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## Planning for Retirement – There is No Substitute

By Rock Lefebvre, Elena Simonova and Kevin Girdhar



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For more information, contact can be made through:

100 – 4200 North Fraser Way, Burnaby, BC, Canada, V5J 5K7

Telephone: 604 669-3555 Fax: 604 689-5845

1201 – 350 Sparks Street, Ottawa, ON, Canada, K1R 7S8

Telephone: 613 789-7771 Fax: 613 789-7772

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# Planning for Retirement – There is No Substitute

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## Executive Summary

The combination of such factors as ageing of the population, rapidly increasing household debt, declining personal savings rates and the presence of elevated uncertainty in the global economic outlook makes financial preparedness for retirement a highly discussed topic. Retirement planning is often seen as a tool that may assist individuals to successfully accumulate retirement capital. However, the low level of ‘customization’ of the general information on retirement planning may prompt some individuals to oversimplify their approach to retirement savings while discouraging others who face difficulty in identifying the optimal mix of available options. At the same time, the rather pessimistic external economic environment and the increased expectations of enhancing pension benefits provided by the public system may further exacerbate the already weak propensity of Canadian households to accumulate retirement savings. Given this scenario, it is timely to once again accentuate the importance associated with – and the complexity involved in – choosing the mix of savings instruments for accumulating retirement capital. As the following pages reveal, it can be reasonably contended that:

***Most observers agree that the current Canadian retirement income system is performing fairly well; however shortfalls appear to exist.*** Most of today’s retirees have sufficient income to maintain their pre-retirement lifestyles; however, the scope of the Canadian Pension Plan (CPP) is limited compared to other high-income OECD countries, workplace pension coverage has been steadily declining and there is evidence that the average Canadian is not saving enough for retirement.

***The effectiveness of the proposed solutions for improving the retirement income system greatly depends on the correctness of the problem definition;*** and the latter presents certain challenges. Estimates regarding the future retirement income adequacy are based on assumptions that can easily become inadequate; the very measure of retirement income adequacy – replacement rate – is not well defined; and the influence of behavioural factors (in addition to systemic ones) is not well studied.

***Relying on private retirement savings continues to be of high importance for Canadian households*** as the immediate remedy of enhancing retirement income coverage is not available. Introducing new public policies is a slow process and it may take years before some tangible measures intended to enhance the retirement income system are in place.

***A number of savings options are already in place and may provide tax advantage to individuals when saving for retirement.*** Those options include Registered Retirement Savings Plans (RRSPs), Tax-Free Savings Accounts (TFSA), financial assets generating capital gains outside of registered accounts, and accumulation of realty equity.



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*Comparing the outcomes of different savings options is challenging.* Often, it is impossible to fully segregate the options and assess them in isolation; assessing the mix of options poses the additional challenge of identifying the right composition of the mix. The choice between the options may also depend on the anticipated effective marginal tax rate in retirement; naturally, the latter is not known at the time of saving.

The simplified, illustrative comparison of savings options suggest that *saving through accelerated mortgage payments may yield the highest return for households with certain socio-economic characteristics*. RRSPs, in turn, provide homeowners with the second best saving outcome while being the number one choice for renters. Combining the TFSA and RRSP options makes most sense in the long run for medium and higher-income individuals willing to save a substantial amount of their earnings.

Taken together, these assertions lead us to suggest that considering planning for retirement in broader terms than just setting aside a portion of monthly income may be beneficial as the narrow focus may overlook some important strategies of accumulating retirement capital. Furthermore, financial self-education, critical thinking and discipline of saving have become paramount in today's financial and economic environment and should be seen as essential elements of planning for retirement.



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## Introduction

The combination of such factors as ageing of the population, rapidly increasing household debt, a declining personal savings rate and the presence of elevated uncertainty in the global economic outlook makes the financial preparedness for retirement a highly discussed topic within governments of all levels, and the broader public policy community. Seemingly, the ability of Canadians to maintain a financially comfortable and healthy lifestyle after retirement has become one of the nation's most vexing challenges.

The three pillars of the Canadian retirement system – government programs, employer/employee-sponsored pension plans and private savings – are all very important contributors to the individual's retirement income; however, the level of an individual's commitment to saving and the control over accumulated funds differ markedly across the pillars. Within the government programs and employer-sponsored pension plans, the discipline of saving and the complexity of investment decisions are seldom an issue of concern to individuals as pension contributions are often compulsory while the fund management is facilitated by institutional investors. The situation reverses in the area of private savings where both the discipline of saving and the consequences of investment decisions are the responsibility of the individual.

Retirement planning is often seen as a tool that may assist individuals to successfully accumulate retirement capital. A wide variety of sources of information on retirement planning exists; they range from retirement planning bestseller books, to on-line brochures and calculators offered by financial institutions and financial planners, to more specialized retirement planning workshops offered by some employers.

