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# Annuities and Your Nest Egg: Reforms to Promote Optimal Annuitization of Retirement Capital

*Retiring babyboomers are driving a shift from retirement fund accumulation to decumulation, a phase in which they must balance present financial needs against longevity risk. To enhance their options, policy reforms should level the playing field for annuity products and promote market-driven variety of choice, thus ensuring retirees have at least some funds available to them for the long haul.*

Norma L. Nielson

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## THE STUDY IN BRIEF

As the front wedge of the babyboomer generation enters retirement, a shift from the accumulation of retirement savings to decumulation has begun. During this life phase, important choices must be made about how much cash we need to live on in the near term, and how long we should make our savings last, taking increased life expectancy into account. This paper explores ways to improve our current system of law and regulation to support decumulation in a manner that better manages the longevity risk faced by individuals and by society.

In Canada, roughly half of private pensions received by retired Canadians in 2008 likely incorporated some form of mortality protection, most of which is income guaranteed for life from defined-benefit (DB) pension plans. Very few of those without workplace DB coverage currently choose to annuitize at least part of their lump-sum savings in retirement – and as cohorts with lower levels of DB coverage enter retirement the proportion of retirees without annuity-based longevity protection is likely to increase.

A review of prior research suggests that a higher proportion of individuals should be opting to receive at least part of their income in the form of an annuity payment guaranteed for life. While people in the lowest income brackets already do receive most of their retirement income from government sources (which are a form of annuity), most individuals with middle incomes and higher would likely benefit from placing a portion of their private savings into a life annuity product.

Policy changes should improve the “infrastructure” for decumulation products by gathering high-quality mortality data and ensuring access to that data for annuity pricing. Policy should also provide the proverbial level playing field by integrating insurance, banking, pension, and tax regulations so these are neutral factors in the consumer decision to annuitize.

Policymakers should work with financial markets to develop instruments that will improve the ability of private annuity sellers to offer a range of decumulation products. Government websites and other resources should be available to assist consumers in the annuity purchase decision. These changes will encourage a market that functions efficiently and effectively.

Beyond the changes to improve the functioning of the market, the “best” choice depends on one’s philosophy. The choices range from making no changes to the current system to an outright requirement for annuitization. I tend to favour incremental changes that would bring longevity protection into a world increasingly characterized by defined-contribution plans.

These proposals do little to restrict individual choice while adding much sophistication to the purchase decisions and doing so in an efficient manner. Then we can observe what happens to determine if further changes are required.

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*Converting assets to income in an orderly fashion will become an increasingly important issue for the ageing populations and economies of many nations... without a sharing of longevity risk the task of achieving a satisfactory income in old age will become impossible for many.*

— Wadsworth, Findlater, and Boardman, 2001

## Since the babyboomers began entering the workforce in the 1960s – and especially since their families began to reach maturity in the 1980s – they have been contributing capital into a variety of retirement savings vehicles.

Now that individuals in the front edge of the boomer “wedge” – those born in 1946 and shortly thereafter – have begun to retire, the shift to decumulation has begun. During this life phase, important choices must be made about how much cash we need to live on in the near term, and how long we should make our savings last, taking life expectancy into account. This paper explores ways to improve our current system of law and regulation to support decumulation in a manner that better manages the longevity risk faced by individuals and by society.

In Canada, we can estimate that about half of private pensions received by retired Canadians in 2008 likely incorporated some form of mortality protection, most of which is income guaranteed for life from defined-benefit (DB) pension plans. Very few of those without workplace DB coverage currently choose to annuitize at least part of their lump-sum savings in retirement – and as cohorts with lower levels of DB coverage enter retirement the proportion of retirees without annuity-based longevity protection is likely to increase.

A review of prior research suggests that a higher proportion of individuals should be opting to

receive at least part of their income in the form of an annuity payment guaranteed for life. While people in the lowest income brackets already do receive most of their retirement income from government sources (which are a form of annuity), most individuals with middle incomes and higher would likely benefit from placing a portion of their private savings into a life annuity product.

This paper first reviews the range of choices facing consumers for the “spend down” (decumulation) phase of their life cycle, and analyzes the literature on annuitization and the factors that influence individual choices. The paper then turns to a review of potential government policy and regulatory changes to improve the supply and augment the range of decumulation products needed to assist future retirees in managing their retirement savings.

I draw a number of conclusions. Standardizing the regulatory environment would help support a well-functioning annuity market. Changes are needed to ensure institutional and consumer decisions are not unduly influenced by differing tax treatments, consumer benefits and protections, and institutional solvency standards.

With a level playing field in place, governments and supervisory authorities could further support the development of efficient markets for decumulation products. For instance, governments could improve the gathering of high-quality data available to price longevity risks, encourage the dissemination of educational resources for consumers to better understand decumulation choices, improve the pool of financial instruments available to annuity providers for reducing and managing risks, and reduce regulatory barriers to a new and improved supply of decumulation products.

In the final section I discuss the options available for government to influence the choices made by consumers regarding annuitization. In the case of longevity risk, I argue that policymakers in Canada should, as their counterparts have done in other jurisdictions, consider various policy options aimed at influencing the appeal of annuitization in the decumulation process, thus ensuring retirees have at least some funds available to help meet the costs of old age, including long-term care. From a public policy perspective, this would likely reduce the pressure on general tax revenues by encouraging greater intra-generational responsibility for longevity risks and health costs.

### **Drawing Down the Nest Egg: Options for Decumulation**

As a starting point, Canadian public policy has established that all citizens need a minimum level of income in old age. Canadians can draw on a ‘safety net’ of welfare and social security programs providing income that, though we do not usually use the term, is a form of life annuity.<sup>1</sup> The

contribution of these programs to total income during retirement varies greatly across income levels. These programs alone tend to replace 70 percent or more of the pre-retirement earnings for those in the lowest income strata. However, starting at \$40,000 in pre-retirement income, those government programs replace only about 40 percent of pre-retirement income, and this proportion drops off dramatically as income grows (see Figure 1).

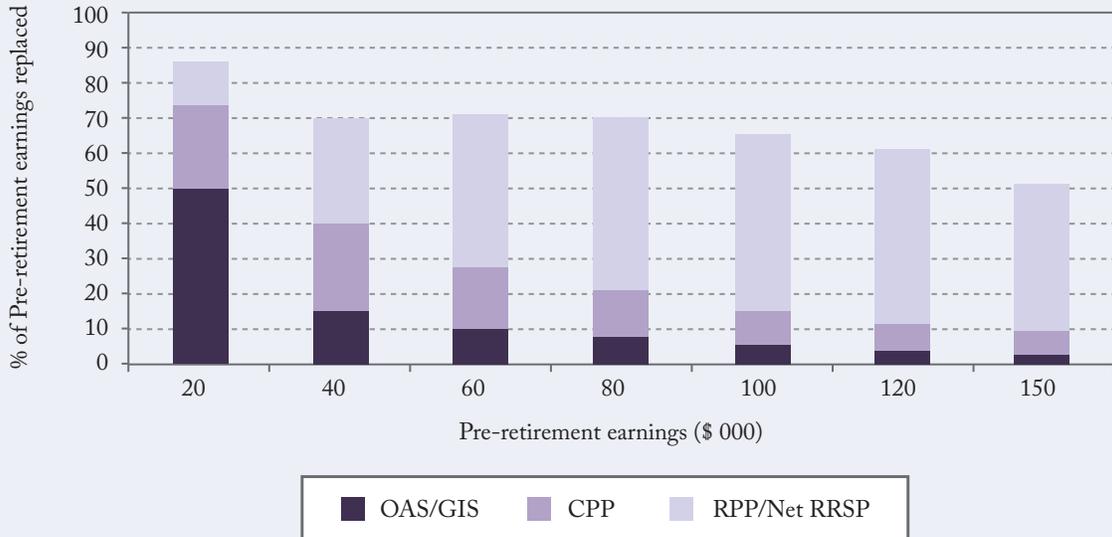
For Canadians with pre-retirement income in the \$40,000-\$50,000 range or higher, deciding how and when to access private savings (the investments that provide the top block of each bar in Figure 1) will significantly affect the lifestyle that can be achieved in retirement. The process people use to access private savings must balance the need for income in the present with the need for income in the future. The decisions made regarding this decumulation – including those about whether to annuitize, and how much and in what forms – will determine the extent to which a retiree is exposed to liquidity risk or longevity risk (as well as inflation risk, which can be related to both).

