.1%	\$290,932
2022	1.9%	3.00%	\$128,042	8.2%	\$10,435	3.8%	\$4,866	\$15,301	5.1%	\$321,070
2023	1.9%	3.00%	\$134,316	8.2%	\$10,947	3.8%	\$5,104	\$16,051	5.1%	\$353,496
2024	1.9%	3.00%	\$140,898	8.2%	\$11,483	3.8%	\$5,354	\$16,837	5.1%	\$388,361
2025	1.9%	3.00%	\$147,802	8.2%	\$12,046	3.8%	\$5,616	\$17,662	5.1%	\$425,830
2026	1.9%	3.00%	\$155,044	8.2%	\$12,636	3.8%	\$5,892	\$18,528	5.1%	\$466,075
2027	1.9%	3.00%	\$162,641	8.2%	\$13,255	3.8%	\$6,180	\$19,436	5.1%	\$509,280
2028	1.9%	3.00%	\$170,610	8.2%	\$13,905	3.8%	\$6,483	\$20,388	5.1%	\$555,642
2029	1.9%	3.00%	\$178,970	8.2%	\$14,586	3.8%	\$6,801	\$21,387	5.1%	\$605,366
				Total	\$218,254		\$118,175	\$336,429		

Retires at age 65

Total retirement benefit:
(over 20 years until age 85, no CPI indexing) **\$605,366**

Annual benefit in 2030
(5.1% ROR, 20 years in retirement, no CPI indexing) **\$48,988.88**

Notes:

- *Assumes an average salary increase of 3%/year (merit + service increases, promotions)
- **Average employer GRRSP contributions = 3.8%/year; source: Great-West Life, 2011 Capital Accumulation Plan Benchmark Report
- ***Assumes 5.1% ROR
- ****Assumes average life expectancy = age 85

Jane's scenario assumes exactly the same salary stream (incl. annual increases) and contribution rates (to a GRRSP) as those of the civil servant (Mary)

APPENDIX 2

ACTUARIAL COST METHODS USED IN FUNDING DEFINED BENEFIT

PENSION PLANS

Overview

One of the main reasons sponsors have abandoned (or frozen) DB plans in favor of DC plans is the volatile impact of DB plans' uncertain costs and funding contributions on their financial statements (especially since the mandatory adoption of "marked to market" accounting principles by public companies in 2011). DC plans do not necessarily have lower costs than DB plans, but they do have more predictable contribution levels. As discussed in previous chapters, DB contributions, which are directly linked to the funded status of DB plans, are notoriously difficult to predict.

Actuarial cost methods are used to smooth DB contributions and to dampen their volatility. These methods vary in their degree of transparency and on their impact on the schedule and volatility of contribution levels. It is important to note, however, that the ultimate cost of a pension plan is dependent on the level of benefits promised. In other words, the ultimate cost of a DB plan is not affected by the actuarial cost method. Actuarial cost methods simply allocate different portions of the total cost of a pension scheme to different fiscal years throughout the life of the scheme.⁵¹⁵ Juan Yermo comments on actuarial cost (funding) methods:

Actuarial funding methods should foremost be transparent. Actuarial funding methods that lead to sensible and smooth contribution patterns could be encouraged by regulators, although the specifics of a country's pension system must be taken into account. For

⁵¹⁵ Juan Yermo and Clare Severenson, *The Impact of the Financial Crisis on Defined Benefit Plans and the Need for Counter-Cyclical Funding Regulations*, OECD Working Papers on Finance, Insurance and Private Pensions, No. 3, OECD Publishing. Online: < www.dx.doi.org/10.1787/5km91p3jszxw-en >.

example, in Sweden pension costs in the main collectively bargained DB plan that covers 700,000 white-collar workers are required to be made using an actuarial cost method that spreads the cost of salary increases over employees' remaining years until retirement. This means that young people have very low pension costs whereas old people are significantly more expensive, especially should they receive a large pay increase. As Swedish DB accruals are directly linked to pension costs, this actuarial cost method is required in the collective agreement and would be difficult to change without restructuring the pension system.

In jurisdictions such as Canada, where a range of actuarial funding methods are available, plan sponsors most often use the straight-forward, yet somewhat volatile projected unit cost (PUC) method for funding purposes, since that method is typically required for accounting valuations. The PUC definition of accrued liabilities is clear and readily comparable with the accumulating fund assets, making favourable and unfavourable experiences easy to identify and understand. Finally, the PUC is the method selected by the major accounting bodies for the international pension expensing requirements⁵¹⁶ that were recently imposed on plan sponsors.⁵¹⁷

A numerical example may help clarify a key practical difference between the Projected Unit Cost method and another actuarial method called the Entry Age Method. Suppose a plan sponsor needs to contribute \$15,000 for a particular employee who will retire in five years, and that the sponsor fully funds the cost specified by either method. Under the Projected Unit method, the sponsor recognizes and funds, say, \$1,000 in the first year, \$2,000 in the second year, \$3,000 in the third year, \$4,000 in the fourth year, and \$5,000 in the fifth year. Under Entry Age Normal, the sponsor would pay a level amount of contributions over the five year period at a rate of \$3,000 per year. In other words, the sponsor using the Entry Age Normal method would have an actuarial accumulated

⁵¹⁶ In November 2011, the Accounting Standards Board of Canada (AcSB) amended Section 4600, regarding pension plans, in Part IV of the Canadian Institute of Chartered Accountants (CICA) Handbook. These changes come as a result of the issuance of International Financial Reporting Standard (IFRS) 13, Fair Value Measurement, in Part 1 of the CICA Handbook. Section 4600 requires the use of fair value for the measurement of investment assets and investment liabilities and also requires disclosures about how fair value has been determined.

⁵¹⁷ *Ibid.*

liability of \$9,000 and accumulated assets of \$9,000 after 3 years. Using the projected unit credit method, the plan would have a cumulative liability of \$6,000 and assets of \$6,000 after 3 years.

It is clear that the two approaches have different patterns of asset accumulation and liability recognition over time. Assuming the same funding ratios, the Entry Age Method attempts to create level contributions each year. In contrast, the Projected Unit Method is back-loaded (i.e. costs are lower early in an employee's career and increase dramatically as retirement nears.)⁵¹⁸ This method is obviously detrimental to employee's ability to receive their accrued pensions if a plan becomes insolvent in their early years of service.

In summary, an actuarial cost method is analogous to a mortgage on a house. A mortgage is simply a way of assigning the cost of the house to different years so that it is paid off over a certain period of time. In the case of a DB funding method, a methodology is used to assign the cost of a member's benefits to different years. The Projected Unit Cost Method is the most popular method used in DB plans in Canada for the following reasons:⁵¹⁹

1. It is more transparent than most other methods, and it produces a form of balance sheet that most people can understand.
2. Its definition of accrued liabilities is clear and readily comparable with the accumulating fund assets.
3. Favourable and unfavourable experience is easy to identify and understand.
4. It is the method selected by the major accounting bodies for the pension expensing requirements that have been imposed on plan sponsors.

The major funding problem associated with the Projected Unit Cost Method is that it is back-loaded, meaning that most of the costs of an employee's pension are paid in his or her later years of

⁵¹⁸ Alice H. Munnell, *The Miracle of Funding By State and Local Pension Plans*, Center for Retirement Research, 2008. Online: < www.crr.bc.edu/wp-content/uploads/2008/04/slp_5-508.pdf >.

⁵¹⁹ Collin Pugh, *Funding Rules and Actuarial Methods*, OECD Working Papers on Insurance and Private Pensions- No. 1 92006), OECD Publishing. Online: < www.oecd.org/pensions/insurance/37566192.pdf >.

service. In other words, in the event of insolvency an employee's accrued years of service will not generally be funded.

APPENDIX 3

Federal PBSA, Income Tax Act and Ontario PBA Amendments Addressing Underfunding

A. Income Tax Act Amendments

1. Increase to the Pension Surplus Threshold

Policy-makers have always sought to limit pension contributions to the amounts necessary to provide pension benefits because pension funds are sheltered from tax. In other words, they wanted to prevent over contributions for the purpose of tax avoidance. This is a legitimate policy objective, and it was the rationale for the original 10% surplus rule. However, the amended Income Tax Act (ITA) increased the allowable surplus from 10% to 25% in 2010.⁵²⁰ James Pierlot of Benefits Canada discusses the reasons for increasing the surplus limit:

A typical plan's funded ratio can expect to change by more than 10% one year in three with routine variations in investment return and bond yields.... There is a 25% likelihood that a 10% actuarial surplus in a plan valued on a going-concern basis and with assets smoothed will evaporate over any three-year valuation cycle. If a plan's assets are valued on a market basis, the likelihood is higher—33%. It's clear that whether a plan's assets are valued on a smoothed or on a market basis, 10% is not a sufficient margin to prevent a plan from going into deficit on a regular basis. A larger funding buffer can make pension contributions more predictable by reducing the need to increase pension contributions when there is an economic downturn or market correction—exactly when many employers are looking to reduce costs.⁵²¹

Unfortunately, the amended 25% surplus threshold did not mitigate employer's limited access to surplus.