Although the sources of retirement planning information are different, the contents of printed aiding materials are often very similar: typically, plans describe general strategies, rules of thumb and provide broad guidance for individuals to follow. In turn, individuals who may be expected to use the retirement planning guidance – in rough terms that would be all adult, non-retired individuals or some 20 million Canadians – are a highly diverse and non-homogeneous group. Their annual income ranges from \$0 to millions of dollars, they can be employed or self-employed, full-time students or simply have chosen not to be in the labour force. They may be unattached individuals, couples with no children, single parents, or couples with several children. The low level of 'customization' of general information on retirement planning may prompt some individuals to oversimplify their approach to retirement savings, while discouraging others who face difficulty in identifying the optimal mix of available options.

The external environment has become another significant challenge as it has changed markedly over the past several years. The financial world has become much more volatile and uncertain,



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and will probably maintain this characteristic for yet some time, whereas high rates of return on investments in a relatively low risk environment have conceivably become a feature of the past. Within the public policy community, though, the debate on the adequacy of retirement savings produced some initial results – a framework for Pooled Registered Pension Plans (PRPPs) has been introduced whereas the broader considerations on possible improvements to the government funded and administered retirement income programs still continue. The non-stimulating external environment contrasted with increased expectations of higher pension benefits provided by the public system may further impair the already weak propensity of Canadian households to accumulate retirement savings.

As such disposition may be problematic for ensuring the financial wellbeing of Canadians, it is timely to once again highlight the wide array of already existing savings instruments that can assist individuals in preparing for retirement, and accentuate the complexity associated with choosing the mix of savings instruments for accumulating retirement capital. Building on the previous work of CGA-Canada in the area of tax-preferred savings instruments,<sup>1</sup> the paper begins with a brief discussion of the main shortcomings of the current retirement income system and the likelihood of their moderation. It then provides a brief overview of savings instruments that offer households tax advantages, and presents the results of a simulation that compares savings outcomes and tax benefits that could result from using savings instruments by households with different socio-economic profiles. It should be underscored that the purpose of this paper is not to identify the most optimal saving strategy, but rather to highlight the complexity of choices that may be faced by households when planning for retirement, and provoke proactive and critical thinking about savings instruments.

## The Canadian Retirement Income System – What Does Not Work?

The Canadian retirement income system is typically described as a three-pillar system designed to provide a basic income guarantee for seniors, and to encourage individuals to replace a sufficient portion of their earnings with retirement income preventing a significant decline in living standards after retirement.

The first pillar of the system consists of income-tested transfers (Old Age Security and Guaranteed Income Supplement) that provide a basic minimum income guarantee for seniors and are funded

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<sup>1</sup> See, for instance, CGA-Canada (2009). *51 and Counting – Is It Time to Remodel RRSPs?*; CGA-Canada (2009). *Tax Free Savings Accounts – Shifting Opportunity*; and CGA-Canada (2008). *How Pressing is to Revisit the Treatment of Capital Gains?*



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out of federal government revenues. The second pillar is based on two mandatory, publicly-administered, defined benefit pension plans (the Canada Pension Plan (CPP) and the Quebec Pension Plan (QPP)) that provide a basic level of earnings replacement for all Canadian workers and are funded by employer and employee contributions. The third pillar is represented by tax-assisted savings opportunities to encourage individuals to accumulate additional savings for retirement and includes Registered Pension Plans (RPPs) and Registered Retirement Savings Plans (RRSPs) / Registered Retirement Income Funds (RRIFs).

The Canadian retirement income system has two main objectives: (i) to alleviate poverty among the elderly, and (ii) to prevent a significant decline in living standards after retirement.<sup>2</sup> Most observers agree that the system performs quite well in regards to the first objective. Over the past four decades, there has been a substantial and continued improvement in the income of lowest income seniors. For example, real income of elderly within the lowest 10% income distribution gained some 50% between 1973 and 1984, and nearly doubled by 2006. This exceeded by far income gains enjoyed by non-elderly families for which real income increased by less than 20% over the same period of time. Moreover, the proportion of elderly that are in poverty (i.e. below the low-income cut-off) is smaller than the proportion of prime-age families who are in a similar situation.<sup>3</sup>

The second objective of the retirement income system seems to be attained to a much lesser degree; however, arriving at a firm conclusion on this matter is not straightforward.

