

Vision

In-depth analysis of a major pension or benefits issue of long-term significance

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Getting the most out of your retirement savings

By Fred Vettese, Chief Actuary

Only one worker in ten in the private sector is covered by a traditional workplace defined benefit (DB) pension plan. This means that millions of middle-income Canadians are relying on individual RRSPs, group RRSPs, TFSAs and workplace defined contribution (DC) pension plans for their retirement income security.

If you are one of them, you will probably accumulate retirement savings for 30 or 40 years. Over that period, you will almost certainly make some mistakes – or experience some bad luck – in terms of your choice of service-providers, investment products or market timing, but as long as you contribute regularly, your account balance will eventually grow into a substantial amount. Whether it is enough is another question.

The day will come when you finally enter “decumulation mode”, a rather ungainly term which involves retiring and starting to draw an income from your savings. After decades of saving, it can be stressful to see your money start to dwindle. It will be especially stressful if you do not know whether the retirement income will last the rest of your life.

This issue of *Vision* is the first of several installments dealing with the thorny issue of decumulation. We will start on a positive note, by describing a decumulation strategy that can greatly improve the chances of producing the income you will need while reducing your risk of falling short.

Many DC plans¹ were created in the late 1980s or early 1990s to take the place of DB plans that had closed their doors forever to new members. Those DC plans are now maturing, and as they do, individual account balances are becoming substantial (see sidebar). At the same time, baby boomers are starting to retire in large numbers. As a result, it is not surprising that *decumulation* has become the latest buzzword in the pension industry, even though it is still not recognized as a word in most dictionaries!

The central question is, how can you make the decumulation process as effective as possible? Or to put it differently, how can you turn your savings into a retirement income stream that best meets your long-term needs? To answer this question, you need to make three very important decisions:

1. No one wants to outlive their savings but how much of a reduction in retirement income are you prepared to take to ensure such an outcome will not happen?

This question recognizes the risk/reward trade-off. At one extreme, you could decide not to touch the principal and just live off the investment income. There is an even more extreme version in which you spend just the *real*² return on your investments so that the principal continues to grow each year in line with inflation. You may sleep better at night by being so careful but you might be leaving a lot of money on the table in the process.

At the other extreme, you might choose to draw down your account balance quickly and hope that a combination of good investment returns, an inheritance and even early mortality will save you from seeing your money run out.

Just how big are DC account balances?

You will hear many different figures cited regarding the size of member DC accounts. The average size can be made to seem quite small but this is misleading since the statistic often includes younger participants who have only begun to accumulate savings. It may also include many DC plans that are second-tier arrangements supplementing a core DB pension plan.

For purposes of this *Vision* we used data on mature DC plans to estimate typical account balances for longer-term employees. The data was kindly provided by Sun Life who, like Morneau Shepell, offers record-keeping and other services to DC pension plans. In the case of standalone DC plans (as opposed to DC plans that supplement a DB plan), plan participants age 55 and up with at least 25 years of plan participation have a median DC plan account balance in excess of \$550,000. Even in the case of employees who participated in such plans for less than 25 years, the median account balance for those age 55 and up was still over \$360,000. Such individuals may also have accumulated wealth in an employee stock purchase plan, a deferred profit sharing plan or in individual savings. It therefore seems reasonable and perhaps even conservative to regard \$350,000 as a typical account balance for an upper-middle income individual on the verge of retirement.

¹ In this *Vision*, the term DC plan will include both registered pension plans as well as group RRSPs, Deferred Profit Sharing Plans (DPSPs) and Tax-Free Savings Accounts (TFSA's).

² We will use the term "real" to mean net of inflation. If one's investment return is 5% and inflation is 2%, the real return is 3%.