⁵²⁰ However, employers are unlikely to build up surpluses in DB plans unless and until the issue of ownership of, and access to, surplus is better clarified in legislation. So far, pension reforms have not addressed this thorny issue. (Paul Litner, *Seeing Change*, Benefits Canada, 2010). Online: < www.benefitscanada.com/pensions/...law/bill-c-9-seeing-change >.

⁵²¹ James Pierlot and Steve Bonnar, *A Tale of Two Tax Rules*, Benefits Canada 2007. Online :< www.benefitscanada.com/pensions/...law/a-tale-of-two-tax-rules >.

2. Investment Rules

The amendments removed the quantitative limits in respect of resource and real property investments, now limiting pension funds to investing a maximum of 10% of the market value (rather than book value) of assets of the pension fund in any one entity.⁵²² The changes also prohibited self-investing, meaning that an employer will no longer be permitted to invest any amount of the pension fund in its own debt or shares. Previously such investments were permitted provided the employer's shares were sold on a designated stock exchange.

The federal government stated in its Regulatory Impact Analysis Statement that the reason for these changes was that in a prudent person environment,⁵²³ the quantitative limits in respect of real estate and resource properties are considered cumbersome and no longer required. However, the 30% concentration limit on ownership of the securities of a single entity remains, also for "prudential reasons." Amanda Darrach of Benefits Canada commented on these new federal investment rules:

As the regulators have moved into this "prudence" environment, those responsible for pension fund investment must pay attention to what, exactly, prudence is. The British court in *Cowan v. Scargill*, in discussing in which types of investments a pension fund could invest, required a trustee to "take such care as an ordinary prudent man would take if he were minded to make an investment for the benefit of other people for whom he felt morally bound to provide...."

For the Canadian Association of Pension Supervisory Authorities (CAPSA), prudence contains the following elements, which plan administrators will recognize as elements of fiduciary duties owed to plan members: "a duty to act prudently and with due diligence when managing the pension fund and its assets, a duty of loyalty to the pension fund and its members and a duty to be fair and even-handed when dealing with competing interests."

⁵²² Previously, a pension plan could hold no more than 5% of its portfolio in a single parcel of real estate or a Canadian resource property, no more than 15% total in Canadian resource properties and no more than 25% total in a combination of real estate and Canadian resource properties.

⁵²³ The November 2009 release of the Canadian Association of Pension Supervisory Authorities' (CAPSA) consultation paper called *The Prudence Standard and the Roles of the Plan Sponsor and Plan Administrator in Pension Plan Funding and Investment* (CAPSA Paper) was quickly followed by the federal government's announcement that the federal investment rules (FIR) would be amended to remove the quantitative limits on real estate and resource income properties.

There appears to be two aspects to prudence. One is the type of investments chosen by a pension fund. The other is the process by which those investment decisions are made. The changes to the federal investment rules (FIR).... may give plan administrators a little more room to manoeuvre when making investment decisions. However, these changes should also remind administrators that each decision should be well considered, well documented and, yes, prudent.⁵²⁴

The federal government's emphasis on "prudential reasons" in this amendment appears to be edging sponsors and their agents (i.e., actuaries), ever closer to having a fiduciary duty.

B. Federal Pension Benefits Standards Act (PBSA)⁵²⁵

1. Effective 2010 -Power to Replace Actuary

Bill C-9 amended the *PBSA* to give the Superintendent the authority to designate an actuary to prepare an actuarial report or termination report in respect of a plan where the Superintendent believes that this is in the best interests of plan beneficiaries. The administrator is entitled to review a draft of the designated actuary's report and may also provide comments. Once finalized, the plan administrator will be required to fund the plan in accordance with the designated actuary's report.

Bill C-9 also provided that the administrator must pay the reasonable fees and expenses of the designated actuary associated with preparation of the Superintendent-commissioned actuarial report out of the pension fund, which may be intended to override plan or trust language that would otherwise prohibit the payment of administrative expenses from a pension fund.

This amendment imposed a safeguard against accepting actuarial funding estimates which, in the opinion of the Superintendent, are not realistic based on current market conditions.

2. Effective 2010-New Solvency Funding Standard to Reduce Defined Benefit Funding

Volatility

One of the most significant changes to the PBSA funding rules was the introduction of a new

⁵²⁴ Amanda Darrach, *Pension Landscape Requires Due Diligence*, Benefits Canada, 2010. Online: < www.benefitscanada.com/pensions/.../pension-legal-landscape-requires >.

⁵²⁵ Murray Campbell and Ken Burns, *Lawson Lundell LLP, Pension Reforms 2009*, Pension and Employees Benefits Bulletin. Online: < www.lawsonlundell.com/media/news/143_Pension_Reform.pdf >.

standard for calculating solvency deficiencies. The purpose of the new standard was to reduce funding volatility for sponsors of defined benefit pension plans. Solvency funding is now determined based upon a three-year average of the funded ratios. Annual valuation reports are now required to be filed regardless of the solvency ratio.⁵²⁶ Each valuation establishes a new payment schedule of equal annual payments required to fund the plan based on the average solvency ratio, with the deficit being consolidated annually. This change will likely increase plan administration expenses, as prior to 2010 plan valuations could be prepared and filed once every three years if the plan was well funded. This new methodology is intended to provide plans with some relief from fluctuations in the markets and interest rates.

Although these relief measures are an attempt to relieve some of the pension funding burden faced by plan administrators during difficult economic times, it should be noted that they also increase the risk of plans terminating with funding deficiencies because contributions are deferred to future years. Plan administrators (who bear fiduciary obligations to their members) should be aware that

⁵²⁶ Subsection 12(2) of the PPSA and Section 2 of the Directives of the Superintendent pursuant to the PPSA (Directives) generally require that an actuarial report be prepared as of the effective date of the plan and annually thereafter as at the plan year-end (except under certain circumstances, as described below).

A plan administrator will generally be permitted to file an actuarial report every three years if:

1. The solvency ratio disclosed in the most recent actuarial report filed with OSFI was 1.20 or greater.
2. The pension plan meets the definition of a designated pension plan (Designated Plan) under Regulation 8515 of the Income Tax Act (ITA) (Designated plans are generally executive compensation DB plans not maintained pursuant to a collective bargaining agreement, in which the total of the pension credits of all specified individuals in the plan is more than 50% of the total of all pension credits of all individuals the plan for the year.) (Canada Revenue Agency, Registered Pension Plans Glossary. www.cra-arc.gc.ca).

as solvency deficits increase, administration decisions will come under increased scrutiny, making them more susceptible to legal challenges.⁵²⁷

3. Introduction of a Solvency Margin

A solvency margin concept has been introduced for federally regulated pension plans. The solvency margin effectively restricts an employer's ability to take a contribution holiday unless the plan is 105 percent or more funded on a solvency basis. While a 5% margin is no doubt a good idea, it discourages employers from maintaining surpluses, exacerbating underfunding.

4. 2014-Proposed Amendments to the federal Pension Benefits Standards Act (PBSA)

In response to the significant cost pressures put on plan sponsors to meet DB plan funding requirements (caused by record low interest rates, volatile equity markets and increasing longevity) the federal government released a potential framework for target benefit pension plans ("TBPs") on April 24, 2014. A TBP is a "middle ground" between defined benefit ("DB") and defined contribution ("DC") plans. Benefits from TBPs are "targeted," but not guaranteed (or "defined") and may be adjusted based on the financial status of the plan. Unlike DB plans under the current legislation, accrued benefits can be reduced. Required contributions in TBPs are capped or fixed in accordance with the terms of the plan.⁵²⁸

⁵²⁷ Kecia Podetz and Emond Harden, LLP, *Ontario and Federal Government Provide Temporary Funding Relief for Pensions*, 2010. Online: < www.ehlaw.ca/whatsnew/0908/Focus0908 >.

⁵²⁸ Level Chan, Stewart McKelvey LLP, April 2014: Federal Target Benefit Plan Consultation, 2014. Online: < stewartmckelveyblogs.com/.../april-2014-federal-target-benefit-plan-con >.