If the system's ability to support the continuity of consumption and maintenance of living standards into retirement is judged based on the situation of current retirees, the retirement income system seems to be performing quite well. For instance, a study<sup>4</sup> that examined the evolution of income among individuals aged 54 to 56 in 1983 until they reached 77 to 79 years of age in 2006 concluded that family income available to the typical individual in his or her late 70s is about 80% of that observed when the same person was in his or her mid-50s. This translates into a median replacement rate<sup>5</sup> of 110% among individuals in the bottom income quintile, and 70% in the top quintile. Moreover, more recent cohorts of retirees have improved their income position at all ages compared to earlier cohorts. Another study<sup>6</sup> finds that housing services make an important contribution to household income. When services provided by the equity invested in housing are added into traditional estimates of income, income of retirement-age households

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2 LaRochelle-Côté, S. et al (2008). *Income Security and Stability During Retirement in Canada*, Statistics Canada, Catalogue no. 11F0019M — No. 306, p. 8.

3 Baker, M. and Milligan, K. (2009). *Government and Retirement Incomes in Canada*, Paper prepared for the Research Working Group on Retirement Income Adequacy, Figure 2 and 3.

4 LaRochelle-Côté, S. et al (2010). *Replacing Family Income During the Retirement Years: How Are Canadians Doing?* Statistics Canada, Catalogue no. 11F0019M – No. 328.

5 Replacement rate expresses retirement income as a percentage of pre-retirement earnings.

6 Brown, W. M. et al (2010). *Incomes of Retirement-age and Working-age Canadians: Accounting for Home Ownership*, Statistics Canada, Catalogue no. 11F0027M — No. 064.

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increases by 10% to 13% for those in the 60-to-69 age band and by 12% and 15% for those in the 70-plus age class. This additional income reduces the difference in income between working-age and retirement-age households that own their homes and improves their replacement rate. Overall, an overarching conclusion of the body of research that is based on statistics for those already retired is that the current retirement income system provides adequate replacement rates for median workers.<sup>7</sup>

Self-assessed levels of financial security of current retirees also seem to be high. For instance, results of the Canadian Financial Capability Survey show that the vast majority of retirees give a positive feedback when asked about their economic well-being. Some 86% of respondents who reported themselves to be “retired” say their income is sufficient to cover monthly expenses, and almost 8 in 10 believe that their financial situation in retirement is as expected or better than before they retired.<sup>8</sup>

However, when the ability of the retirement income system to maintain living standards into retirement is assessed based on the amount of retirement capital the current working-age population is likely to accumulate by the time of retirement, the system’s success may be questioned. A number of constructs have been undertaken to assess whether or not current savings patterns of Canadians will allow maintenance of living standards during future retirement. For instance, one of the studies<sup>9</sup> estimates that 28% of the current modest-income earners and 29% of middle-income earners will not be able to attain consumption levels in retirement equal to 90% of their pre-retirement consumption. Another study<sup>10</sup> concludes that two thirds of Canadian households expecting to retire in 2030 are not saving at levels required to meet necessary living expenses. An earlier study undertaken by Statistics Canada also estimated that 33% of the family units with a major income recipient aged 45 to 64 may not, given their asset situation at the time of the analysis, have saved enough to replace two-thirds of their earnings at retirement. If the income replacement target is set at 80%, the proportion of those not being able to meet the target raises to 44%.<sup>11</sup>

The issue of retirement income adequacy has been on the agenda of the provincial and federal governments for some time already. A number of deliberations have been undertaken by different jurisdictions including Task Force studies in Ontario and Nova Scotia, a joint study of British Columbia and Alberta, a study of the provincial-territorial Steering Committee of Ministers on Pension Coverage and Retirement Income Adequacy, and the work of the Research Working

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7 LaRochelle-Côté, S. et al (2010). *Income Replacement During the Retirement Years*, Statistics Canada, Perspectives on Labour and Income, August 2010.

8 Marshall, K. (2011). *Retiring with Debt*, Statistics Canada, Catalogue no. 75-001-X, pp. 7-8.

9 Horner, K. (2009). *Retirement Savings by Canadian Households*, Paper prepared for the Research Working Group on Retirement Income Adequacy.

10 Canadian Institute of Actuaries (2007). *Planning for Retirement: Are Canadians Saving Enough?*

11 Statistics Canada (2001). *The Assets and Debts of Canadians – Focus on Private Pension Savings*, Catalogue no. 13-596-XIE.



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Group on Retirement Income Adequacy which assisted Federal-Provincial-Territorial Ministers of Finance in their work on retirement income.

The deliberations conducted by these diverse groups have arrived at a rather similar assessment of the current situation and the definition of the problem at hand. Namely, that the Canadian retirement income system is performing rather well as most of today's retirees have sufficient income to maintain their pre-retirement lifestyles. However, shortfalls appear to exist: the CPP ranks poorly among comparable high-income OECD countries for its limited scope, workplace pension coverage has been steadily declining and there is evidence that the average Canadian is not saving enough for retirement whereas the capacity of individuals to accumulate personal savings for retirement is further seriously impacted by high retail investment fees.<sup>12</sup> As a result, some modest and middle-income individuals (those earning between \$30,000 and \$100,000) may be expected to achieve a lower overall income replacement rate than that deemed necessary for maintaining sustainable living standards in retirement.