The range of choices regarding decumulation for an individual is not a binary one but rather occupies a continuum from total discretion to total annuitization (see Figure 2).<sup>2</sup> The choices at the left end of the spectrum provide maximum flexibility (i.e., protect against liquidity risk); however, consumers who elect to maintain this flexibility face the risk of outliving their income – longevity risk. The choices at the right end of the scale employ the pooling techniques of insurance companies to deliver insurance against longevity risk. Consumers who choose an annuity face a good deal of liquidity

1 The term is appropriate because government programs make payments for the recipient’s lifetime (so long as eligibility criteria such as residency continue to be met) with no provision to stop making payments upon the achievement of a specified age or total payment amount.

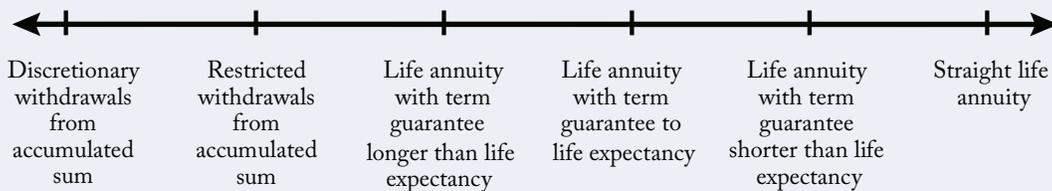
2 Additional options such as joint and survivor annuities are available for couples. Though this paper will deal exclusively with individual products and decisions, many of its recommendations can be extended to multiple life products as well.

Figure 1: Estimated Income Replacement Ratio for Canadians



Source: Summary Report on Retirement Income Adequacy Research (Mintz, 2009).

Figure 2: Range of Decumulation Options



risk; that is, they have an asset that provides income each month but there may be no means to access the value of that asset if it is needed. On the other

hand, they are fully protected against longevity risk. The right end of the scale reflects the payout expected from a typical defined-benefit pension

plan. The left end of the scale reflects the payout expected from a typical defined-contribution pension plan or registered retirement savings plan (RRSP). The right end of the scale matches the needs of those with stronger long-term consumption motives; the choices further left on the scale may better match the needs of those who also have a bequest motive. The choices at the left end of the spectrum tend to be sold and administered by banks and investment firms. The choices at the right end of this spectrum tend to be sold and administered by life insurance companies. In particular, life annuities can be purchased to provide minimum payment guarantees. For example, a life annuity with 10-year certain would pay for the life of the annuitant or 10 years, whichever is longer. The most common guarantees are 10, 15 and 20 years. The longer the guarantee provided, the higher the price for the annuities, and the lower the monthly income that is provided from a fixed amount of capital.

### Optimal versus Actual Choices:

How should people choose the point on the spectrum between liquidity and longevity risk that is best for them? In their review of the literature about how people *should* draw down retirement savings, MacDonald et al. (2011) find that “Between annuitization and self-managed drawdown, nearly every study ... concluded that annuitization (either partial or complete) was preferable on a pre-tax income basis, despite their varying methodologies and assumptions.” Babel and Merrill (2006) reported that, after having reviewed 70 papers examining the tradeoffs between annuities and alternatives, “for most people, lifetime income annuities should comprise from 40 percent

to 80 percent of their retirement assets under current pricing.”

Even in perfect markets, full annuitization would not be optimal for every retiree – or even the average retiree. The economics literature notes three particular reasons for less-than-full annuitization:

- Precautionary savings, e.g., for later healthcare expenses.
- Bequest motives. Anecdotally, bequest motives often are considered as “contingent” gifts that depend greatly on the lifespan of the donor. Those who live longer fully expect to leave smaller estates.
- A traditional life annuity, though it ensures nominal income but typically does not adapt to inflation, is less successful in guaranteeing consumption levels.

The data available in Canada on annuitization turns out to be quite limited. From Statistics Canada data on Trusteed Pension Plans we can find the data for pension payments out of defined-benefit and defined-contribution plan funds. For 2008, the pension payments out of such plans totaled \$34.0 billion with 98.6 percent of those payments made from DB plans. In the Canada Revenue Agency’s T1 Statistics for 2008, I find that \$64.6 billion in income was declared on the line for “Pensions or Superannuation.” Based on these two aggregate statistics, an extremely coarse estimate is that 52 percent of pensions received by Canadians in 2008 likely incorporated some form of mortality protection.<sup>3</sup>

Combining this estimate of longevity-protected pension payments with the longevity-protected benefits from government programs, such as CPP/QPP and Old Age Security (OAS), produces the picture shown in Figure 3. On average in 2008, Canadians over age 65 had about \$15,000 or

3 The data available regarding trustee pension plans provides no information on whether mortality-guaranteed payments will continue to the survivor once the first spouse dies.

more in annual income that was guaranteed for life.<sup>4</sup> Readers are cautioned not to read too much into these averages as the mortality protection of pension payments will tend to be ‘all or nothing’; utilizing the averages without recognizing this bimodality could potentially mislead. Furthermore, the annuitization rate is likely to decline as cohorts with lower levels of DB coverage enter retirement.

Notwithstanding these considerations, the literature generally suggests that we should see much higher annuitization rates than we do. While people in the lowest income brackets already do receive most of their retirement income as annuities, most individuals with middle incomes and higher would benefit from placing a portion of their private savings into a life annuity product. The extent to which people do so varies substantially depending on the form their retirement savings takes. Many of those whose private savings are in the form of a defined-benefit pension plan will automatically see those savings amounts annuitized (either on a single-life or a joint-life basis). However, those with Capital Accumulation Plans (CAP) such as DC plans and RRSPs often will be left with individual responsibility to make decisions about how to convert their savings from a lump sum into consumption. That conversion

decision may be influenced by those who administer defined-contribution plans, but the final decision about annuitization remains with individual retirees themselves.

## MARKETPLACE FACTORS

One important potential explanation for actual annuitization rates being below what experts recommend is that annuity markets are not perfect; the standard annuity market is poorly developed.<sup>5</sup> This section examines the functioning of the marketplace for annuities, beginning with an overview of data and literature from other countries to place the efficiency of the Canadian market in context. I include discussions of adverse selection issues as well as findings from behavioural finance that further explain the disparity between theoretically optimal and observed decisions in this marketplace.