2. You should have a certain spending pattern in mind. This is not as obvious as it sounds; one might think the ideal situation is to have an income stream that increases each year in lock-step with inflation but that is not appropriate in most situations. There is considerable evidence that most retirees eventually cut back on their spending (in real terms) with advancing age and it happens whether they have enough money or not³. Usually, that watershed moment occurs at some point after age 70. Later on, expenditures may rise again if long-term care is required and you or your loved ones choose an expensive care option on your behalf; something else to worry about.

3. Who is going to help you manage your savings after you retire? A variety of service-providers including insurance companies, banks and mutual fund companies would be happy to do so, and you may choose to deal with them directly or with the help of a financial advisor. It can get complicated and the fees, which are practically invisible, can have a big impact on your retirement income. (Yet another option is to purchase a life annuity and be done with managing one's money after retirement but given that so few retirees elect this option we will defer analysis of it until a later date.)

These three decisions are strongly inter-related. In particular, your spending pattern or the level of fees you are paying affects the chances of outliving your money, as we will see.

Decumulation is too complex an issue for just one *Vision*. In the following pages, we will target a specific spending pattern and then show how best to achieve it. We will show that an intelligent drawdown strategy can significantly reduce the amount of retirement savings you might need.

Turning Mario into Super Mario

Consider an individual whom we will call Mario in the following circumstances:

Mario's age	65
Marital status	Single, no children
Final 5 years' average pay	\$75,000
Type of workplace plan	DC pension plan
Account balance at 65	\$350,000
Residence status	Homeowner

Mario is about to retire and needs to turn his savings into an income stream. Among the many ways he can do this, we will illustrate a conventional but flawed approach, followed by an intriguing alternative.

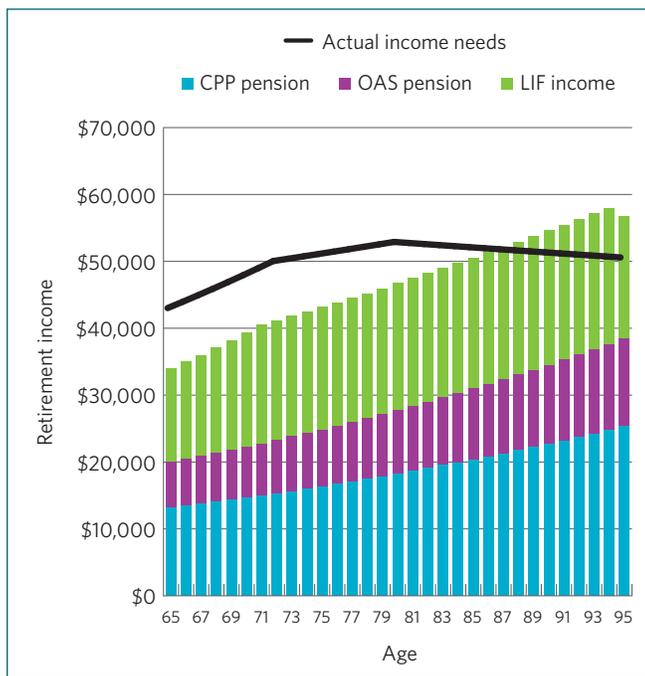
In Scenario 1, we will assume that Mario follows what is probably the most common approach to decumulation:

- Mario transfers his account balance at retirement into a Life Income Fund (LIF),
- He draws income from the LIF starting at age 65,
- The LIF income is based on the minimum withdrawal rates permitted under the Income Tax Act for RRIFs (see Appendix 2),
- He also receives full CPP and OAS pensions starting at 65,

We will also assume that Mario dies peacefully at age 95, without ever needing extensive long-term care. If we assume a nominal investment return of 4 percent per annum after fees, Mario's resulting income stream is shown in Figure 1.

³ For more on this, read Chapter 7 of "The Essential Retirement Guide: A Contrarian's Perspective" (Vettese, 2015) or the C.D. Howe e-brief, "How Spending Declines with Age and the Implications for Workplace Pension Plans", (Vettese, June 2016)

Figure 1 – Actual income versus needed income (Scenario 1)



At first blush, this result looks impressive. Mario is receiving income from three sources and it is rising steadily over time. It is only at age 95 that his income drops but even then, the drop is slight and that is the year that Mario is assumed to pass away in any event. While Mario would appear to have done a good job with his retirement planning, closer scrutiny shows he could have done much better.