## Can the Retirement Income System Be Fixed?

Of the many options recommended as possible ways of reforming the retirement income system, a new program – PRPPs – have materialized as the next step in improving the financial situation of future retirees.<sup>13</sup> PRPPs are envisioned as a new kind of defined contribution pension plan that will be an accessible, straightforward and administratively low-cost retirement option for employers, employees and the self-employed.<sup>14</sup> Can the chosen solution fix the system? The effectiveness of the solution greatly depends on the correctness of the problem definition; recognizing that in the case of the retirement income system, the definition of the problem or hypothesis presents a number of serious challenges.

First, in order to make a judgement whether individuals retiring some 15 to 30 years from now will be able to maintain their living standards after retirement, one would need to know (at least) their pre-retirement income, total net wealth at retirement, effective personal income tax rate, expected longevity, and rate of return on investments during the retirement years. As we cannot

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12 Steering Committee of Provincial/Territorial Ministers on Pension Coverage and Retirement Income Adequacy (2010). *Options for Increasing Pension Coverage Among Private Sector Workers in Canada*, pp. 8-9.

13 A number of other, smaller-scale targeted improvements has also been introduced into the system over the past several years. Among those are the requirement for the employer to fully fund benefits if the pension plan is terminated; GIS top-up benefit for seniors with little or no income other than OAS and GIS, and introduction of TFSAs.

14 Department of Finance Canada (2010). *Framework for Pooled Registered Pension Plans*, available at <http://www.fin.gc.ca/activity/pubs/pension/prpp-irpac-eng.asp>.



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foresee the future, the analysis of the adequacy of retirement income of future retirees has to be based on assumptions that can easily become inadequate due to fluctuations in the socio-economic situation and outlook or alterations in the individual's life trajectory.

Past experience offers a number of good examples. For instance, the validity of such assumptions as a 4% annual inflation and a 8.75% nominal rate of return on a balanced portfolio of equities and fixed income securities would probably be questioned in today's economic environment; however, these assumptions were quite acceptable as recently as 1995 and actually used in one of the studies undertaken by the Canadian Institute of Actuaries.<sup>15</sup> Another example may be found in the changes undergone by the marginal effective tax rate<sup>16</sup> on personal income: in Ontario, the rate went down from 38.7% in 1998 to 31.1% 2007.<sup>17</sup> Naturally, these changes would have been difficult to foresee for someone conducting a forward-looking analysis of the adequacy of retirement income a decade ago. The change in the trend of the median retirement age which assumed a slightly increasing trend starting from 2002, after a 30-year long record of continuous decline<sup>18</sup> would similarly be difficult to predict some ten years ago when many were anticipating labour shortages due to early retirement of baby boomers.

The second challenge relates to the notion of the replacement rate which is usually employed as the measure of adequacy of financial situation at retirement. Although the replacement rate is the key element of most of retirement income-related estimates, a consensus among researchers and observers on how to define the replacement rate and what its adequate level is has yet to emerge. Main divergences are centered around the treatment of the value of housing services generated by home ownership, the timeframe over which pre-retirement and retirement income is calculated, the family size adjustment factor, and the basis (income vs. consumption) against which the replacement rate is measured. It is often assumed that 70% or 80% is the desired replacement rate;<sup>19</sup> however, there is no clear methodological explanation of the derivation of this level.

Third, the very assumption that the potential inadequate financial preparedness of future retirees is driven by the structural shortcomings of the retirement income system may also have some imbedded faultiness. Wealth accumulation is deemed to be influenced by such factors as age, household structure, lifetime earnings, the discount rate and the bequest motive. However, empirical research also finds that some behavioural variables such as propensity of the individual to plan, amount of time allocated to financial planning, and default rules imbedded in the

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15 Canadian Institute of Actuaries (1995). *Troubled Tomorrows—The Report of the Canadian Institute of Actuaries' Task Force on Retirement Savings*, as cited by Baldwin, B. (2009). *Research Study on the Canadian Retirement Income System*, Paper prepared for the Ministry of Finance, Government of Ontario, pp. 48-49.

16 The marginal effective tax rate is generally defined as the percentage of an additional dollar of income that has to be paid in taxes.

17 CGA-Canada (2009). *51 and Counting – Is It Time to Remodel RRSPs?*

18 Based on CANSIM Table 282-0051

19 Baker, M. and Milligan, K. (2009). *Government and Retirement Income in Canada*, Paper prepared for the Research Working Group on Retirement Income Adequacy.