### International Experience with Annuitization

One important observation regarding the rate of annuitization is that it varies substantially from one country to another – ranging from virtually 0 percent to almost 80 percent. St. John (2006)

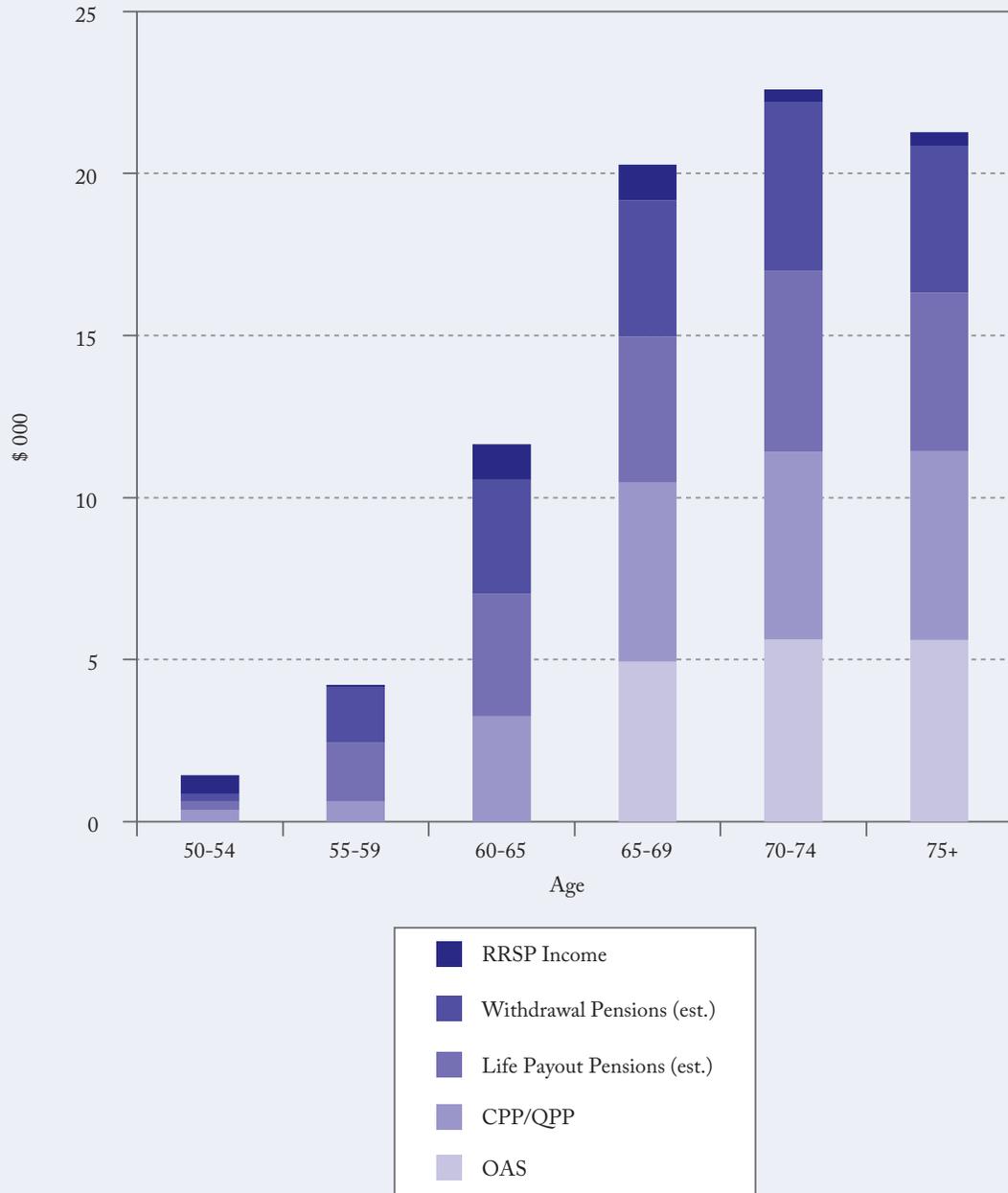
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4 In addition to payments made from trustee pension plans, the Canadian annuity market sells approximately \$2 billion in annuities each year. About 60 percent of that total market is sold to small- and medium-sized pension plans or through other group retirement mechanisms. That leaves about another 40 percent (or \$900 million in premiums) which is provided to the individual or retail marketplace. The rate of annuitization in Canada through the purchase of private annuities can be estimated only roughly. Using the *Investor Economics Household Balance Sheet Report*, Canadians between the age of 55 and 75 held financial wealth (short-term paper, bank accounts, term deposits, fixed income and equity investments) of just over \$1,000 billion in 2010. Under a further assumption that approximately one in ten of these individuals retire in a given year, those retiring individuals would own 10 percent of the total funds or approximately \$100 billion in private financial wealth. With private annuity sales of just under \$1 billion, Canada’s annuitization rate through that channel is approximately 1 percent.

Therefore, while the payments from private annuities increase our national annuitization rate beyond that provided by defined-benefit pension plans, that number appears to be quite small by comparison. Combined, the group and individual annuity market may provide an additional 2 percent increase in the rate of annuitization. Considering the small size of this number and the inexact nature of the estimate applied to pension incomes in Figure 2, no further adjustment was included for private annuities.

5 In particular, the market for those in poor health (i.e., the substandard market) is virtually nonexistent.

Figure 3: Estimated Income Sources for Retired Canadians (thousands of dollars)



Source: Author's calculations.

reports the decline in New Zealand where the market saw nine companies offering annuities in 1993, but just two providers in 2004. Two years later, only one company was offering annuities and that company was not actively selling them. In St. John's words, "the market has collapsed" and was viewed as a market failure in the economic sense. A more recent report from the Savings Working Group (2011) attributes New Zealand's underdeveloped annuities market to both supply factors (e.g., a lack of actuarial data for annuitants in a small country and a lack of matching assets) and demand factors (e.g., complexity of products, lack of flexibility, availability of other pension schemes and social assistance, and a tax rate that is higher for annuities than other investments for individuals earning less than \$48,000).

At the other end of the global spectrum, we find Chile and Switzerland. Switzerland has one of the highest annuitization rates by international standards – approximately 80 percent (Bütler and Ruesch, 2007). Chile's system of mandatory savings requires retirees to choose between phased withdrawal of funds (with significant restrictions) or a life annuity. Approximately 60 percent of all retirees (and 90 percent of early retirees) choose annuities (Rocha and Thorburn, 2007).

The literature identifies several key factors that influence the rate of annuitization in a country, including:

- Annuity prices, especially the impact of adverse selection;
- Investor psychology; and
- Underlying public policy regime.

Each of these factors is summarized in a subsection below.

### *Annuity Prices and Availability*

Basic economics would tell us that market suppliers' ability to offer lower prices would likely result in greater quantities demanded. Evidence supports the premise that the rate of annuitization and the price

of annuities are linked. Brown, Casey and Mitchell (2008) find that in the US market, while pricing is not the primary cause of limited demand, some price sensitivity is present. When the lump-sum payout offered by a pension plan to its participants is reduced (increased) by 25 percent, they find that approximately 20 percent (10 percent) of individuals would switch to (from) the annuity.

The fairness of annuity prices is typically measured using a variable called "money's worth ratio" (MWR) where 1.00 means that the premiums received by the provider are exactly equivalent to the payouts that would be received if funds were invested in risk-free instruments like government bonds. Calculation of the "money's worth ratio" requires the use of a mortality assumption. Table 1 summarizes available research on the money's worth for annuities offered across a range of developed countries using two different rates of mortality: (i) the mortality rate for the country's entire population and (ii) the mortality rate observed for the population of individuals who purchase annuities.

As shown in Table 1, Canada's money's worth ratio for annuities was close to or above 1.00 in 2009, implying that Canadian purchasers were getting attractive prices in the marketplace at that time. These numbers imply that the annuity market available to Canadians is on par with some of the most competitive in the world (e.g., Chile and Switzerland, which are the only other countries to exhibit MWRs >1). Because the MWR is computed using an interest rate based on risk-free (government) investments, the numbers in Table 1 imply that issuers of annuities actually earned a bit less than the risk-free rate when selling this line of products. While that may appear odd on its face, the sale of annuities offers a natural hedge to the mortality risk posed by the sale of life insurance products. In other words, most annuities are sold by insurers that have a large portfolio of life insurance policies also tied to mortality – but in the opposite direction. The sale of an annuity reduces the overall risk faced by the firm and produces a corresponding

Table 1: Money's Worth of Annuity Payouts for Single Premium Life Annuities

	UK		Australia		Canada		Chile		Switzerland		US	
Year	1998				2009				2009			
Mortality	Popu- lation	Annui- tants	Popu- lation	Annui- tants	Popu- lation	Annui- tants	Popu- lation	Annui- tants	Popu- lation	Annui- tants*†	Popu- lation	Annui- tants
Men	0.900/ 0.865	0.962/ 0.988	0.914	0.986	0.965	1.117		1.067	0.814	1.007/ 0.833	0.814	0.927
Women	0.904/ 0.853	0.945/ 0.939	0.910	0.970	0.937	1.063		1.083*	1.115	1.153/ 0.898	0.852	0.927
Source	Finkelstein and Poterba 2002		James and Vittas 1999		Moshe A. Milevsky and Shao 2010		Rocha and Thorburn 2007		Bütler and Ruesch 2007	Bütler and Staubli 2010	Mitchell, Poterba, Warshawsky, and Brown 1999	
Notes	*Compulsory/ Voluntary							*at age 60		*Compulsory/ Voluntary †Mandatory annuities include guarantees		

Note: Calculated as expected payout/premium at age 65 using yield curve interest rates unless otherwise noted.

reduction in the needed (risk-adjusted) rate of return. When the natural limit to this hedge is reached (i.e., the mortality risk from life insurance is offset), the price for annuities would be expected to begin to rise.