C. 2010-Amendments to Ontario Regulated Plans Under the PBA⁵²⁹

1. New Rules for Payment of Surplus to an Employer

The provisions of the PBA have been changed to clarify the rules regarding the payment of surplus to an employer in three circumstances: a continuing plan; a full plan wind up; and a partial wind up. The new provisions enacted by Bill 120 changed many of the rules as amended by Bill 236. Under the new surplus rules now in force, surplus can only be paid to the employer if one of the following two conditions is satisfied:

- (a) the employer demonstrates that it is entitled to the surplus under the terms of the pension plan (which involves a review of all current and historical documents relating to the plan and the pension fund), or
- (b) a written agreement that allows surplus to be paid to the employer (which requires the agreement of at least two-thirds of the plan members and an appropriate number of former members and other persons entitled to payments under the plan).

Section 77.12 of the PBA also provides that if the allocation of surplus is not addressed within a set period of time (to be determined by the regulations) following the partial or full wind up of a pension plan, the Superintendent has the authority to determine whether an arbitrator ought to be appointed to resolve the issue. FSCO has indicated that, until it issues a formal surplus refund policy, the Superintendent considers the agreement of two-thirds of the total number of former members and other persons entitled to payments under the plan to be “appropriate”. In other words, employers’ access to surplus is severely restricted, promoting minimum funding.

⁵²⁹ Elizabeth M. Brown et. al., *FTR Now Pension and Benefits, Ontario Pension Reform Round Up*, Hicks Morley, 2010. Online: < www.hicksmorley.com/images/pdf >.

2. Immediate Vesting

Under the old PBA rules employees registered in a plan less than two years were entitled only to a refund of their pension contributions plus interest. Bill 236 amendments provided immediate vesting and locking in of benefits for both DB and DC plans. In other words, upon termination of their membership, all members are entitled to the actuarial equivalent of their benefits (at a specified retirement age) based on their number of years of service.

3. Grow-in Rights⁵³⁰

Grow-in benefits entitle certain employees, who are terminated before they meet the eligibility requirements for enhanced benefits, to become entitled or in essence, to “grow into” the enhanced pension benefits even though their employment is terminated before they meet the eligibility requirements. Members of DB plans will qualify for grow-in early retirement benefits if their age plus service equals 55 points at the time of termination of employment. This means that if the plan provides enhanced benefits, such as unreduced early retirement to members who meet certain conditions, members who are terminated before meeting those conditions, but whose age plus service equals 55 points, can grow into and qualify for such enhanced pension benefits after their employment is terminated. An example is presented below:

Assume a plan provides for unreduced pension if the employee completes 30 years of credited service. If an employee is terminated before achieving 30 years of service, but has

⁵³⁰ Jason Hanson, *Ontario Employment Terminations: Implications of New Pension “Grow-In” Rules*, Osler, 2010. Online: < www.osler.com > News & Resources > Publications & Resources >.

55 points, the employee “grows into” the unreduced pension based on the actual service prior to termination. If the employee had 25 years of service at termination, then 5 years after termination the employee may receive an unreduced pension based on 25 years of service.

The old PBA rules provided grow-in benefits to members affected by full and partial wind-ups only if they met certain criteria, whereas the new rules will provide grow-in rights to all members who are involuntarily terminated in Ontario. Effective 2012, grow-in rights were provided to all members who were terminated without cause and whose combined age and service totaled at least 55. These new rules expanded grow-in coverage. This amendment could significantly increase a DB plan’s liabilities considering the thousands of lay-offs in Ontario’s manufacturing sector.

4. Special Orders

One such measure is granting the Superintendent the authority to issue special orders to file reports. Specifically, new subsection 87(6) of the PBA now allows the Superintendent, in prescribed circumstances, to order a plan administrator, employer or any other person to prepare and file a new actuarial report or another prescribed type of report in respect of a pension plan if, in the opinion of the Superintendent, there are reasonable and probable grounds to believe:

- (i) there is a substantial risk to the security of benefits payable under the plan; or
- (ii) there has been a significant change in the circumstances of the plan.

5. Actuarial Methods and Assumptions Used in Preparation of Reports

The Pension Reform Legislation amended subsection 87(4) of the PBA to permit the Superintendent to make an order requiring an administrator to take action, where the Superintendent is of the opinion that the assumptions or methods used in the preparation of a

report are not consistent with accepted actuarial practice and to permit the Superintendent to make an order requiring the administrator to take action where the Superintendent is of the opinion that the assumptions or methods used in the preparation of a report are inappropriate in the circumstances, regardless of the use of accepted actuarial practice.

6. Permitted Use of Letters of Credit

The Pension Reform Legislation contains provisions that enable an employer to use one or more letters of credit in lieu of cash contributions towards a solvency deficiency. The employer can use letters of credit (meeting prescribed criteria) in order to cover up to 15% of solvency liabilities. While most of the fees or expenses associated with obtaining or holding a letter of credit cannot be paid from the pension fund, fees associated with their enforcement may be. Unfortunately for plan members, letters of credit may be defaulted on in insolvency proceedings.

D. 2011 PBA Amendments⁵³¹

1. Trigger for Annual Actuarial Valuations⁵³²

Effective December 31, 2012, the Ontario PBA Regulations were amended to specify that annual actuarial valuations as of a date on or after December 31, 2012 for all pension plans (excluding JSPPs and specified Ontario multi-employer pension plans) are required where the actuarial valuation either excludes liabilities in respect of plant closure or permanent layoff benefits, or is funded less than 85% on a solvency basis.

⁵³¹ Elizabeth M. Brown and Natasha D. Monkman, *Ontario Pension Funding and JSPP Regulations Released*, Hicks Morley: FTR Now, 2011. Online: < www.hicks.com >.

⁵³² *Ibid.*

2. Enhanced Disclosure Regarding Funding⁵³³

Effective January 1, 2012, the prescribed requirement for pension plan annual statements was amended. Annual statements were required to include information regarding the transfer (solvency asset/liability) ratio of the pension plan set out in the two most recent actuarial valuations, and an explanation of the transfer ratio and how it relates to the level of funding of members' benefits.

E. 2014 Proposed PBA Amendments

1. Target Benefit Pension Plans⁵³⁴

The Pension Benefits Act (Ontario) (PBA) currently permits multi-employer pension plans established pursuant to a collective agreement or trust agreement to provide target benefits. Amendments to the PBA in 2010 introduced new target benefit provisions, available only to plans the contributions under which are collectively bargained, and subject to prescribed requirements. However, as of May 1, 2014 those provisions had not been proclaimed in force, no enabling regulations had been published and no framework had been developed for single employer TBPs. It is still unclear if the government intends to eliminate the requirement under the 2010 amendments that contributions to a TBP be collectively bargained, limiting their availability as a design solution to unionized employees.

2. Defined Benefit Plans⁵³⁵

The 2014 Ontario Budget proposed the following amendments applicable to DB pension plans, including:

⁵³³ *Ibid.*

⁵³⁴ Lorraine Allard and Mark Firman, McCarthy Tetrault, Ontario Budget 2014: *The Pension Budget, 2014*.
Online: < www.mccarthy.ca >.

⁵³⁵ *Ibid.*

1. New regulations defining the level at which a "contribution holiday" may be taken and its duration. There is no indication as to what this threshold may be.
2. New regulations requiring accelerated funding of benefit improvements in underfunded pension plans.
3. Additional rules to support the long-term sustainability of DB plans following stakeholder consultations. It is unclear what these additional rules may be.
4. An extension (to December 31, 2017) of the temporary exemption on (i) multi-employer plans; and (ii) jointly-sponsored pension plans (JSPPs), that are not subject to solvency funding, from the requirement that plans with solvency ratios of less than 85 per cent file valuations annually rather than triennially. The government will consult on permanent rules for such plans.
5. Amendments to the PBA to permit the conversion of single-employer pension plans (SEPPs) to JSPPs. Among other things, conversion would require: preserving beneficiaries' accrued benefit entitlements; providing advance notice to plan beneficiaries and trade unions; and obtaining the consent of the Superintendent of Financial Services and a requisite number of plan beneficiaries. New regulations would also permit employers to transfer SEPP liabilities to an existing JSPP.
6. As discussed above, the PBA currently exempts certain named JSPPs from solvency funding requirements. The 2014 Budget announced that the government may introduce broader solvency funding exemptions for JSPPs. If so, this could be the primary reason for the sponsor of a SEPP to consider converting to a JSPP.

APPENDIX 4

Discount Rates in Great Britain, the Netherlands, and the United States

1. Discount Rates in Great Britain

Dimitri Vittas of the World Bank notes that the United Kingdom has a long history of debating the proper valuation of pension liabilities, which is difficult to summarize in a way that does justice to the complexity and richness of the ongoing debate. The UK authorities imposed a Minimum Funding Requirement (MFR) in the mid-1990s, but this was short lived because it was cast in rather simplistic and inflexible terms that did not reflect changing market conditions. The MFR has been replaced with a more flexible approach that places strong emphasis on the strength of the employer covenant.⁵³⁶ Vittas discusses DB plans:⁵³⁷

In occupational pensions, pension plan trustees are required to adopt prudent assumptions, assisted with some guidance provided by the regulators. Trustees, in consultation with sponsoring employers, are allowed to set technical provisions either on the basis of the characteristics of the pension liabilities or on the assets backing the liabilities.⁵³⁸ In general, the discount rates should be below the expected long-term returns on plan assets to reflect the various risks facing the pension plans and to meet the legal requirement for "prudence".