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structure of saving plans, are also strongly related to wealth accumulation.<sup>20</sup> That may explain why individuals of the same socio-economic characteristics arrive at different replacement rates. However, the recent analysis undertaken by provincial and federal governments as part of their quest to improve the retirement income system did not look in great detail into behavioural aspects of savings patterns of Canadians. As such, it is difficult to objectively assess the extent to which behavioural factors may be responsible for the overall perceived shortcoming or potential inadequacy of financial situation at retirement.

It is worth accentuating that the three points outlined above are not intended to question the appropriateness of the proposed PRPPs (the consideration of that matter is beyond the scope of this report). They are rather intended to emphasize that the design and implementation of public policy measures are often characterized by the uncertainty of their optimality and effectiveness, even more so when the impact of the measures will only be observable in the remote future.

Moreover, it may still be years before some tangible measures intended to improve the retirement income system are in place and operational (for instance, in the 1970s, the pension debate lasted some 10 years). Introducing new public policy is usually a lengthy and multi-phase process that includes a problem definition, policy design, public consultation, and finally implementation. The slow-moving policy work has its own solid rationale – it would simply be irresponsible to make rushed decisions that affect millions of Canadians without putting sufficient time and effort in considering all possible outcomes and implications of those decisions. The downside of this, though, is that the immediate remedy for households who hope to obtain better retirement income coverage either through government-funded or government-administered pension plans is not clear. At the same time, it is worth reiterating that a substantial number of savings instruments are already in place and available to Canadians. And the main question for any individual should rather be “What is the most advantageous mix of the savings instruments?”

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20 Ameriks, J. et al (2002). *Wealth Accumulation and the Propensity to Plan*, Working Paper Series, TIAA-CREF Institute.



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## Savings Instruments that Provide Tax Advantages

Although participating in an employer-sponsored pension plan presents members with certain tax advantages, our discussion is focused only on options available for placing voluntary private savings, as only those are fully controlled by the individual. Two plans – RRSPs and Tax-Free Savings Accounts (TFSAs) – are typically included when considering tax-preferred savings instruments available to Canadians to accumulate retirement capital. We expand this list by adding capital gains, and accelerated mortgage payments as two other prospective options that offer the saver certain incentives and tax advantage.

An RRSP is a tax-deferred plan under which contributions are tax deductible (up to a certain limit) and investment returns accrue tax-free; however, withdrawals are treated as regular income and are taxable. Early withdrawals are allowed under RRSP without penalty; however, for a spousal RRSP, there is a two-year waiting period before the spouse can make a withdrawal. Unused contribution room can be carried forward. The accumulated funds cannot be left in the RRSP indefinitely: at age 71, the RRSP must be converted to a Registered Retirement Income Fund (RRIF) or used to purchase an annuity. If the marginal tax rate in retirement is expected to be higher than the contributor's rate at the time of RRSP contribution, the after-tax rate of return will be lower than before-tax return which causes saving disincentive.

TFSA is a tax-prepaid, general purpose savings account that may be used to meet a variety of savings needs, including retirement. Contributions to these accounts are not tax-deductible and are funded from after-tax income. Withdrawals, in turn, are not taxable which allows for a tax-free accumulation of investment income within the plan. Unused TFSA contribution room is carried forward and accumulates in future years; full amount of withdrawals can be put back into the TFSA in future years. Neither income earned within a TFSA nor withdrawals from it affect eligibility for federal income-tested benefits and credits, such as Old Age Security and the Guaranteed Income Supplement, and there is no age limit for withdrawals. TFSAs become a useful retirement savings instrument when the marginal effective tax rate payable on retirement income is higher than that imposed on regular income during working life. Currently, TFSA allows for a contribution of up to \$5,000 annually.

Common for both RRSP and TFSA is the fact that the calculation of taxable income does not take into account capital losses that accrue or are realized on investments held within the registered accounts.



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Capital gains reflect positive changes in the value of capital assets over time and are defined as an increase in the money value of a capital asset which results in a profit if the asset is sold. Realized capital gains are considered as a component of total personal income, similar to that derived from employment, business activity, retirement pensions and government transfers. However, only a portion of capital gains is included in taxable income – currently, 50%. Capital gains that accrue, but are not realized are not taxed. Capital losses can be deducted to the extent capital gains are realized and may be carried back three years or forward indefinitely to offset taxable capital gains that have been realized in other years.

Accumulation of housing equity in a principal residence is not formally attributed to tax-preferred savings tools; however it can deliver significant tax advantages. Although interest paid on a mortgage is not tax-deductible, capital gains experienced from selling the principal residence are not taxable if the residence has been the person's principal residence for the whole time it has been owned.