While all this suggests that the Canadian environment produced fair prices for annuities, it says nothing about the capacity of the Canadian market to offer different quantities or types of annuities. Anecdotal evidence suggests that deferred annuities (i.e., those that do not begin payments for several years into the future) are more difficult to purchase than immediate annuities. For example, during the external review for this study, one expert reviewer said that based on his experience with

wind ups of large pension plans, annuities providers are often not able to meet demand, such that annuities purchases must be broken up into a series of tranches purchased over a period of time.<sup>6</sup>

Table 1 also demonstrates the importance of the mortality assumption in pricing for annuities which, in turn, illustrates the importance of understanding adverse selection – the tendency of healthier people to annuitize. Brown et al. (2008) find that health and longevity expectations have the anticipated impact on annuitization: people who report being in poor health are substantially more likely to want the lump-sum, while those with optimistic longevity expectations are more likely to choose the annuity. Several researchers assess the degree of adverse

selection in the annuities market by examining the difference between money's worth calculated using annuitants' life tables and population life tables. They find voluntary annuitants exhibit much lower mortality than do compulsory annuitants (Finkelstein and Poterba, 2002). While this result itself is not surprising, the impact on prices in some countries can be startling. The strength of the spread has led some UK insurers to generate separate mortality tables for voluntary and compulsory-purchase annuitants. In a few markets globally, regulations require all or a portion of retirement savings to be taken as an annuity.<sup>7</sup> The differences observed in the MWR for these "compulsory" annuities reflect both a reduction in adverse selection and any regulatory restrictions on pricing that might be in place. Overall, the willingness of providers in the Canadian market to offer annuity products would likely improve if these were sold to a wider audience. Incorporating more from the "population" mortality rates into the pool with current annuitants would bring the MWR down closer to 1.0 and make it a more attractive (profitable) market in which to do business.

Globally, Mitchell and McCarthy (2002) find that annuities are reasonably priced in many countries, that the market impact of adverse selection is moderate, and that administrative loadings are low relative to the past. As a result, they suggest that claims annuities are "too expensive" are no longer generally true as prices have, in fact, moderated over time.

### *Investor Psychology*

Overall, the literature demonstrates that investors do not always make the decisions that economists would predict using their models of rational behavior.

In the case of annuities, this means that, even if a product is fairly priced, consumers may not wish to purchase that product, which requires an irrevocable choice and the surrender of a large chunk of capital. This "irrationality" is confirmed in research by Brown, Casey et al. (2008) which reveals consumers exhibiting a different willingness to switch into annuities than to switch out of them. This asymmetry provides empirical evidence that price alone does not explain variation in people's decumulation decisions.

Delving into greater specifics, we find 10 areas of behavioural finance that are generally recognized as influencing retirement decisions – both during the accumulation and decumulation stages. These are summarized concisely in a non-technical manner by Benartzi (2010) and further summarized here with relevant references to the decumulation decision:

- *Framing.* Evidence shows that seemingly small changes to the lenses or "frames" we use to describe a choice can have a huge impact on decisions. Brown et al. (2008) found that 72 percent of those presented with decumulation options through a consumption frame preferred the annuity; only 21 percent of those who were presented the choice as an "investment" selected the annuity.
- *Vividness.* This attribute recognizes that it is more difficult for people to picture a time that is far away and subject to change. We find historical evidence of this longstanding tendency in Alexander Hamilton's writings, "Momentary passions and immediate interests have a more active and imperious control over human conduct than general or remote considerations of policy, utility or justice." We find extensive literature in the field of economics under the general heading of hyperbolic discounting (see, e.g., Dasgupta and Maskin 2005).

<sup>7</sup> Results for Japan are markedly different, however, with male insurance purchasers having apparently heavier mortality than voluntary annuity holders, but rates equalizing for women (Mitchell and McCarthy 2002).

- *Hyper Loss Aversion.* While we have known for more than 40 years that in investment, “losses loom larger than gains,” the truth of that statement is even more dramatic for retirees who were found to be up to five times more loss-averse than the average person.
- *Cognitive Impairment.* Older adults show marked declines in “numeracy” as well as facing the prevalence of dementia at a rate that roughly doubles every five years.
- *Tangible Mental Accounts.* Thaler (1985) suggests that people often divide their money into separate mental “buckets,” e.g., for dining out or travel, as a way to keep track of spending. In some ways, purchasing an annuity requires putting many of one’s resources in a single bucket.
- *Inertia.* Humans will almost always take the path of least resistance. Work by Madrian and Shea (2001), which reported that automatic enrollment increased retirement plan participation from 49 percent to 86 percent, also found that 61 percent of those enrolling retained the default contribution rate and investment allocation.
- *Evaluability.* When assessing their options, retirees gravitate toward those that are easiest to understand. The fact that people purchase decumulation products only once or twice in a lifetime, with no opportunity to learn from experience, contributes to the low evaluability of that decision. In economics terminology, this is a type of information asymmetry. It also can prove more difficult to evaluate alternatives if a classic agency problem is present – the professionals who offer advice in this area often benefit financially from the sale of a product or from maintaining control of the accumulated assets.
- *Active Decision-Making.* Previtiro (2010) reports that 49 percent of retirees making an active choice between guaranteed lifetime income and a lump sum actually picked the lifetime income option.
- *Money Illusion.* People vastly underestimate the impact of inflation on their cost of living. A million dollars may seem like a very large sum, but it may be half or less of what a professional needs to retire.
- *Fairness.* Though defined differently by each individual, humans have a strong preference for decisions they perceive to be fair.

In the aggregate, the psychology of individual investors becomes the public attitude that will be a factor in any public policy change. Evidence reveals that such attitudes are forged by a myriad of factors. For example, several of these tendencies – which partly reflect aversion to liquidity risk – are more pronounced in the current environment of low interest rates because that environment necessarily produces noticeably smaller annuity payouts. On a completely different note, however, a recent survey in the UK revealed that, along with a loss of flexibility, a mistrust of institutions was a major factor in negative perceptions of annuities (Gardner and Wadsworth 2004).

#### *Underlying Public Policy Regime*

The rate that consumers will choose to annuitize in a competitive market appears to lie somewhere between 40 percent and 60 percent of assets.<sup>8</sup> The extent to which this demand for annuitization is met by government programs varies by country; Figure 1 shows us that the combined benefits from OAS and CPP provide annuities that range from a high of 75 percent for those at the lowest income levels to approximately 10 percent for those in the highest income brackets. The likely rate of private annuitization is the difference between the range of 40 percent to 60 percent of assets and the amount provided by government sources. That amount can

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8 Globally, annuitization rates higher than 60 percent are found only where annuities are mandated by law. An examination of annuity markets outside the US by Mitchell and McCarthy (2002) concludes that the government usually plays a substantial role in the development of these markets. In many countries this role is implemented through the tax treatment of decumulation alternatives; in a few countries it is through mandated purchase of annuities.

be very small (or even negative) for individuals in the lowest income brackets; the issue is most significant for individuals with annual incomes over \$40,000.