Although the margin for prudence is not defined, an equity premium of around 1.5 percent over government bond rates is widely used for the liabilities of active members and a much smaller minimal risk premium for the liabilities of retired members. However, great emphasis is placed on the strength of the sponsor covenant.⁵³⁹ This is another way of

⁵³⁶ Dimitri Vittas, *Discount Rates and the Valuation of Pension Liabilities*, World Bank, 2010. Online: < www.previdencia.gov.br/arquivos/office/4_101201-142645-419.pdf >.

⁵³⁷ *Ibid.*

⁵³⁸ Technical provisions are the scheme-specific funding standard which pension schemes must target.

⁵³⁹ For example, Towers Watson has developed sophisticated proprietary tools allowing it to integrate covenant risk directly into Asset-Liability Management (ALM) analysis. It incorporates specific sponsor financial strength and risk exposures, and projects forward the likely range of future financial states of the sponsor. This is done in a way that is entirely consistent with the projected assets and liabilities of the pension plan. It investigates those projected scenarios when the sponsor is expected to default and assesses the likely reduction in benefits that members subsequently receive. This allows Towers Watson to develop measures that are more tailored and informative for fiduciaries. Linking these with more traditional upside ALM metrics such as expected return gives fiduciaries a next-generation risk/return tool that pushes

underscoring the exposure of pension plans to the solvency and integrity risks of the sponsoring employers. Pension liabilities are allowed to be valued at discount rates that are linked to the expected returns of pension plan assets, but the UK Pensions Regulator requires financially weak companies to use least-risk discount rates for the valuation of their pension liabilities. In addition, sponsoring employers are required to make up any shortfall on least-risk discount rate valuations before they transfer the liability through an insurance buy-out.

In other words, the UK Pensions Regulator adopted the opposite approach of most actuaries by invoking a low discount rate (i.e. higher contributions) when employers face financial difficulties and a high discount rate (i.e. lower contributions) when they are financially strong. This conservative regulatory regime should, in theory, promote full funding of financially troubled plans. However it begs the question of whether or not a sponsoring employer experiencing financial difficulties will be able to make the higher contributions necessary using a lower discount rate.

Vittas continues:

The UK authorities monitor the performance of pension funds but have not imposed the maintenance of buffer reserves. The trustees of pension plans are required to obtain actuarial valuations at least every three years. They must establish recovery plans in consultation with the sponsoring employer showing how any funding shortfall will be eliminated. In the event the recovery period exceeds 10 years, it may be investigated by the regulator and may be amended.⁵⁴⁰

Several European countries have, however, taken action to address the issue of the proper valuation of pension liabilities and the maintenance of adequate buffer reserves. Most notable among them are the Netherlands and Denmark.⁵⁴¹

the envelope. (Towers Watson, Sponsor Strength Covenant-Asset Liability Modelling (ALM), 2012. C-ALM Online: < www.towerswatson.com/DownloadMedia.aspx?media >.

⁵⁴⁰ *Ibid.*

⁵⁴¹ Institute of Actuaries and Faculty of Actuaries, *Actuaries and Discount Rates*, 2013. Online: < www.actuaries.org.uk > Research and resources >.

2. Discount Rates in the Netherlands

Edward Pond notes that similar to other OECD countries, the Dutch pension system is a multi-pillar system. Occupational pension plans are for the most part organized as multi-employer pension funds that are governed by collective labour agreements. These funds had long been based on final salary DB pension plans with special provisions for vesting and portability that did not penalize transfers across funds and thus did not discourage labour mobility.

During the boom years of the 1980s and 1990s Dutch pension funds increased their investments in equities, seeking higher returns, expanded benefits and contribution holidays. However, similar to other pension plans around the world, Dutch plans experienced a solvency crisis in 2001-2004 as a result of both a large drop in equity prices and low interest rates. This crisis caused funding ratios to decline significantly, from 131 percent in 2000 to 97 percent in 2002.⁵⁴²

The fall in the funding ratio reflected to some extent the adoption of 'fair value' accounting, replacing the traditional actuarial approach which aimed at stabilizing both the contribution rate and the funding ratio of pension funds by using actuarial estimates of assets and liabilities. The old rules mandated pension funds to discount liabilities at a constant rate of 4 percent rate and to report assets at actuarially adjusted values. The new rules require pension funds to use fair market values⁵⁴³ for both assets and liabilities. Use of the euro swap yield curve is compulsory.⁵⁴⁴

⁵⁴² Edward H.M. Ponds and Bart Van Riel, Sharing Risk: "The Netherlands New Approach to Pensions, Center for Retirement Research at Boston College", 2007. Online: < www.crr.bc.edu/wp-content/uploads/2007/04/ib_2007-5.pdf >.

⁵⁴³ In the Netherlands the Financial Assessment Framework (Financieel Toetsings Kader -- FTK) (part of the new Pension Act) was introduced in January 2007. It mandated a market-based valuation of pension liabilities for funding purposes, without any amortisation or smoothing options. As in other countries, estimated future salary growth is not to be considered in the measure of accrued liabilities. Future benefits are discounted using the current yield curve on default-free capital market instruments, rather than the fixed

The solvency and supervisory regime in the Netherlands has also been tightened. Pension funds are required to maintain a minimum solvency requirement of 5 percent of technical provisions as well as a buffer over liabilities, which depend on their asset composition and the extent of asset liability mismatches. The buffer is designed to reduce the probability of underfunding to only 2.5 percent within a one year horizon. Funds that invest more in equity or in fixed income assets with a shorter duration than the duration of liabilities must maintain stronger buffers.

Pension funds may opt to comply with a standardized model or build their own internal models to compute their solvency requirements, although these models need to be approved by the supervisor.⁵⁴⁵ In the standardized model, the solvency buffers are calculated through a stress test

rate of 4 percent as has been historically the case. The market yield is corrected for expected inflation if indexation of accrued pensions is unconditional; that is, if it does not depend on the performance of the pension fund. Liability measures are also expected to take into account further increases in longevity. Sponsor companies are also required to separate the liabilities that are "conditional" on the investment performance of the pension fund from those that are "unconditional". Funding requirements are applied only to unconditional liabilities (Juan Yermo, *Reforming the Valuation and Funding of Pension Promises*, OECD Working Papers on Insurance and Private Pensions No. 13, OECD Publishing. Online: < www.oecd.org/pensions/private-pensions/39427286.pdf >.)

⁵⁴⁴ The yield curve is a curve showing several yields or interest rates across different contract lengths (2 month, 2 year, 20 year, etc...) for a similar debt contract. The curve shows the relation between the (level of) interest rate (or cost of borrowing) and the time to maturity, known as the "term" of the debt for a given borrower in a given currency. For example, the U.S. dollar interest rates paid on U.S. Treasury securities for various maturities are closely watched by many traders, and are commonly plotted on a graph which is informally called "the yield curve". More formal mathematical descriptions of this relation are often called the term structure of interest rates. ((Wikipedia) Online: < en.wikipedia.org/wiki/Yield_curve >.)

An interest rate swap is a contract between two parties to exchange streams of interest payments. Typically, one stream of payments is based on a fixed rate of interest and the other stream on a floating rate of interest. Only the net cash flows are paid; the notional principal on which the interest payments are calculated is not exchanged. A forward rate agreement is equivalent to a single-period interest rate swap, in which interest payments are exchanged only once. A swap can be characterised as a portfolio of forwards. (Eli Remolona, *The Euro Interest Rate Swap Market*, BIS Quarterly Review, 2003. Online: < www.bis.org/publ/qtrpdf/r_qt0303f.pdf >.)