## Is There a Preferred Savings Instrument?

Typical strategies imbedded in retirement planning encourage individuals to understand the main sources of retirement income, start to save as early as possible, pay down consumer debt, work a few extra years (if needed), and adapt to a flexible lifestyle after retirement.<sup>21</sup> Although these are valid and important elements in ensuring comfortable retirement, they speak little to how to allocate the money set aside from current income among different savings instruments. Contributing to an RRSP is probably the most often cited option and is heavily promoted by financial institutions and advisers, particularly during RRSP season – January-February of each year. Even Statistics Canada measures the value of assets held in private pension instruments as a sum of employer pension plans, RRSPs and RRIFs.<sup>22</sup>

To illustrate the merit of analyzing the advantages and disadvantages of other savings options, we examine the divergence in savings outcomes that may be achieved by using different savings instruments. Our consideration is focused on comparing four savings scenarios: (i) contributing the amount saved to RRSP, (ii) contributing the amount saved to TFSA, (iii) investing the amount saved in financial assets that generate capital gains outside of registered plans, and (iv) allocating the amount saved to accelerate paying down a mortgage. To assist the reader in navigating among

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<sup>21</sup> The typical strategies were identified based on a review of 11 retirement plans of a diverse group of organizations, including investment firms, professional associations, specialized financial planners, and large financial institutions.

<sup>22</sup> Statistics Canada (2006). *Survey of Financial Security*, Daily, December 7, 2006.



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these options, we refer to them in the subsequent text as “RRSP”, “TFSA”, “capital gains” and “housing equity” respectively.

### *Challenges of comparing savings instruments*

To account for possible differences in socio-economic characteristics of households, we examine three types of households: a single individual, a couple with no dependents, and a couple with two children. Similarly, three different levels of individual annual earnings from employment – \$30,000, \$60,000 and \$90,000 – are considered to approximate for different income groups.

Although the intention is to compare outcomes of savings using four different options of savings instruments (as outlined above), it is impossible to fully segregate those options. For instance, individuals saving in TFSAs and intending to allocate more than \$5,000 annually to savings (i.e. more than the current annual contribution limit) will have to make a subsequent decision for allocation of the ‘residual’ saving amount to another saving instrument (this would also be the case for those who exceed the upper annual limit on RRSP contributions). To accommodate the TFSA contribution limit, our simulation presents two versions of saving through TFSA: in the first version, the amount of savings exceeding the TFSA limit is saved in RRSP; in the second version – it is saved in financial assets that generate capital gains outside of registered vehicles. These two versions are respectively abbreviated as “TFSA & RRSP” and “TFSA & CG”.

Saving through housing equity will also require additional considerations. For the purpose of our simulation, we assume that the individual is always a homeowner (and not a renter). In other words, the individual always makes mortgage payments no matter which savings instrument is chosen. Those who choose to save through housing equity make accelerated mortgage payments that are allocated directly to equity. As the terms of the mortgage contract are fixed, monthly mortgage payments of the individual that saves through home equity remain unchanged. At the time of the mortgage renewal, the individual will have an option of (i) maintaining the constant monthly mortgage payment but shortening the mortgage amortization period, or (ii) reducing the monthly payment while maintaining the amortization period as unchanged (these options are not available to individuals saving through other savings instruments).

For our simulation, the first pattern of behaviour is chosen – as the monthly mortgage payments remain unchanged, the benefit of saving through housing equity materializes once the mortgage is fully paid off. At that point, individuals saving through RRSP, TFSA, and capital gains will have to continue to service their monthly mortgage obligations, whereas the individual saving through housing equity will be able to allocate the amount equivalent to the mortgage payment to savings. For this individual, thus, savings will be composed of regular savings plus the amount which otherwise would have been allocated to servicing the mortgage. Once the mortgage is paid off, the individual saving through home equity will have to make the decision of which savings instrument



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(i.e. RRSP, TFSA or capital gains) should be used to allocate the “extinguished” mortgage payments. For our simulation, the individual allocates extinguished mortgage payments to capital gains.

Another challenge in comparing different savings instruments is related to the tax treatment of the retirement capital: withdrawals from RRSPs are taxed, whereas withdrawals from TFSAs and the use of funds accumulated through capital gains are tax-free. The taxation of those who accumulate savings through home equity will depend on the choice of the saving instrument as discussed in the preceding paragraph. As such, understanding sources of retirement income when planning for retirement is essential not only for the clarity of the amount of funds available in retirement, but also for choosing between the savings instruments as the rate of taxation in retirement will depend on the amount and the source of retirement income. In our simulation, we estimate the after-tax equivalent of retirement capital accumulated in the RRSP to ensure comparability of different savings instruments.

#### *Assumptions used in the simulation exercise*

As the analysis is focused on comparing different savings options, the matters related to the pre-retirement income replacement rate generated by those savings are not considered. It is assumed that once the optimal savings instrument is identified, the individual may address the question of achieving the sufficient replacement rate by adjusting the rate of savings.