Thoughtful decisions on the policy and regulatory front can play a beneficial role in improving the supply and range of decumulation products that will assist retirees in managing their retirement savings; i.e., achieving the optimal rate of annuitization. The next section outlines several areas where legal and regulatory changes could improve the functioning of the annuity market in Canada.

## ENSURING NEUTRALITY IN THE DECUMULATION DECISIONS

Globally, the evidence suggests that private markets are able to provide competitively priced annuities to retiring citizens. Given this, the obvious policy choice is the one that would require little disruption to the existing system in Canada – the private-sector provision of decumulation products with government actions carefully selected and designed to support a well-functioning annuity market. The goal should be a standardized environment within which financial institutions function. Sometimes captured with the phrase *level playing field*, such a standardized environment would include equivalent tax treatment, equivalent consumer benefits and protection, and equivalent solvency standards (usually reflected in capital requirements), and ensure financial markets (and their regulators) have the tools needed to enable the ability of private sellers to offer a range of decumulation products. The details of key topics from this list are discussed in the subsections that follow.

### Providing Equivalent Benefits and Tax Treatment

Conceptually, this is a simple premise but in practice it involves a number of different areas. The first is the role of tax treatments which, in Canada as in many other countries, are an important factor

in the optimal and actual choice of decumulation method. Two basic approaches are used in Canada to determine the tax treatment of decumulation options. Which of those approaches applies depends on whether the funds being withdrawn are inside registered plans or are coming from non-registered sources.

- *Registered retirement accounts*: Canada's income tax treatment is generally equivalent for all types of registered accounts; i.e., the amount being paid out from the registered plan is fully taxable on receipt because income tax was deferred at the time the funds were deposited.
- *Non-registered annuities*: Canada's income tax rules in this area depend on whether those annuities meet the list of requirements contained in Income Tax Regulation 304 to qualify for favorable tax treatment. The term used in the *Income Tax Act* to identify an instrument that qualifies is a *prescribed annuity*:
  - o a level tax treatment is applied for prescribed annuities; i.e., income taxes apply to the same proportion of the annuity's payment each year.
  - o income taxes are payable on the accrued interest within the contract (whether or not that amount is paid out) for non-prescribed annuities. This provision results in faster taxation than the leveled approach used for prescribed annuities.
- *Non-registered accounts that are not annuities*: All interest earnings are subject to income tax; capital gains are generally only taxed on half of their value; dividends received are taxable but generate a dividend tax credit.

Given that a large proportion of retirement savings occurs within the registered plan arena, these income tax treatments generally are neutral with respect to decumulation options.

One of the most obvious (and potentially most contentious) areas for coordination would be an examination of eligibility rules for social programs, such as the Guaranteed Income Supplement (GIS), that treat an income stream differently from a lump sum (e.g., annuities versus RRIF payouts versus tax-free savings accounts TFSA's). An obvious example is the relatively recent introduction of

TFSA, which were designed intentionally with provisions that withdrawals of principal or interest have no impact on eligibility for GIS and OAS. For example, Horner (2011) estimates that aggregate annual GIS cost could be as much as 84 percent higher if everyone who would benefit from using a TFSA actually used one. While a complete examination of these programs' details are beyond the scope of this paper, examples exist in other areas as well.<sup>9</sup>

### Applying Equivalent Solvency and Capital Requirements

Ensuring the regulation of the full range of decumulation products provided by different institutions at an equal (and hopefully optimal) level is a lofty policy goal. However, integrating insurance, banking, pension, and tax regulations so these are not factors in the consumer decision to annuitize is a massive and likely never-ending undertaking.

The designers of consumer protection programs generally adapt to keep their coverages equal. For example, payments in Canada from individual annuities are protected by Assuris while bank deposits are generally protected by the Canadian Deposit Insurance Corporation (CDIC).<sup>10</sup> Each of these protection vehicles covers up to \$100,000 of savings-type products.<sup>11</sup> Consumers place value on these third-party guarantees with which their selected financial instruments are back-stopped with government guarantees considered among

the safest. Other countries have similar protection schemes with virtually every program of guarantees subject to limits which, while rarely affecting an average consumer in other circumstances, can come into play with accumulated retirement saving. If consumers attempt to ensure all of their retirement savings are insured – a goal that can easily require \$1,000,000 – the spreading of assets among 10 or more institutions will result in that consumer paying much higher fees and ultimately receiving lower retirement income. It also makes the design and ongoing balancing of the portfolio much more difficult.

Limits higher than \$100,000 should be considered for both of these consumer protection vehicles to reduce the impact of these expense factors and ensure banks and life insurers can be competitive in the market to help Canadians manage their retirement savings.

The sheer magnitude of retirement savings for a typical worker approaching retirement also highlights the importance of effective solvency regulation. Decumulation products involve large amounts of capital – amounts sufficient to sustain periodic payouts for an extended period during which any solvency problems with the financial institution may become apparent. The principal tool used by supervisory authorities to minimize insolvency risk is the imposition of minimum capital requirements that must be available to cover the possibilities of (a) investment returns below what was assumed and (b) in the case of products with longevity guarantees, rates of mortality below

9 Reverse mortgages theoretically should be another useful tool for decumulation, albeit one that also has proven unattractive to consumers. The regulations surrounding these products could readily be included in any such policy review.

10 A product developed by the Bank of Montreal “in response to the call for innovation” is not protected by either (BMO 2010). On December 16, 2011, the Harper government announced that it will introduce legislation to prevent banks from offering financial products that function like life annuities in order to “ensure the business of insurance continues to be subject to the appropriate rules and regulations” (“Harper Government . . .,” 2011).

11 The protection from the Canadian Investor Protection Fund is more extensive, protecting investors for losses up to \$1 million in the event of investment dealer bankruptcy. However, the exposure to the consumer in this case is different as the guarantee does not back the liquidity of the investment made by that consumer but rather any losses sustained because of the entity which holds that financial instrument.

what was assumed. Greater capital requirements always contribute to higher prices, with life annuities viewed as capital intensive in many countries:

“... in the case of annuity providers, capital regulations have had a more powerful influence on the portfolio composition than the investment rules themselves.” (Rocha and Thorburn 2007.)

The role of regulation is to ensure the amount of capital available is large enough to provide for the risks present but not so large that it raises prices unnecessarily. For example, capital requirements might appropriately adjust to the net risk after recognizing natural hedges in the portfolio and/or market hedges of key risks. This could, in theory, automatically reduce capital requirements as markets are able to develop longer-term investment instruments and longevity bonds.

In practice, it is very difficult to compare insurance company capital requirements<sup>12</sup> with those for banks and investment firms that provide most of the non-annuitized decumulation products. One particularly challenging element is that bank regulators base their capital requirements on the asset side of a bank’s balance sheet without much regard to the nature of the bank’s liabilities.<sup>13</sup> Meanwhile, insurer capital requirements historically have been based on the liability side of their balance sheet, although the relatively recent introduction of risk-based capital is beginning to change that. Different accounting standards also tend to produce different outcomes, with some institutions (and some countries) basing requirements primarily on book values for assets and liabilities; for example Canadian banking products. Meanwhile other

institutions and countries, such as Canadian insurers, face requirements that have shifted more toward fair market values. This trend will continue with the implementation of Solvency II and International Financial Reporting Standards (IFRS) fourth phase under the auspices of the Office of the Superintendent of Financial Institutions (OSFI).