⁵⁴⁵ The year 1923 saw the creation of insurance supervisor Verzekeringkamer, whose remit was expanded in 1952 to include pension funds. In 2001, the name was changed accordingly, to Pensioen- & verzekeringkamer (Pension and Insurance Supervisory Authority of the Netherlands). On 20 October 2004, this PVK merged with De Nederlandsche Bank. (De Nederlandsche Bank, History of the PVK, 2007. Online: < www.dnb.nl/en/about-dnb/organisation/history >.)

based on six broad risk factors and a formula for aggregate risk that takes partially into account correlations across asset classes. The methodology implies that the typical Dutch fund will need to maintain a sizable buffer amounting to 30 percent of technical provisions (funding requirements). In order to reduce the size of the buffer, pension funds will need to reduce their asset/liability mismatches by shifting from equities to bonds or by increasing the duration of their bond portfolio. Pension funds with a funding shortfall are required to return to 100 percent funding within 3 years, while they are given 15 years to rebuild the solvency buffer to the required level.⁵⁴⁶

The new solvency approach, especially the compulsory use of the euro swap yield curve, have been criticized by the pension funds for being inflexible and for failing to take properly into account the long-term nature of pension liabilities. Nordic regulators, in particular, have been concerned for some time about persistently low interest rates and the lack of liquidity⁵⁴⁷ at the long end of the curve (long term investments, usually over 10 years) as insurers and pension funds in the region typically discount their liabilities using market rates.⁵⁴⁸ Dutch pension funds, for instance, are

⁵⁴⁶ Gregory Brunner et. al., World Bank, Risk Based Supervision of Pension Funds: A Review of International Experience and Preliminary Assessment of First Outcomes, Policy Research Working Paper 4491, 2008. Online :< www.elibrary.worldbank.org/doi/pdf/10.1596/1813-9450-4491>.

⁵⁴⁷ The degree to which an asset or security can be bought or sold in the market without affecting the asset's price. Liquidity is characterized by a high level of trading activity. Assets that can be easily bought or sold are known as liquid assets. (Investopedia. Online: www.investopedia.com/ >.)

⁵⁴⁸ The yield curve is simply the yields on bonds of varying maturities (typically from three months to 30 years) plotted on a graph. The yield curve illustrates what is called “the term structure of interest rates,” or the idea that a bond’s maturity and yield are connected. Typically (but not 100% of the time), short-term bonds offer lower yields, while longer-term bonds pay higher yields. As a result, the typical shape of the yield curve is a curve that begins on the lower left and moves to the upper right. This is typically referred to as a “normal” yield curve. Keeping in mind that prices and yields move in opposite directions, different factors influence movements on either end of the yield curve. Short-term interest rates (also called “the short end of the yield curve”) tend to be influenced by expectations for U.S. Federal Reserve policy. Short-term rates tend to rise when the Fed is expected to raise interest rates, and fall when it is expected to cut rates. Longer-term bonds (or the “long end” of the curve) are influenced to some extent by the outlook for Fed policy, but other factors play a role in causing long-term yields to move up or down. Foremost among these are the outlook for inflation, economic growth, supply-and-demand factors, and investors’ general attitude toward risk. Very generally speaking, slower growth, low inflation, and depressed risk appetites will help the performance of longer-term bonds (and cause yields to fall). Faster growth, higher inflation, and elevated risk appetites will

required to use a discount curve based on the euro swap market.⁵⁴⁹ This low rate setting has meant soaring liabilities and deteriorating funding ratios. As a consequence of the continuing credit crisis, this swap curve has reached record lows, resulting in low coverage ratios for many Dutch pension funds (which under current regulations have to be remedied within three to five years). This has led a large number of pension funds to announce benefit cuts for 2013 and beyond. This is certainly not true for all funds, however, as investment policy and hedging policies have diverged widely during the past few years.⁵⁵⁰ ABP, the largest Dutch pension fund, recently called on the authorities to adopt a more pragmatic approach and reconsider the mandatory use of the current swap curve, which has been depressed to very low levels by policy measures to contain the 2008 global financial crisis. ABP warned that cuts in benefits might have to be implemented since despite a strong investment performance on its asset portfolio it was unable to eliminate its reported funding shortfall.

3. . Discount Rates in the U.S.

Prior to passage of the Pension Protection Act of 2006, DB plans in the United States were permitted to smooth assets over five years and to discount liabilities using a five-year weighted average of interest rates. This smoothing produced a distorted picture of the financial health of plans during the early 2000s and led to very inadequate minimum funding contributions. This was a significant factor in the termination of the plans of United Airlines, US Airways, and Bethlehem

hurt performance (and cause yields to rise). All of these factors push and pull simultaneously to influence the direction of longer-term bonds. (Thomas Kenny, What is the Yield Curve? 2014. Online: < www.bonds.about.com › About Money › Bonds › Advanced Bond Investing >.)

⁵⁴⁹ The euro interest rate swap market is one of the largest and most liquid financial markets in the world. Indeed, the swap curve is emerging as the preeminent benchmark yield curve in euro financial markets, against which even some government bonds are now often referenced.

⁵⁵⁰ Gerard Roelofs et. al, IPE Magazine: The Netherlands, Pension Turmoil, Investment and Pensions Europe (2012). Online: < www.ipe.com/the-netherlands-pensions-turmoil/44229.fullarticle >.

Steel, all of which continued to increase benefits to members even though they were significantly underfunded on a solvency (termination) basis. The United States' Administration at that time strongly urged the Congress to reduce the permitted smoothing in the funding rules. Subsequently, the Pension Protection Act prescribed two year smoothing for discount rates.

Corporate pension plans in the U.S. determine the current value of their liabilities by using the rate of return on corporate bonds; otherwise known as the discount rate. As historically low bond rates over the past several years forced higher funding contributions, U.S. corporations lobbied Congress to change the discount rate. Pension discount rates were recently amended in the U.S. Highway Bill ⁵⁵¹ which was signed into law by President Obama on June 27, 2012. Under this new legislation, pension plans will be able to use a rate based on the average of the past 25 years instead of discounting long-term liabilities using a rate based on the average of the past two years, This is expected to increase the discount rate used to determine DB liabilities by more than two percentage points, increasing the current discount rate from the 4 percent range to roughly 6 percent. Since liabilities are sensitive to discount rate assumptions, a plan's liabilities will change roughly 15 percent for every one percentage point change in the discount rate. For example, Boeing reports that a mere quarter of a point increase in the discount rate could cut its pension liability by \$1.7 billion.

Since 2002, Congress has, on several occasions, let specific corporations use a higher discount rate to determine their contributions, including American Airlines which reduced its annual contribution to employee pension plans by \$2.1 billion. Unfortunately, the airline ultimately faced a shortfall in its pension plan that it could not afford to fund. It filed for bankruptcy in 2011. This begs the

⁵⁵¹ *Public Law 112-141, 112th Congress.*

question of why Congress would go along with a policy that provides short-term relief to employers but much longer-term risk to the pensioners. For one reason, ensuring the financial health of corporate America is vital to job creation prospects in these times of high unemployment. Furthermore, if corporations put less money into their pension plans, the federal government is left with more income to tax. According to the Joint Committee on Taxation, the result of shifting pension funding money from pension funds to income statement results in \$8.8 billion more in taxes over the next 10 years. An example of the impact of a higher discount rate is provided below:

Let's say you promise to pay your employee \$1 million in benefits in a lump-sum, 30 years from today. Assume your investments will return 10 percent annually. If you invest \$57,300 today it will grow into \$1 million over the next three decades. However, if you only assume a return of 7 percent, then you would have needed to put in \$131,400 today to have the same payout.

In other words, increasing the discount rate to the Highway legislation's unrealistic levels promotes the underfunding of DB pension plans and places the burden of the shortfall on both current and future generations, as many of these plans will undoubtedly face insolvency down the road. As Jason Fitchner states "That's not good funding policy, no matter what the short-term fiscal gains are for companies and government coffers."⁵⁵²

⁵⁵² Jason Fitchner, and Eileen Norcross, Real Clear Policy, *Paying Over Pension Liabilities*, 2012. Online: < www.realclearpolicy.com/.../paving_over_pension_liabilities_164.html >.

APPENDIX 5

Actuaries' Assumptions

Actuaries' Economic Assumptions

(i) Assets

At the end of 2012, Canadian pension schemes held approximately 34% in fixed investments, 17% in Canadian equities, 15% in global equities, 10% in real estate and the remainder in other investments.⁵⁵³ Practical methods of valuing pension plan assets for funding purposes have been described and classified, notably by Jackson & Hamilton (1968), Trowbridge & Farr (1976, p. 88), Winklevoss (1993, p. 171) and in a recent survey by the Committee on Retirement Systems Research (1998). Market-related methods are used most frequently in most jurisdictions.⁵⁵⁴

In Canada, the current market value of plan assets is used or else an average of current and past market values is taken in an attempt to remove short-term volatility. The assumptions the actuary must make in the valuation of assets include the employee and employer annual plan contribution rates, the rate of return on the assets and the discount rate to convert the future returns on the assets into current dollars on the valuation date.

⁵⁵³ Canadian Institutional Investment Network, *Canada's Pension Landscape Report-The Evolution of Risk* (Toronto: Invesco, 2012) at 9.

⁵⁵⁴ M. Iqbal Owadally and Steven Haberman: Society of Actuaries, The Pension Forum, Online: < <https://www.soa.org/.../pension.../pfn-2000-vol13-iss1-haberman-owadal> >.