The following assumptions are also made to facilitate the comparison:

- Individuals save for 30 years starting from age 35 and retire at age 65; annual savings represent a fixed proportion of individual’s annual income; this proportion does not change over time.
- Individuals are not members of employer-sponsored retirement plans.
- All calculations are made in real terms (i.e. net of inflation); personal income tax brackets and deductions are indexed to inflation and thus are constant in real terms.
- All individual’s earnings come from employment in the form of a wage; annual real growth rate of wages is 1%.
- During working years, total income of a single individual and of a couple with no dependents consists of wages and (under certain savings options) capital gains generated by financial assets outside of registered plans. Total income of a couple with two children consists of wages, Universal Child Care Benefit (in years when applicable) and (under certain savings options) capital gains generated by financial assets outside of registered plans.
- Annual employment earnings of a couple are double of that earned by a single individual (i.e. if a single individual earns \$30,000 annually, couple’s annual income will be \$60,000). Each spouse contributes an equal share of the total employment earnings. For a couple with children, the mother reports child-related income and deductions.



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- Spouses in a couple are of the same age; they also retire at the same age. For couples with two children, the first child is born at age 35; the second – at the age 38.
  - Funds invested within RRSP and TFSA, and those invested in financial assets generating capital gains outside of registered plans earn an equal rate of return. The real rate of return on investments is 3%. Capital gains are realized every 5 years and re-invested. The re-invested amount of capital gains is reduced by the amount of tax paid due to capital gains.
  - Savings are invested at the end of the year; the tax deduction obtained due to investment through RRSP is invested in the year for which it was obtained.
  - In retirement, savings accumulated in RRSP are depleted over 20 years. In the case when an RRSP is used as the saving instrument, taxable income in retirement is formed by CPP benefits, OAS payments and RRSP withdrawals. RRSP withdrawals are made at the beginning of the year.
  - Mortgage credit is equal to 3 times the individual/family annual earnings at age 35. The mortgage is amortized over 30 years using monthly payments. The mortgage contract is a fixed-rate contract and is renewed every 5 years. The amount of the mortgage payment (expressed in real terms) is constant for the duration of the mortgage credit.
  - All individuals are homeowners (and not renters) under all savings options; at age 65, all savings options yield an equal amount of housing equity.
  - The province of residence of the individual or couple is Ontario.
  - The savings outcomes are computed for a 2%, 5% and 10% savings rate from earnings; savings outcomes for each of the levels of the savings rate are simulated for 2% and 4% level of real interest rate on mortgage credit.

### *Simulation results and comparison of the savings instruments*

Although consideration was focused on three family types – single individuals, couples with no dependents, and couples with two children – the simulation yields identical results for a single individual and a couple with no dependents. As both spouses earn employment income and do not have tax deductions other than the basic personal amount, the personal income tax structure of each of the spouses in the dual-earner couple with no dependents is identical to that of a single individual. It should be noted, though, that the identical amount of retirement capital (expressed on the per-person basis) will render the couple with higher consumption possibilities compared with the single individual. This is caused by economies of scale in consumption: for instance, a couple's needs for housing space, electricity and transportation will not be twice greater than those of a single individual. However, the analysis of consumption at retirement is beyond the scope of this report.

For the purpose of the analysis, we define the outcome of savings as the return generated by each dollar saved. For instance, if \$100 dollars saved in an RRSP becomes \$150 of retirement capital, the return on savings is 50%. This measure does not speak to the size of retirement capital accumulated through savings, and thus cannot address the question of adequacy of retirement income. However,



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it provides better comparative information on the efficiency of each savings instrument and thus is more pertinent to the current discussion than the dollar amount of accumulated capital.

As seen from Table 1, our simulation suggests that single individuals and couples with no dependents fare better when saving through housing equity by accelerating their mortgage payments. This case holds strong for all income levels and savings rates, but particularly so for lower-income individuals.<sup>23</sup> Those earning \$30,000 annually and saving 2% of their earnings will get a nearly twice higher return by accelerating their mortgage payments compared with saving through RRSP. However, RRSP does provide individuals with the second best saving outcome. RRSP would become the number one savings option if the individual or the couple with no dependent rents the principal residence (instead of owning it) and thus does not have the option of saving through housing equity.

Somewhat contrary to the common perception, TFSA (combined with either RRSP or assets generating capital gains) offers a fairly weak savings outcome compared to other options. That is primarily caused by the assumption that the tax deduction generated by the RRSP contribution is reinvested. The performance of the TFSA & RRSP option improves significantly for medium and higher-income individuals willing to save a substantial amount of their earnings (i.e. 10% or more). In those cases, TFSA & RRSP becomes a strong competitor to the pure RRSP option. This change is driven by two factors: first, the tax deduction generated by the RRSP contribution becomes more substantial with higher income and larger contributions. Second, the tax on RRSP withdrawals in retirement remains relatively low as the total retirement capital is split between funds in TFSA and those in RRSP.