Finally, efforts should include promoting similar capital requirements in different jurisdictions. Because capital is fluid, the result of a single jurisdiction setting overly restrictive capital requirements will be the prompt purchase of reinsurance from a company operating in a jurisdiction that does not have those same onerous requirements. Generally, the business will settle in jurisdictions where the regulatory capital is at a level deemed appropriate by mainstream financial institutions. The objective of cross-jurisdictional equivalence is being both aided and challenged by current shifts occurring in accounting standards. To the extent that countries standardize their approaches to asset and liability valuation, IFRS will eventually tend to equalize capital requirements. At the same time, broad acceptance of the IFRS mark-to-market approach to valuation itself introduces volatility that, in turn, tends to increase capital requirements and reduce the willingness of the financial institutions to take risk in their products. At the very least it raises the price at which they are willing to take those risks.

### **Providing Tools to Enable the Functioning of Markets**

With infrastructure elements in place, governments and supervisory authorities could further

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12 Capital requirements for most Canadian insurance companies are specified by OSFI, either through the Minimum Continuing Capital and Surplus Requirements (MCCSR) for life insurers or the Minimum Capital Test (MCT) for property-casualty insurers. The technical details of these requirements are not essential to the current discussion, but will certainly come into play for eventual implementation of any changes.

13 Most capital requirements internationally for banks are based on Basel II and typically use a multiple of assets with weights that results in a minimum requirement for bank equity.

support the development of efficient markets for decumulation products if they would:

- Improve understanding of the longevity risk;
- Provide instruments to reduce and manage risk;
- Reduce regulatory demand and encourage new supply; and
- Encourage consumers to understand the range of decumulation choices – e.g., with educational materials and information – and make choices that manage their longevity, liquidity and inflation risks in retirement.

### *Improve Understanding of the Longevity Risk*

One way for government to support the availability and appropriate use of various decumulation products is fundamental to the issue of longevity. There is tremendous opportunity in this instance for governments to assist in the development and dissemination of better mortality information and establish standards for how those mortality data are to be used. Government could mandate a pooling of data through supervisory authorities or a body such as Statistics Canada in order to generate more complete information.

### *Provide Instruments to Reduce and Manage Risk*

A review of the literature reveals three areas where the range of available financial instruments could be expanded to improve the ability of the market for decumulation products to function efficiently:

- *Duration risk.* A worker retiring at age 65 will on average require income for 20 years and a few will

require income for double that period. Financial theory would encourage financial institutions to immunize themselves from small changes in interest rates by backing their portfolios with assets whose duration equals the duration of the decumulation liabilities. This is difficult to do in practice because financial instruments for periods longer than 30 years are generally not available. Thus, no matter how sophisticated the approach to hedging, the reinvestment risk remains. Changes to the policies of securities regulators that would permit and encourage the issuing of bonds with longer than 30 years' duration should facilitate a more efficient private annuity market. If even a small portion of the government bonds issued were to bear a 40-year term, that offering could reduce a source of risk to annuity sellers.<sup>14</sup>

- *Mortality Risk.* The largest risk associated with annuities is the uncertainty in future mortality rates. It is a fact that the sale of life annuities by life insurance companies actually improves the risk profile of those companies – to the point where they have offset the mortality risk present in their portfolio of life insurance contracts.<sup>15</sup> Beyond that point, which will vary from company to company, and for society as a whole, this mortality risk is difficult to manage. Changes are on the horizon, however. A market is just beginning to emerge for longevity bonds that may eventually produce meaningful tools to help manage this risk (Blake and Burrows 2001).<sup>16</sup> These instruments can be used by large pension funds to bypass the need to pool mortality risk through annuity vehicles; their potential to help to manage the longevity risk of financial institutions likely depends heavily on (a) the size of the mortality pool incorporated and (b) how they are treated for purposes of capital by the entities that regulate those financial institutions.

14 Mitchell and McCarthy (2002) model the term of the financial instruments needed to back actuarially fair annuities in the US in a way that recognizes that the term needed varies with the yield curve and specifically due to convexity risk. They find US insurers selling annuities to males would require 12-year par bonds to exactly immunize themselves from interest rate changes; the same immunization would occur for the company selling to females would require 13-year bonds trading at par.

15 This natural hedge is explored in detail in Stevens, De Waegenare, and Melenberg (2008).

16 Some have suggested the creation of a publicly funded non-profit annuity pool. In this author's opinion, such a role for government would make sense only if two conditions are met: (a) there are insufficient counterparties in the private market and (b) a government's risk profile would make it an appropriate counterparty. The former is unclear at the moment.

- *Inflation risk.* Inflation is another risk that is difficult to manage through traditional life annuities. In some markets, notably the UK and Israel, inflation-linked bonds have become a mandatory component of the retiree portfolio. In other markets, where demand generally is based on voluntary purchase decisions, the lack of inflation-indexed financial instruments in the capital markets is a reality that confuses economists. Though Canada issues a small quantity of real return bonds,<sup>17</sup> the market for indexed financial instruments is sufficiently thin that it contributes to a lack of availability of (or unattractive pricing for) inflation-indexed decumulation products. Furthermore, it is important to remember that the current structure of real return bonds is not the only instrument that would meet this need; the ‘trills’ proposed by Kamstra and Shiller (2008) are another creative example of a financial instrument that would facilitate asset-liability matching for annuity providers.

A perfect tool for providers of life annuities would be instruments that allow them to hedge both longevity and inflation risks in the same instrument. Such ‘double trigger’ products are found occasionally in the property-casualty insurance world, but do not exist currently in the life insurance sphere. In making the public policy decision regarding these products, the cost of offering or facilitating the offer of such products should be weighed against the benefit achieved from the likely maturity transformation that would likely occur.

### *Remove Regulatory Demand and Encourage New Supply*

The data presented earlier suggest that the pricing of annuities in Canada is reasonable but that the capacity of the market may be limited. Furthermore, the use of a portion of the available capacity is

mandated by regulation, perhaps in a way that impedes the efficient allocation of annuities in the marketplace. Consider the requirement in some provinces that pension plans must purchase annuities from Canadian (only) insurance companies in certain circumstances, notably the windup of a pension plan. The rationale behind this requirement is to ensure that retirees have appropriate recourse if the provider of their annuity should fail. The financial services regulator, OSFI, could and should address that valid policy concern through a wider range of the means at its disposal, such as licensing requirements and guarantee fund(s). The result would be less crowding out in the current annuity supply as well as entry into the market of additional competitors.

On the supply side of the marketplace equation, considerable innovation can be observed in the market for both accumulation and decumulation products over the past decade. One interesting example, more focused on accumulation at its introduction, is target-date funds from investment services providers. The emergence of these products shows how lessons from behavioural finance have been translated into better prospects for retirees’ income. These “fund of funds” automatically reduce the proportion invested in stocks and increase the proportion invested in bonds as time passes (i.e., as fund investors age) and the recommended level of portfolio risk decreases. Target-date funds will necessarily develop mechanisms to transition their participants into the decumulation phase as they mature.

In 2007 the US Department of Labor began permitting target-date funds to be adopted as a “qualified default investment alternative” for employers and, as a result, many plan sponsors there are expected to adopt them as the default option. Supervisory authorities in Canada can and

<sup>17</sup> For example, at December 31, 2011, the outstanding total amount of real return Canada bond issues totaled \$32.6 billion (or more than \$40 billion with the inflation adjustment) while nominal bond issues totaled \$410.2 billion.

should play a role in determining whether retirees have access to innovative decumulation products.<sup>18</sup> The literature contains suggestions from several academic writers for variations of the traditional life annuity that they think would better address the concerns of retirees, including these three products:

- An advanced-life delayed annuity that could be acquired at a young age with small premiums to fund an inflation-adjusted, life-contingent income that would begin at the advanced age of say 80, 85, or 90. (Milevsky 2005);
- Refundable annuities to accommodate bequest concerns (Sheshinski 2010); and
- Life care annuities that combine annuities with insurance to cover health and long-term care costs (Bodie 2003; Sheshinski 2008; Webb 2009).<sup>19</sup>

In Canada, several requirements for prescribed annuities impede the introduction of annuity products suggested by these economists to serve the needs of those concerned about liquidity, bequests, and inflation risk. Specifically, the Canada Revenue Agency's requirements specify that to qualify as a prescribed annuity:

1. Annuity payments must begin in the current year with no provision for deferral permitted;
2. The payments must be of equal amounts and made at least annually (with no exception for performance-based or cost-of-living indexation);
3. The payments must continue for a fixed term or until the death of the annuitant with no refund (commutation) permitted.