In fact, a great deal of trouble lurks beneath this placid surface. The most glaring problem is that Mario’s retirement income under Scenario 1 does not meet his income needs. For someone in his circumstances (single, no children, a homeowner with a paid-off home), Mario would need gross retirement income equal to about 57 percent of final average earnings⁴ to maintain his standard of living after retirement. (That gross retirement income target, by the way, varies greatly from one household

to the next. Depending on factors such as income level, marital status, mortgage payments and child-raising expenses, it can vary between 40 percent and 70 percent of final average earnings for most middle-income households.)

Mario’s 57 percent target translates into needed pre-tax income of \$42,750 at age 65 (57% X \$75,000) but the drawdown strategy under Scenario 1 produces less than \$34,000 of income. The shortfall is nearly \$9,000 and puts his net income replacement ratio at just under 75 percent. This is on the border between “inadequate” and “tolerable” but in any event much less than optimal.

The only good news is that Mario’s pension gap eventually narrows because his spending needs start rising more slowly than inflation beyond age 72⁵. As Figure 1 shows, the pension gap closes entirely by age 85 but this is rather small consolation given that Mario endured a substantially lower standard of living for the twenty years leading up to that point.

Another major problem is managing investment risk. In Scenario 1 we skirt the issue by assuming a return of 4 percent per annum, net of fees, but even this rather low return expectation is far from certain; the risk-free return at present is close to zero. To earn even 4 percent after fees means Mario must invest fairly heavily in risky assets such as equities. If he does so using retail mutual funds⁶, he is likely incurring annual management fees of 180 basis points or more, which makes 4 percent even less attainable.

The final problem with Mario’s decumulation strategy is that he will have substantial assets left over at the end of his life (\$91,000) and had he died earlier than 95, the amount would have been even greater. Moreover, Mario will still have the equity

4 This percentage was calculated in Chapter 4 of “The Essential Retirement Guide: A Contrarian’s Perspective”.

5 Ibid, Chapter 7. We assume that spending in real terms falls by 1.5 percent a year between 72 and 80 and by 2.5 percent a year after 80.

For conservatism, these percentage drops are slightly smaller than were shown in the book.

6 30 percent in Canadian equities, 20 percent in US equities and 50 percent in Canadian fixed income.

in his home which is probably worth much more than the retirement assets he had accumulated. This embarrassment of riches may be a boon to his heirs but it represents inefficient retirement planning on Mario's part.

It is easy to conclude that Mario did not save enough, or that he should have tapped the equity in his home early on, but there is a better solution. With a smarter allocation of the financial resources at his disposal, the pension gap that exists under Scenario 1 can be made to disappear without saving a penny more.

Scenario 2 - Defer government pensions

Mario's retirement income prospects can be dramatically improved by doing two things differently. The first is to defer the start of government pensions until age 70. Very few people do this; less than 1 percent of all workers opt to postpone the start of their CPP pension until age 70 and even then, the late start may have been more accidental than intentional.

Low-income workers who retire with little or no savings have no choice but to start their CPP and OAS immediately upon retirement. Middle-income workers like Mario, however, are missing out on a great opportunity to improve their retirement security if they do not defer government pensions.

If you start to collect CPP pension at age 70, the initial amount payable is at least 42 percent greater than if you start at age 65. In fact, it is more likely to be about 49 percent greater if wage inflation continues to eclipse price inflation⁷. OAS pension can also be boosted by deferring the starting age to 70 though the amount at 70 versus 65 is "only" 36 percent greater (ignoring inflation).