(ii) **Liabilities**

In a defined benefit plan, the company is responsible for funding its employees' pension benefits. The value of the pension benefits earned (the "service cost") is typically specified in the plan text in terms of years of service and percentage of salary. However, in any given accounting period in which pension benefits are earned by an employee, the total length of service, the final average salary, and the number of years a pensioner will live after retirement are obviously, all uncertain. This means that the cost of the pension benefits (liabilities) can only be estimated based on the pension plan formula in the plan text and on actuarial assumptions about the determinants of the pension liability such as discount rates, inflation, and expected pay increases.⁵⁵⁵ These three actuarial assumptions are discussed below:

1. Discount Rates

For pension funding, this assumption is used to discount future benefits to determine the value of plan liabilities on the current valuation date. The discount rate should be a reasonable approximation of the future rates of return on the pension plan's assets. The discount rate is often referred to as the valuation interest rate. Different plans will have different discount rates, reflecting different investment strategies and varying opinions of future rates of return on plan investments. It is typically selected as a long-term reflection of the value of plan assets and liabilities.

⁵⁵⁵ *ibid.*

2. Salary Scale

This assumption is used to project an individual's future compensation based on current compensation. The salary scale assumption reflects expected inflation, productivity, seniority, promotion and other factors that affect wages.

3. Inflation

Inflation is a fundamental component of all economic assumptions made by actuaries and is generally estimated from government and private sources.

(iii) Pension Liability Calculations

A pension plan's liabilities can be calculated in different ways, but the same principles always apply. The actuary calculates the expected future pension payments for each participant in the plan using the company's participant data and plan provisions. These future benefit payments consider the individual's compensation and service history, and when that individual might be expected to die, quit, become disabled or retire. All projected future pension payments are discounted to current dollars using a discount rate estimated by the actuary. Actuaries call this discounted amount the present value of future benefits (PVFB). The PVFB represents the present value of all accrued benefits (as of the valuation date) expected to be paid from the plan to current plan members, retired or working. If actuarial assumptions are correct, the company will eventually need to set aside enough money (assets) to equal the PVFB (to cover all of the projected pension payments to current

workers and retirees). Actuaries have developed cost methods to divide the PVFB into the following three categories-past, present and future liabilities.⁵⁵⁶

(i) Actuarial Liability (AL) is the portion of the PVFB that is attributed to past service.

This is the estimate of the value of the compensation that was earned in prior working years and is often referred to as the Projected Benefit Obligation (PBO). Different cost methods (see Chapter 2 on page 249) calculate the AL differently, but it always reflects only past service. It reflects past service up to the current valuation date and reflects expected future pay increases. The AL reflects future pay increases because most pension plan benefits in Canada are calculated based on a worker's final 5 years of earnings before retirement.

(ii) Normal Cost (NC) is the portion of the PVFB that is attributed to the current year of service. This is the current value of the pension compensation being paid this year. Different cost methods calculate the NC differently, but generally it reflects the current year of service and may reflect expected future pay increases. It is also referred to as the Service Cost (SC).

(iii) Present Value of Future Normal Costs (PVFNC) is the portion of the PVFB that will be attributed to future years of service. Quite simply, it covers compensation that hasn't yet been earned. This number is not normally disclosed and is rarely used in any cost calculations.

The following example illustrates the differences in the above calculations.⁵⁵⁷

Joe participates in a pension plan that gives him 1 percent of final salary for each year of service he earns under the plan (1 percent x salary x service). Joe is currently age 55, has worked for 20 years for the company, and his current pay is \$50,000. The actuary assumes

⁵⁵⁶ American Academy of Actuaries, *Fundamentals of Current Pension Funding and Accounting for Private Sector Pension Plan* at 5, 2004.

⁵⁵⁷ *Ibid.*

Joe will retire at 65, after working 30 years for the company, with an estimated future pay of \$75,000.

Joe's present value of future benefits or PVFB is based on the salary he is actually expected earn from the plan at the end of all of his years of service. His PVFB is the actuarial present value of all the pension benefits he is projected to have earned at age 65. This projected age benefit is calculated as 1 percent multiplied by his projected salary at 65 multiplied by his projected service at 65, or $1 \text{ percent} \times \$75,000 \times 30 \text{ years} = \$22,500$.

• **Joe's actuarial liability or AL** can be calculated using several funding methods. In this example, the most common method used in Canada, the Projected Unit Cost Method (based on past service and expected future pay cost method). The liability is based on Joe's expected future salary, but only takes into account the service he's earned up to the valuation date. The AL is the actuarial present value of $1 \text{ percent} \times \text{his projected salary at 65} \times \text{his years of service up to the current valuation date (at age 55)} = (1\% \times \$75,000 \times 20) = \$15,000$.

• **The normal cost or NC** is calculated under the same method as the AL, but only reflects the projected funding requirement for the current year of service. So, continuing with the Projected Unit Credit Cost method, the NC is the actuarial present value of $(1 \text{ percent} \times \text{his projected salary at 65} \times 1 \text{ year of service})$, or the actuarial present value of $(1 \text{ percent} \times \$75,000 \times 1) = \$750$.

APPENDIX 6

Surplus Regulatory Amendments to the Federal Income Tax, the Ontario PBA, and the Federal PBSA

1. Federal Income Tax Act (ITA)

All registered pension plans in Canada must comply with the rules found in the Income Tax Act (Canada) and its regulations. Bill C-9 has increased the amount of surplus that can accumulate in a defined benefit provision of a plan for contributions made in respect of post-2009 service from 10 percent to 25 percent of actuarial liabilities without triggering adverse tax consequences. This amendment was designed to put less pressure on pension plan sponsors to deal with surplus management issues.⁵⁵⁸ However, new provincial regulations and case law have made it much more difficult for sponsors to access surplus, casting doubt on whether they will be willing to accumulate additional surpluses in their pension plans under improved economic conditions. A key current impediment is the asymmetry faced by sponsors, whereby pension fund surpluses are increasingly seen as the property of plan members, while deficits remain the sole responsibility of the sponsor. For example in the landmark Supreme Court of Canada case *Schmidt v. Air Products*, the Court held that pension trusts are classic trusts and therefore employees own the surplus upon wind-up unless the pension text says otherwise.

2. Ontario PBA

The statutory framework governing occupational pension plans for Ontario employees remained largely unchanged for about 20 years until 2010 when the Ontario government passed two significant pension reform Bills (120 and 236), amending the Pensions Benefits Act (PBA). The

⁵⁵⁸ Jean-Pierre A. Laporte and Susan G. Seller, *Pension Reform: Ontario's Bill 236 and Canada's Bill C-9 Are Now Law-Are You Ready?* Bennett Jones Pension and Benefits Update, 2010. Online: < www.bennettjones.com >.

Pension Benefits Act (PBA), as amended by the Pension Benefits Amendment Act, 2010 (Bill 236) and by Securing Pension Benefits Now and for the Future Act, 2010 (Bill 120), introduced new surplus withdrawal rules that came into force in 2010. Under the new surplus withdrawal rules an employer can receive payment of surplus from a continuing pension plan or on the wind-up of a pension plan in one of three ways:⁵⁵⁹

1. If the documents that create and support the pension plan and pension fund provide for the payment of surplus to the employer; or
2. If a written agreement between the employer and at least two-thirds (2/3) of members and an appropriate percentage of former members, retired members and other persons who are entitled to payments under the plan provides for the payment of surplus to the employer; or
3. if the payment is authorized by a court order declaring that the employer is entitled to surplus while the plan continues (where the application is for consent to payment of surplus to an employer out of a continuing plan), or when the plan is being wound up (where the application is for consent to payment of surplus to an employer out of a plan that is being fully wound up).

The major reforms impacting actuarial surplus are:

1. Section 77.1- elimination of partial wind-ups (i.e. S.C.C. Monsanto Decision which awarded employees surplus no longer applicable)
2. Section 77.11- plan text rules supreme in governing surplus entitlement. If the text is silent on payment of the surplus to the employer on wind-up, it shall be distributed proportionally to members, former members and retired members.
3. Section 77.11(4) - If a pension plan is a successor pension plan and if it is being wound up, the employer is not entitled to payment of surplus under the pension plan unless the documents that created and supported the original pension plan and pension fund and those that create and support the successor pension plan and pension fund both provide for payment of surplus to the employer on the wind -up Agreement about surplus.
4. Section 77.11 (7) - A written agreement among the following persons may provide for payment of surplus to the employer in the circumstances specified in the agreement and as of the date specified in the agreement:
 1. If the surplus is to be paid to the employer while the pension plan continues in existence,

⁵⁵⁹ Financial Services Commission of Ontario, *Surplus Withdrawal*, 2012. Online: < www.fsco.gov.on.ca >.