In addition, the *Income Tax Act* also imposes a high rate of tax on lump-sum distributions from registered plans at death.

These requirements are clearly intended to reduce the extent to which tax collection is delayed, but defined-benefit pension plans are permitted to offer higher payments over time, and it seems reasonable to extend comparable accommodations to annuities for the sake of giving members of capital accumulation plans better options. While developing this paper, these requirements for prescribed annuities were the reasons most often cited for a lack of innovation in the Canadian market; the government should revisit these requirements. It is hoped that an updating of regulations to permit more sophisticated products, combined with an expanded source of supply, will spur innovation in the types of annuities offered in the marketplace.

#### *Encourage Consumers to Understand Decumulation Choices*

Undoubtedly retirees going forward will have more responsibility for choosing the form in which they draw down their retirement savings. Given the difficulty retirees have evaluating their options (see above), society may find it beneficial for government to take steps to improve consumer understanding of their choices.

Theory suggests policymakers should worry about the efficiency of the market mechanism as the conduit for financial advice. A classic agency

18 Some additional suggestions are noted here but are beyond the purview of financial supervisory authorities. For example, a few such proposals include (a) requiring financial decision-makers to be licensed, (b) increasing the fiduciary duties of individuals who sell financial products, and (c) requiring financial advanced directives, e.g., by older adults before they reach age 70, to avoid problems caused by cognitive decline on financial decision-making (Agarwal, Driscoll, Gabaix, and Laibson, 2009).

19 Simulations by Murtaugh, Spillman and Warshawsky (2001) found that costs for such a hypothetical bundle were lower by 3 to 5 percent than purchasing two products separately and that such bundling significantly increases the number of people who would be expected to purchase the private insurance.

problem is present – the professionals who offer advice in this area often benefit financially from the sale of a product or from maintaining control of the accumulated assets. In markets with inattentive consumers and shrouded attributes, perverse situations with high fees can persist as bona fide economic equilibria (Gabaix and Laibson 2006). Almost every country can provide anecdotal evidence of problems with high fees or advice that serves the interests of the advisor better than it serves the interests of the customer. The evidence from Chile goes beyond anecdotal. There, officials found their attempt to regulate market conduct after the introduction of their changes “still opened room for companies and brokers to influence workers’ choices” (Rocha and Thorburn 2007). The 2005 revision to the pension law and subsequent introduction of a government-sponsored web-based quotation system has produced one of the most competitive annuity markets in the world.

A similar online quotation system could be employed in any country to make information more readily accessible to consumers – including Canada. Indeed, the marketplace here already has developed something close to this – CANNEX provides annuity quotations and surveys to financial professional for annuity companies that represent more than 99 percent of annuities issued in Canada. Sponsoring access for consumers to this type of information is a straightforward recommendation for the Canadian marketplace.

### **Encouraging Greater Annuitization**

The evidence and estimates provided earlier suggest that Canada’s annuitization rate may be somewhat below what would be optimal for many retirees with incomes over \$40,000. Globally, the evidence suggests that higher levels of annuitization are more likely when government takes a role. Because the world is filled with potentially myopic individuals, public policy sometimes imposes requirements intended to protect those individuals from their

own shortsightedness. In the case of longevity risk, policymakers in Canada should, as their counterparts have done in other jurisdictions, consider the extent to which changes should be implemented that go beyond simple neutrality and attempt to influence the appeal of different decumulation options for retirees. The extent to which public policy chooses to follow this path should be determined with full recognition of the degree to which existing programs like OAS and CPP/QPP already annuitize participants. Should the resulting debate choose to move Canada in the direction of encouraging a different or specific mix of options for managing longevity (and other) risks of retirement, the range of policy options includes these possibilities:

- Adjust the degree of flexibility permitted in withdrawal of accumulated assets;
- Facilitate annuitization in all types of registered plans;
- Mandate the use of annuities;
- Provide transparent subsidies.

These ideas generally are listed above (and considered below) in the order from those that see the government exerting the least degree of control to those that would see the greatest extent of government involvement. Any or all would be relatively easy to implement in a jurisdiction like Canada that already has in place laws that defer taxes on retirement saving. Furthermore, any success achieved by efforts to encourage greater annuitization would have the added benefit of reducing adverse selection; i.e., ensuring an adequate pool of annuitants for the market to function well.

### *Adjust the Degree of Permitted Withdrawal Flexibility*

Assets in a Capital Accumulation Plan (CAP) can under current rules be taken from that plan and used to buy an annuity in the individual market.

RRSP assets not used to purchase an annuity typically are converted into an RRIF and face minimum withdrawal requirements set out by the tax regulations.<sup>20</sup> Robson's (2008) models of projected income under these minimum withdrawal rules confirms that retirees can expect a steadily declining level of real income in today's low interest rate environment. Current minimum withdrawal requirements significantly constrain the ability of retirees to balance their liquidity and longevity risks. A policy change is needed that, at a minimum, (a) recognizes the increasing frequency with which retirees' life spans exceed 90 years and (b) recognizes that lower investment returns may necessitate a slower draw-down of accumulated capital if the resulting income stream is intended to support a constant standard of living. The resulting additional tax deferral for retirement savings would facilitate the ability of retirees to manage the full range of risks they face and allow their accumulated assets to persist over periods of greater longevity.

At the other end of the spectrum, public policy objectives may support the implementation of a maximum withdrawal as well as the minimum withdrawal requirements for registered retirement vehicles. The approach of specifying a maximum withdrawal has been used in several countries around the world. Often the withdrawal is limited to a value that resembles a "one divided-by remaining life expectancy" draw-down strategy. Two well-developed examples are:

- *Australia*. Allocated pensions (or allocated annuities) are increasing in popularity. The payments received under this option range from a maximum that will just exhaust the fund by age 80 down to a minimum, which is the account

balance divided by life expectancy in that year. These products are perceived by consumers to be more flexible and offer better returns than life annuities.

- *Chile*. The phased (or programmed) withdrawals that are the only option to annuities provides withdrawals computed by a formula that takes into account life expectancy (Rocha and Thorburn, 2007).

Sometimes referred to with terms such as "protected assets" or "life-cycle safe harbor," such a system meaningfully restricts individual choice but in a way that is deemed by those who make public policy to be in the retiree's best interest. Such requirements limiting maximum withdrawal, found in some existing provincial pension benefits statutes, are the polar opposite of the minimum withdrawal requirements of the Canadian tax collection system. Combining the minimum and maximum can protect against longevity and liquidity risks while simultaneously ensuring reasonable collection of deferred tax revenues by creating "corridor" for permissible withdrawals.

### *Facilitate Annuitization in all Types of Registered Plans*

As the world has shifted toward defined-contribution pension plans, we have seen drops in both (i) the availability of annuitization as an option available in pension plans and (ii) the election of life annuities by retirees. Plan design changes can be facilitated by public policy and implemented by plan sponsors to deal with both dimensions of this issue.