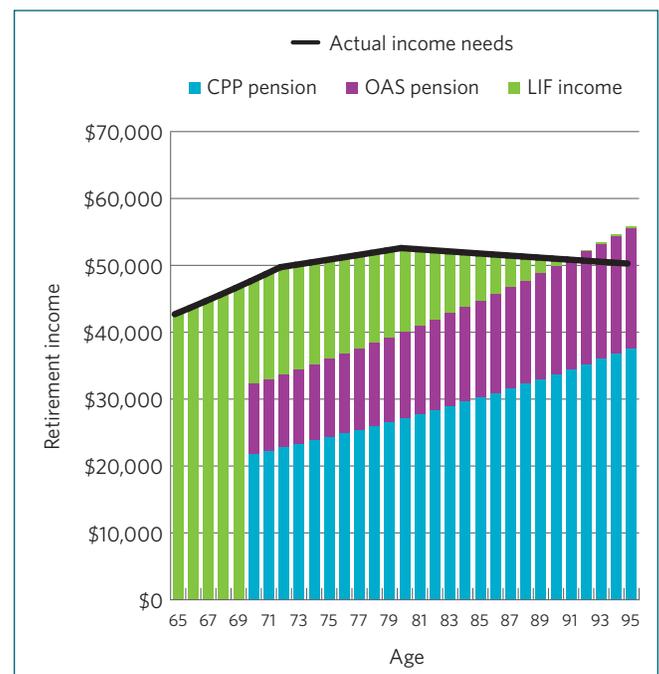
In Scenario 2, let us therefore assume that Mario does the following:

- Draws down his LIF between ages 65 and 70 to the extent needed to meet his 57 percent retirement income target,
- Tailors his total income to match the desired spending pattern each year, and
- Starts his CPP and OAS pensions at age 70 rather than age 65.

All of Mario's income before age 70 now comes from the LIF assets. At 70, he starts to receive his OAS and CPP pensions and because they are much greater than if he started to receive them at 65, the drawdown from his LIF assets slows to a trickle.

The end result is shown in Figure 2. It shows that Mario's financial situation improves dramatically under Scenario 2. Combining his LIF with augmented

Figure 2 - Actual vs. needed income (Scenario 2)



⁷ The maximum CPP pension rises with wage inflation, not price inflation. Over the past 92 years, wage inflation has outstripped price inflation by an average of 1.37 percent a year. Our estimate of 49% assumes future wage inflation exceeds price inflation by a more conservative 1 percent a year.

government pensions provides enough income for Mario to meet or exceed 100 percent of his needs for life, even if he dies after his 100th birthday.

Does this mean that we have completely solved the decumulation problem? Not quite.

The problem of managing investment risk is still there. In Mario's case, we shrank it down somewhat by drawing down the LIF assets more quickly but we did not eliminate the exposure entirely. We conveniently sweep it under the rug (for now) by assuming a 4 percent net return. Coming to grips with investment risk during the decumulation phase will be the focus of our next issue of *Vision*.

The second problem is a rather absurd one - even though the decumulation approach under Scenario 2 is clearly superior to that under Scenario 1, it would not be permitted in any province (except PEI) if all the DC assets are locked-in. The provinces impose maximum withdrawal rates from a LIF that would prohibit the accelerated draw-down strategy in Scenario 2. No doubt this prohibition is in place to protect the retiree but as the above shows, the result is just the opposite.

We note that maximum withdrawal percentages do not apply to RRIFs (and hence RRSPs) or to voluntary contributions under a DC pension plan, since they are not locked-in. TFSAs⁸ would also be eligible for the Scenario 2 treatment.

Another way to overcome the LIF withdrawal problem is to start only CPP at 70 but start drawing OAS at 65. This would also alleviate anxiety about drawing down one's LIF assets too quickly.

Another potential problem - that Mario eventually needs long-term care which increases his income needs - is actually manageable. If Mario did require expensive long-term care in his final years, he (or his

caregivers) will have the financial resources to deal with it. Specifically,

- he still has the equity in his home which can finally be tapped to pay for long-term care, and
- his elevated CPP and OAS pensions will pay for a good portion of his long-term care needs in any event and would be enough to pay for all his needs under certain long-term care options.