- i. the employer,
- ii. at least two-thirds of the members of the pension plan (and, for this purpose, a trade union that represents members may agree on behalf of those members), and
- iii. the number which is considered appropriate in the circumstances by the Superintendent of former members, retired members and other persons who are entitled to payments under the pension plan as of the specified date for payment of the surplus.

2. If the surplus is to be paid to the employer on the wind up of the pension plan,

- i. the employer,
- ii. at least two-thirds of the members of the pension plan (and, for this purpose, a trade union that represents or represented members on the date of the wind up may agree on behalf of those members), and
- iii. the number which is considered appropriate in the circumstances by the Superintendent of former members, retired members and other persons who are entitled to payments under the pension plan as of the date of the wind up.

5. Section 77.11 (8) - A written agreement prevails over any document that creates and supports the pension plan and pension fund and it prevails despite any trust that may exist in favour of any person.

6. Section 6 (10) -An arbitration award prevails over any document that creates and supports the pension plan and pension fund, it prevails over subsections (3) and (4), and it prevails despite any trust that may exist in favour of any person.

7. Section 55.1 (1) - An employer required to make contributions under a pension plan, or a person or entity required to make contributions under a pension plan on behalf of an employer, may reduce or suspend, in the prescribed manner, contributions for the normal cost of the pension plan if the pension plan has a surplus and if such other requirements as may be prescribed are satisfied.

8. Section 80-The long-awaited amendments to the Ontario Pension Benefits Act ("PBA") regarding the transfer of assets between pension plans became effective on January 1, 2014. New supporting Regulations under the PBA[1] (the "Asset Transfer Regulations") also came into force on January 1, 2014 mandating that If the original plan has a surplus as of the effective date of transfer, the amount of assets to be transferred must include a portion of the surplus determined in accordance with the Asset Transfer Regulations. In other words, Section 80 of the Ontario PBA (mandating the transfer of DB pension surplus to the transferred employees' new DB plan) trumps the Supreme Court of Canada's 2010 decision in Burke.

The underlying policy of this new Ontario surplus legislation is as follows:

- a. A written agreement prevails over any document that creates and supports the pension plan and pension fund and it prevails despite any trust that may exist in favour of any person.
- b. Employers must adhere to strict guidelines to access actuarial surplus in on-going plans and terminated plans.
- c. Employers are entitled to take contribution holidays under specific guidelines prescribed in regulations.

In summary, surplus withdrawal is severely restricted by trust law, as per the Supreme Court decisions above. However, trust law may be trumped by written agreements as per pension standards legislation (Section 77.11(8)) above).

3.Federal PBSA

The federal government passed Bill C-9 in 2010 (which came into force in July, 2011), introducing the following reforms to surplus and contribution holidays under the Pension Benefits Standards Act:

1. Payments by employer

3.9(13.5)...the introduction of a solvency margin that precludes sponsors from taking contribution holidays, unless the solvency ratio exceeds full funding plus the margin, which is set at a level of 5% of solvency liabilities;

A solvency margin concept has been introduced for federally regulated pension plans. The solvency margin effectively restricts an employer's ability to take a contribution holiday unless the plan is 105 percent or more funded on a solvency basis. This legislation provides a more stable funding policy for DB plans by preventing employers from taking contribution holidays every time a small surplus exists, reducing it to zero.

2. Partial termination

(4.1) Only the Superintendent may declare part of a pension plan terminated.

Employers who sell a part of their business should consider the potential effect these new restrictions will have on members. In the scenario where the transferring employer and the purchaser do not agree to a transfer of assets and benefit liabilities, the employer will not be permitted to declare a partial wind up to distribute benefits, including any actuarial surplus, to the transferred employees. Under these circumstances, the PBSA Sale of Business Provisions deem transferred employees' membership in the original employer's plan not to have ceased and require such members to continue to accrue service, including benefits and any actuarial surplus in the plan. This "partial termination" legislation (similar to the "payments by employer" legislation above), was intended to provide a more stable funding policy by protecting the interests of transferred employees until the deal is completed.

APPENDIX 7

Target Benefit/Funding Policy⁵⁶⁰

Table 1: Key elements of a TB benefit/funding policy	Nature
Funding methodology	A benefit/funding "test" to be used to measure the long-term sustainability of the relationship between "funds available" and "funds required", where: "funds available" refers to more than the existing assets and includes expected contributions in the future; and, "funds required" refers to the value of both past and future benefits.
Actuarial assumptions	A basis for setting actuarial valuation assumptions to value the "funds required".
Reserve levels and trigger points	Consisting of a pre-defined range/zone of acceptable financial measures along with trigger points that would signal benefit adjustments.
Benefit priorities	A pre-determined approach to benefit adjustments at each trigger point.
"Disaster" plan	A clear accountability and responsibility for "disaster" scenarios, where results fall far outside of the range of the pre-defined trigger points.

Aon Hewitt specifically outlines two actuarial principles required for target benefit plan sustainability testing:

1. The actuarial valuation determines the ability of plan funding to support benefits, with no concept of "deficit" or "surplus" as at the valuation date. Plan funding is fixed and benefits vary based on the trigger points identified in the benefit/funding policy. The actuarial valuation takes a long term view. It includes a benefit/funding test conducted on a regular cycle and incorporating a projection valuation.
2. Sensitivity and/or stochastic testing is conducted to estimate the probability that the plan benefits are sustainable. From a regulatory point of view, there are already guidelines and tools at hand to successfully implement TB.⁵⁶¹ We believe the key to regulating TB pension plans is the benefit/funding policy. The policy needs to be

⁵⁶⁰ *Ibid.*

⁵⁶¹ Multi-employer plans are regulated target benefit plans.

clear, sufficiently detailed, and reasonable in light of the risk-sharing deal between plan sponsor and members. It needs to* be supported by a sustainability analysis that involves adequate risk testing using projection valuations, and that analysis must be revisited periodically. In addition to a solid benefit/funding policy, the governance structure and member communications must also be aligned to the risk-sharing nature of the pension deal.

APPENDIX 8

Funding Requirements of Target Benefit Plans⁵⁶²

1. Need for Flexibility

Rigid funding rules would be an important deterrent for employers who would consider establishing TBPs (as was the case for member-funded pension plans in Quebec).⁵⁶³ In order for TBPs to become a successful pension arrangement, an important degree of flexibility must be allowed under the funding regulations that will be adopted in respect of TBPs.

2. Actuarial Assumptions

As discussed above, the Canadian Institute of Actuaries (CIA) and the Actuarial Standards Board (ASB) have already set out numerous standards and guidance that should be followed for the valuation of pension plans, based on the structure of the pension plan and the risks and obligations that it entails. Target benefit pension plans have existed for decades in several jurisdictions (e.g., MEPPs) and valuation assumptions are monitored in the current framework.

Given the delicate balance of delivering the promised benefits versus providing adequate benefits and intergenerational equity, the policy objectives of any constraints that might be imposed by regulators on the actuarial assumptions that may be used for valuation purposes should be clearly articulated. However, it should be clearly understood by all stakeholders that any mandated margins will reduce the benefits of the plan on a per dollar contribution basis, thereby reducing the effectiveness of the plan in delivering adequate retirement benefits.

With any margin, there will be a shift in intergenerational equity. It may be difficult to justify why a desired margin should be established if the funding target is 100% over time (recognizing

⁵⁶² The Association of Canadian Pension Management (ACPM), *ACPM Target Benefit Plan Paper*, ACPM, 2012. Online: < [www.acpm.com/ACPM/.../ACPM_Target_Benefit_Plan_Paper\(Final\).pdf](http://www.acpm.com/ACPM/.../ACPM_Target_Benefit_Plan_Paper(Final).pdf) >.

⁵⁶³ A member funded pension plan (MFPP) is a defined benefit plan with a career average earnings or flat benefit formula without automatic indexation in which the risks of plan funding are borne entirely by the members. Employer contributions are set in advance and do not vary in case of actuarial deficit. Actuarial deficits incurred while the plan is in force are funded by active members. Asset shortfalls on plan termination result in a reduction of the pension payable to members and beneficiaries. On the other hand, surplus assets while the plan is in force or on its termination are used to increase benefits or give members a contribution holiday, subject to certain constraints. In other words, employee contributions fluctuate depending on actuarial deficits and surpluses. (Normandin Beaudry, *Member Funded Pension Plans*, NB Bulletin Vol. 10 N. 2, 2007. Online: < www.normandin-beaudry.ca › Publications › Archives › 2007 >.)

that any margin creates a lower benefit target). At the time when sponsors are determining the TBP provisions, any desired funding margins should be documented in a funding policy to be adopted for the plan.