Attractive and accessible annuity options are difficult to find on the Canadian non-DB pension

20 Those requirements do not utilize life-contingent annuity products – i.e., those that provide longevity protection – but rather refer to the purchase of a fixed-term annuity "with a term equal to 90 years minus: (a) the annuitant's age at the time of purchase; or (b) the age of the annuitant's spouse or common-law partner at the time of purchase" (CRA Information Circular 78-18R6). Note that, despite the similar terminology, such an arrangement is not life contingent and therefore not the type of annuity being discussed in this paper.

landscape.<sup>21</sup> Current Canadian law severely limits the ability of those who administer defined-contribution (DC) pension plans from offering annuity options within their plans, limiting those who retire to trying to find and purchase annuities in the individual marketplace.<sup>22</sup> The lack of such offerings in Canadian CAPs appears to be the practical interpretation of regulations that prohibit funding deficits. While the intent of such regulation is to protect plan participants from being caught with benefit promises from a plan that has no assets, it seems to have resulted in many DC plans refraining completely from offering annuity choices.

A more efficient and accessible option would be to have annuity choices offered directly through CAPs. These options could be negotiated and purchased on a group basis that likely would produce lower expense loadings and reduce adverse selection; for example, group annuities could be purchased by plan administrators. Clarification in financial regulations that the fixed-term portion of a guaranteed life annuity (which has no mortality risk) could be self-administered (i.e., that the CAP need purchase a deferred annuity only) would also be helpful as the guaranteed or fixed-term payment period would then consume much less of the market's capacity to provide annuities.

Public policy could be used to push the market one step in this direction by requiring that all registered plans offer one or more annuitization options. The ultimate decision between annuity and withdrawal vehicles that lack mortality protection would continue to lie with the retiring individual; however keeping prices competitive would serve to encourage greater annuitization, which would

in turn expand the pool of individuals electing annuities and reduce the margin for adverse selection that would be needed in future pricing. Put simply, we could get the spiral going the other direction.

Overall, progress toward optimal annuitization could be achieved in a market that brought together more sophisticated purchasers and more efficient group administration.<sup>23</sup>

As for the decumulation selections made by retirees, a growing body of research in the last decade has suggested that gentle institutional “nudges” can change behavior without requiring any sort of mandate. From the literature on pension plan participation, we know that inertia affects almost any decision made by participants in a pension plan. Madrian and Shea (2001) find the rate of participation in American 401(k) plans is significantly higher when the firm has an automatic enrollment procedure and also find enrolled employees tend to keep the default contribution rate as well as the default asset allocation. Findings by Choi, Laibson and Madrian (2004) provide further evidence that employees often follow the path of least resistance in their decision making. Another example is the use of automatic savings rate escalators trademarked as “Save More Tomorrow” by Thaler and Benartzi (2004).

While the majority of the research on this subject comes from the United States, there is evidence from other countries as well. Büttler and Teppa (2007) observed that in Switzerland “individuals largely stick with the sponsor’s default option rather than making active decisions. In particular, the likelihood of cashing out pension wealth is significantly higher in companies that

21 This same trend is observed in the United States where only one in five 401(k) plans offers participants an option to annuitize through the plan (Brown, Casey, et al., 2008).

22 Certain DC plans are grandfathered under prior rules, notably the \$3 billion DC fund for Saskatchewan credit unions and the McGill University’s pension as well as plans at several other universities’ pension plans.

23 In addition to changes to existing vehicles, the emerging regulation for Pooled Registered Pension Plans (PRPPs) could see those vehicles used to provide efficient access to annuitization. As well, new vehicles could be established to facilitate group purchase of annuities, e.g., the TOPS arrangements proposed by Ambachtsheer (2007).

provide the lump sum as a default option.” Overall, however, the evidence also shows that such nudges work when only when aligned with the intentions of the actor; they are rejected when the nudge is misaligned with the goals of the actor being nudged. The most relevant research for the subject at hand is Mottola and Utkus (2008) who find that automatic annuitization of DB accumulations is often rejected in favor of lump-sum payouts.

In all, this body of research provides strong reasons to believe that setting a default option that is the best choice for the average individual consumer would alter the aggregate decumulation decisions.

### *Mandate Annuitization*

Finally, it is not typically true that achieving the optimal annuitization rate on average means that all (or even most) individuals have elected an appropriate level of annuity. Scobie, Gibson, and Le (2005) conclude that, while there is no overall saving ‘problem’ in New Zealand, those results often implicitly assume perfect annuitization. Stated differently, even if the appropriate amount of assets is annuitized on average, the aggregated data provides no basis for solid conclusions regarding how effectively individuals are translating their savings into an income to last an uncertain lifespan. The reality is that some households may hold too much in annuities while others hold too little (even when the average appears to be on target). They note that this is an area of public policy where the entire distribution must be considered – not just the mean. Every retiree who makes choices that result in inadequate income may end up on the rolls of a public assistance program.

To help achieve a minimum (if not optimum) level of annuitization, a few examples can be found globally of governments requiring that pension assets be annuitized. Perhaps the most relevant are the regulations in the UK that until 2006 required annuitization of defined contribution equivalent to at least 75 percent of pension accumulations no

later than age 75. This system proved controversial, but anecdotally the lack of public support seems to have arisen for reasons that go well beyond the merits of the idea itself.

Though it is doubtful Canadian policymakers will choose to go to the extreme of imposing requirements for annuitization, if it were under discussion I would favour an approach where the required level of annuitization would be a minimum nominal income level (rather than a percent of assets). Such a nominal value could be tied to poverty statistics or the maximum income with which citizens can qualify for GIS. Any such requirement should be indexed to inflation and the possibility of requiring the annuity amount to be indexed should be addressed explicitly in any such policy discussion.

### *Provide Transparent Subsidies*

In some cases, public policymakers decide there is a need to subsidize one group at the expense of another. State social security systems may incorporate a significant element of wealth transfer from the rich to the poor, for example. In the case of decumulation products, it may be determined that it is socially desirable to provide gender-neutral annuities; i.e., for men to subsidize women.

## CONCLUSIONS

Demographics see the babyboom generation entering retirement now and their retirements lasting for periods that have increased dramatically beyond what was observed when current policy was set. The global trend that transfers risk to individuals through defined-contribution pension plans and individual retirement accounts amplifies the importance of this problem. These facts have intensified the need for a thoughtful review of policies and regulation with the goal of improving the supply and range of decumulation products to assist retirees in managing their retirement savings.

Policy changes should improve the “infrastructure” for decumulation products by gathering high-quality mortality data and ensuring access to that data for annuity pricing. Policy should also provide the proverbial level playing field by integrating insurance, banking, pension, and tax regulations so these are neutral factors in the consumer decision to annuitize.

Policymakers should work with financial markets to develop instruments that will improve the ability of private annuity sellers to offer a range of decumulation products. Government websites and other resources should be available to assist consumers in the annuity purchase decision. All of these changes will serve to encourage a market that functions efficiently and effectively.

Beyond the changes to improve the functioning of the market, the “best” choice depends on one’s philosophy. The choices range from making no changes to the current system to an outright requirement for annuitization. I tend to favour incremental changes that would bring longevity protection into a world increasingly characterized by defined-contribution plans.

These proposals do little to restrict individual choice while adding much sophistication to the purchase decisions and doing so in an efficient manner. Then we can observe what happens to determine if further changes are required. Ultimately, these choices will be made by many people after much discussion.

Encouraging optimal annuitization in the decumulation process would ensure retirees have at least some funds available to help meet the costs of old-age care, including long-term care. From a public policy perspective, this reduces the pressure on general taxpayers by achieving greater intra-generational responsibility for longevity risks and health costs. Well-designed policy may be able to reduce (over)consumption by the newly retired and reduce pressure on children of retirees to provide for their parents.

This is an area of public policy where it is not sufficient to consider the effect on an ‘average’ retiree – the entire distribution must be considered. Every retiree who makes choices that result in inadequate income may end up on the rolls of a public assistance program.

In a world of potentially myopic individuals and a state-provided safety net, the cost of doing nothing will be borne by all taxpayers. To the extent public policy changes can assist individuals to manage their own longevity risk, the number of Canadians who outlive their retirement savings and fall into the government safety net will be reduced. The time to look at needed changes is now while the decisions regarding much of the babyboom generation’s accumulated savings remains to be determined.

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