The reader might wonder if the fact that Mario was single affected the result. As we show in Appendix 1, the Scenario 2 approach can produce an equally favourable result in the case of a couple with children.

Conclusion

Many employers abandoned their DB pension plans because they entailed too much risk for the organization. Those employers who switched to DC plans essentially transferred the risk to employees. Using the above strategy, retiring employees are in effect transferring at least some of that risk onto governments and improving their own retirement situation in the process. As the example shows, the improvement can be dramatic. Many baby boomers who participated in a DC plans and are on the verge of retirement could find that they are much better off than they thought.

The sponsors of DC pension plans and group RRSPs will want to consider how they can guide plan participants toward more effective decumulation strategies, such as the one shown here. As for governments, they should consider changes in the LIF drawdown regulations that would permit retirees to pursue Scenario 2.

⁸ Tax-Free Savings Accounts

Appendix 1 – Decumulation scenarios for an upper-middle income couple

In the main body of this *Vision*, we showed what a single retiree with no children could expect if he retired with \$350,000 in savings. The majority of retirees have a spouse and also have children (probably grown-up by the time their parents reach age 65).

This Appendix compares what an upper-middle income married couple could expect at age 65 under the same two scenarios. To provide further insights into the decumulation problem, we assume higher earnings, RRSPs versus DC pension, and deaths at different ages. The table shows all the other assumptions.

	Scenario 1	Scenario 2
Situation	Home-owners, 2 children	Same
When OAS and CPP start	65	70
Age of retirement	65	Same
Final average 5 years' earnings ⁹	\$180,000 (combined earnings)	Same
RRSP account balance at 65 (combined)	\$1 million	Same
Target retirement income at 65	\$90,000 (50% of FAE5)	Same
Investment return on RRIF (annual)	4%	4%
RRIF drawdown strategy	Minimum RRIF withdrawal (rates shown in Appendix 2)	Amount needed to produce target retirement income
Actual CPP versus maximum	95% for one and 70% for the other	Same
Age when first spouse dies	93	Same

We assumed conservatively that one spouse would die at age 93 and the other would survive until at least 100. We note there is less than a 10 percent chance that both spouses would live until 93. When one spouse dies, the living expenses of the surviving spouse usually reduce by about 30 percent.

⁹ Assume FAE 5 of \$120,000 for one spouse and \$60,000 for the other spouse.

Figure 3 – Scenario 1 (Couple with CPP,OAS at 65)