The TBP text or its funding policy (or administrator to the extent allowed by the TBP text or funding policy) should be allowed to determine when specific margins for adverse deviation are required and their magnitude. In other words, no minimum margin should be required by the legislation. However, margins can be developed and communicated in a funding policy to reflect the economic realities, desired risk tolerance and the importance of intergenerational equity. In addition, it is important for TBP members and sponsors to be informed that there is no participation in the Ontario PBGF⁵⁶⁴ and that deficits on wind up are not required to be funded.

3. Valuation Methods and Rules

The target benefits should be measured and funded on a going concern basis. A valuation on a wind up basis should only be required for disclosure purposes. The actuarial method used (e.g., projected unit credit, modified aggregate, etc.) should not be defined in the legislation but should be determined by the TBP sponsor (in consultation with actuarial advisors) and articulated in the plan text or funding policy (or assigned to the administrator by the TBP text or its funding policy), including a clear definition of what happens to benefits if funding deficits or surpluses emerge. Again, we believe that CIA professional standards and guidance will suffice to produce the proper valuation of the liabilities. If regulations were to prescribe the valuation standards and methods they must clearly address the variety of inherently different risks by type of plan, which we believe would be too constraining or cumbersome.

An amortization period should be determined by the TBP text, funding policy or administrator based on the objectives of the plan. If the pension regulators should deem it necessary to impose a maximum permitted amortization period, the current period applicable to going concern deficits DB plans (i.e., 15 years) should be preferred.

⁵⁶⁴ This fund is exclusive to Ontario – no other province in Canada has a fund like this. Members outside Ontario with DB pension plans unfortunately don't have their pension guaranteed by the government.....There are certain instances where your pension isn't fully covered by the fund. The fund only covers the first \$1,000 per month of your pension – anything in excess is not covered. While required employer premiums continue to rise, the \$1,000 per month guarantee has remained the same since 1988. There are several further instances where you won't be covered: benefit improvements that came into effect three years prior to the wind up date of your pension plan, pensions from federally-registered pension plans (industries like airlines and transportation) and any pension plan indexing that place plan wind ups. The fund is exclusive to DB pension plans – Defined Contribution (DC) pension plans are not covered. (Sean Cooper, *Million Dollar Journey*, A Primer on the Pension Guarantee Fund, 2012. Online: < www.milliondollarjourney.com/a-primer-on-the-pension-benefits-guaran...>).

4. Disclosure

A TBP sponsor, or else the administrator in some cases, should be required to adopt both a funding and a benefit policy reflecting the terms of the TBP text, and such policies should have to be communicated to all plan members and the participating employer(s).

5. Plan Termination

Rules as to treatment of benefits/funding on plan termination must be clearly set out in the TBP text, and be subject to (i) prescribed minimum standards, and (ii) regulatory approval. Minimum standards must set out those items to be included in the plan text, but should include some flexibility. Once established in the plan text, there should be little or no discretion left to the administrator, except where interpretation may be required. In other words the plan text should, to the extent possible, address how deficits and surplus gets allocated on wind up. For example, if there is a deficit, the plan text may require that benefit improvements within the 5 years preceding wind up get reduced first or may establish other types of priorities.

6. Treatment of TBPs for Accounting Purposes

One of the reasons why some employers do not wish to continue sponsoring a DB pension plan is the way that accounting rules impose recognition of financial risks (i.e. liabilities) on their financial statements. If we would like employers to embrace TBPs, it is considered crucial for employers (especially in the private sector) to be able to account for their participation in the TBP using the accounting rules applicable to DC plans, as is the case for most MEPPs.

However, it will be important to ensure that no rules relating to TBPs that are incorporated into the pension standards legislation could compromise the classification of TBPs as DC plans for accounting purposes. For example, there should be no rule requiring a minimum benefit equal to the member's accumulated contributions. However, it would still be possible for some plans to provide such a minimum guarantee if desired, although some employers may be reluctant to participate in such plans if they are concerned about the accounting treatment.

It will also be important to verify whether certain transitional rules might have an impact on whether a TBP retains certain DB features that make it impossible to apply the DC accounting rules. For example, depending on enabling legislation, if an employer wishes to transition from an existing DB plan to a TBP in respect of future service, but the transitional rules impose the continuation of certain DB features (such as a minimum pension for past service or for existing retirees), it is not obvious at this point that an employer could simply maintain two components within a single plan or whether it would be necessary to completely segregate the two groups in separate plans. Such potential uncertainty would need to be clarified when rules are drafted.

7. Treatment of TBPs for Tax Purposes

TBPs are intended to be tax-assisted retirement savings plans and as such amendments to the ITA will likely be necessary to recognize the TBP as a new type of retirement savings plan, similar to the ITA amendments recently proposed for PRPPs. The ITA treatment of TBPs should ensure that:

1. Employer and employee contributions to the TBP are deductible.
2. Investment income and gains on assets held by the TBP are non-taxable.
3. Benefits are taxed in the hands of the individual member upon retirement.
4. Benefits payable from the TBP are eligible for pension income credits and pension income splitting, as with other types of pension payments.
5. Tax limits are calculated using either (i) DB tax limits (which are benefits focused), or (ii) DC tax limits (which are contributions focused).

8. Transitional Rules

In order for TBPs to be a viable alternative for plan sponsors, it is considered essential to permit the transition or conversion of benefits from a sponsor's current DB plan to a TBP. It is suggested the following rules be adopted for transitioning past service traditional DB benefits to a TBP:

A. Structure and Funding of Past Service Benefits

For simplicity, in order to transition past service traditional DB benefits to a target benefit design, a TBP should be a stand-alone pension plan. New hires who enter the TBP would accrue all benefits on a target basis. Those employees who would "convert" or "transition" from the employer's traditional DB plan to the TBP should accrue future benefits (from the effective date of transfer) on a target basis. The employer should be permitted to offer these employees and inactive DB plan members the option of transferring past service benefit liabilities (and a proportionate amount of the DB plan assets) to the TBP.

Where there is a funding deficit in respect of transferred DB liabilities, the employer should continue to fully fund these liabilities by way of special payments for the remainder of the going concern or solvency amortization period in accordance with the schedule of payments as of the date of conversion. The key concept regarding the 100% past service benefit funding is that a former DB member should commence participation in the TBP with a clean slate and assume

the risk the TBP represents after this date. The funding payment schedule in respect of past service benefits should not vary from what is in place prior to conversion. Any experience gains or losses in respect of these benefits that occur after the date of entry should fall under the TBP design and as such these past service benefits could be increased or reduced. Should the TBP be terminated prior to the end of the past service funding payment schedule, the employer would still be required to pay the remaining balance of its schedule of payments as at the date of conversion.

B. Consent to Transition/Convert

Similar to the current rules for conversions from DB to DC benefits, if the DB plan sponsor wishes to offer a DB to TBP conversion each active or inactive member eligible for the conversion option should be given the right to elect whether or not to convert their past service benefits to the TBP (regardless of whether or not he or she is represented by a union). Each eligible member should receive a statement setting out the information needed in order for the member to make an informed decision. The information to be contained in the statement should be prescribed.

9. Implementation of Target Benefit Plans⁵⁶⁵

A. From an operational and design perspective:

1. Joint governance-There are additional fiduciary risks associated with a TB plan if the employer manages it independently of members. The sharing of all plan risks between employers and members can be achieved only if all parties actively participate in the management of the plan in a meaningful way.

2. Scale-These plans need to be large enough to have meaningful pooling of plan risks, as well as have the resources to handle the additional management costs.

3. Regular ongoing monitoring-The use of stochastic projection tools rather than typical deterministic actuarial valuations are critical to understanding how to test the pricing of plan benefits and to determine reasonable margins and reserves.

4. Distinct benefits/funding policy-With fixed contribution rates, the funding policy should provide clear direction on margins to establish in the pricing of plan benefits and target reserve levels and should also specify trigger points for benefit adjustments.

⁵⁶⁵ Barry Gros, Karen Hall, and Claude Lockhead, *A New Approach for Sustainable Retirement Income, Plans and Trusts*, 2013. Online: < www.ifebp.org/inforequest/0163251.pdf >.

5. Equity-driven designs-Intergenerational equity can be managed through a focus on career pay, minimizing early retirement subsidies and having no subsidized spousal benefits.

6. Cost-sensitive designs-It is important that the TB design be based on conscious identification and decisions regarding allocation of plan costs. This might involve providing benefit indexing only nominally or on a conditional basis, or defining normal retirement age in terms that adjust with mortality improvements.

7. Expanded member communication-The nature of a TB plan warrants clear and ongoing communication, with the potential upside of much greater member engagement.

B. From a regulatory perspective:

1. Exemption from regular funding rules for traditional DB plans.

2. Acceptance as a DC plan for pension accounting purposes.

3. Acceptance as a DC benefit for tax-reporting purposes (i.e. pension adjustment).

4. Availability outside of collectively bargained situations, provided certain governance-related criteria are met.