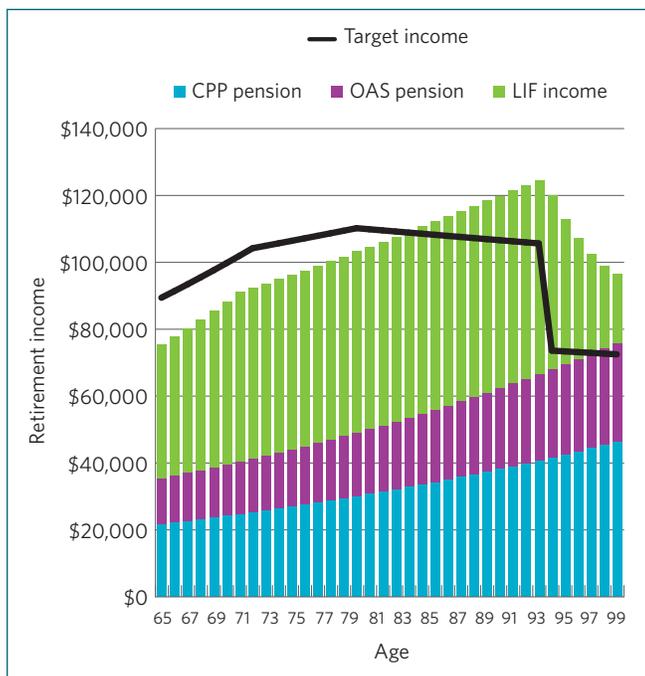
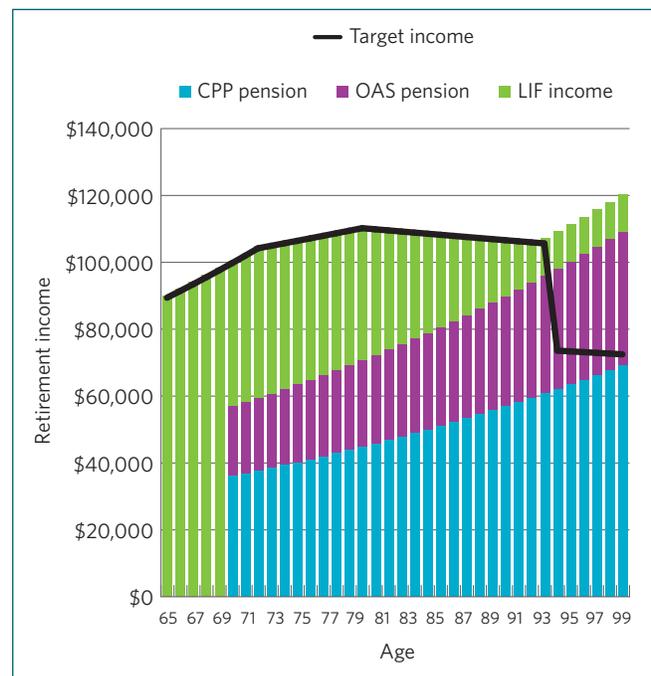


Figure 4 – Scenario 2 (Couple with CPP, OAS at 70)



On this basis, the couple’s situation under Scenario 1 is shown in Figure 3. As can be seen, their actual retirement income at 65 is short of what they need to maintain their standard of living by nearly \$15,000. Expressed differently, their net replacement ratio at 65 is a little less than 84 percent which, based on our Canada Pension Plan Report¹⁰, puts them at the lower end of the “appropriate” range or even tips them into the “inadequate” category, depending on how the ranges are defined.

The fact that they end up having much more income than they need after age 85 is small comfort.

Figure 4 shows the result under Scenario 2, where CPP and OAS start at age 70 instead of 65. The shortfall in income at age 65 (versus the target) has been entirely erased. After age 93, the amount of income is much more than is needed.

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Appendix 2 – Minimum drawdown percentages from a Life Income Fund or a RRIF

Age	Minimum draw down %	Maximum draw down % ¹¹
65	4.00%	7.38%
66	4.17%	7.52%
67	4.35%	7.67%
68	4.55%	7.83%
69	4.76%	8.02%
70	5.00%	8.22%
71	5.28%	8.45%
72	5.40%	8.71%
73	5.53%	9.00%
74	5.67%	9.34%
75	5.82%	9.71%
76	5.98%	10.15%
77	6.17%	10.66%
78	6.36%	11.25%
79	6.58%	11.96%
80	6.82%	12.82%
81	7.08%	13.87%
82	7.38%	15.19%
83	7.71%	16.90%
84	8.08%	19.19%
85	8.51%	22.40%
86	8.99%	27.23%
87	9.55%	35.29%
88	10.21%	51.46%
89	10.99%	100%
90	11.92%	
91	13.06%	
92	14.49%	
93	16.34%	
94	18.79%	
95	20.00%	

¹¹ These maximum rates apply in Ontario, New Brunswick, Saskatchewan, Manitoba and Alberta. Slightly different rates apply in the other provinces. The maximums for LIFs under federal jurisdiction are significantly lower. Also, residual LIF balances in Saskatchewan and Newfoundland must be used to purchase an annuity at age 80.

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Thomas Reid and **Kim Duxbury**, both part of Sun Life Financial's Group Retirement Services, helped to provide statistics on typical balances for longer term DC participants.

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