It is interesting to note that returns on savings through RRSP and housing equity are diminishing as the savings rate increases. In the case of the RRSP, this is caused by the level of taxation in retirement: higher RRSP savings result in larger retirement capital and thus higher annual withdrawals in retirement. The latter, in turn, increases the income tax rate levied on pension income and diminishes the tax-adjusted (or tax-free) retirement capital. In the case of housing equity, the diminishing return on savings is caused by the increasing tax paid on capital gains generated through saving the equivalent of mortgage payments. However, it is important to accentuate that the described decline in returns affects the relative efficiency of saving each dollar; in dollar terms, though, higher savings rates will result in greater dollar amount of retirement capital and thus better income replacement rates.

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23 It should be underlined that savings outcomes discussed in Table 1 and Table 2 exclude housing equity from the retirement capital. As all individuals are assumed to be homeowners, employing any of the savings instruments will result in equal housing equity at retirement.

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**Table 1 – Average Return on Each Dollar Saved Over a 30-year Period – Single Individuals and Couples with no Dependents**

| Income Level                 | RRSP   | TFSA & CG | TFSA & RRSP | Capital Gains | Housing Equity |         |
|------------------------------|--------|-----------|-------------|---------------|----------------|---------|
|                              |        |           |             |               | 2% Rate        | 4% Rate |
| <b>\$30,000</b>              |        |           |             |               |                |         |
| 2% of annual earnings saved  | 85.8%  | 55.2%     | 55.2%       | 48.2%         | 156.6%         | 186.2%  |
| 5% of annual earnings saved  | 78.1%  | 55.2%     | 55.2%       | 48.2%         | 141.5%         | 186.2%  |
| 10% of annual earnings saved | 71.1%  | 55.2%     | 55.2%       | 48.1%         | 123.4%         | 186.2%  |
| <b>\$60,000</b>              |        |           |             |               |                |         |
| 2% of annual earnings saved  | 96.3%  | 55.2%     | 55.2%       | 44.7%         | 156.6%         | 166.9%  |
| 5% of annual earnings saved  | 87.5%  | 55.2%     | 55.2%       | 44.7%         | 140.8%         | 166.0%  |
| 10% of annual earnings saved | 77.4%  | 55.7%     | 66.4%       | 44.7%         | 122.0%         | 165.7%  |
| <b>\$90,000</b>              |        |           |             |               |                |         |
| 2% of annual earnings saved  | 106.2% | 55.2%     | 55.2%       | 42.8%         | 156.6%         | 143.7%  |
| 5% of annual earnings saved  | 96.2%  | 55.0%     | 58.0%       | 42.8%         | 140.5%         | 142.2%  |
| 10% of annual earnings saved | 79.4%  | 48.9%     | 80.9%       | 42.8%         | 121.5%         | 141.5%  |

Note: "CG" stands for capital gains; "TFSA & CG" and "TFSA & RRSP" denote scenarios when the amount of savings that exceeds TFSA contribution limit is saved respectively in financial assets that generate capital gains outside of registered vehicles and RRSP.

2% and 4% rate refer to the real interest rate on mortgage.

Income level refers to income from earnings of an individual. As such, the total income from earnings of a couple is double the indicated amount.

The differences in savings outcomes described above continue to be present when the simulation is done for a different type of family – a couple with two children; however, the advantage of saving through housing equity is less pronounced (Table 2). In fact, in the environment of relatively low mortgage interest rates, savings through RRSP may generate a higher return for the higher-income couple with dependents than saving through accelerated mortgage payments.



**Table 2 – Average Return on Each Dollar Saved Over a 30-year Period – Couples with Two Children**

| Income Level                 | RRSP   | TFSA & CG | TFSA & RRSP | Capital Gains | Housing Equity |         |
|------------------------------|--------|-----------|-------------|---------------|----------------|---------|
|                              |        |           |             |               | 2% Rate        | 4% Rate |
| <b>\$30,000</b>              |        |           |             |               |                |         |
| 2% of annual earnings saved  | 123.2% | 55.5%     | 55.5%       | 48.0%         | 156.6%         | 186.2%  |
| 5% of annual earnings saved  | 112.1% | 55.5%     | 55.5%       | 47.9%         | 141.5%         | 186.2%  |
| 10% of annual earnings saved | 103.2% | 55.5%     | 55.5%       | 47.7%         | 123.4%         | 186.2%  |
| <b>\$60,000</b>              |        |           |             |               |                |         |
| 2% of annual earnings saved  | 142.2% | 52.3%     | 55.3%       | 45.1%         | 156.6%         | 166.9%  |
| 5% of annual earnings saved  | 130.7% | 52.3%     | 55.3%       | 44.8%         | 140.8%         | 166.0%  |
| 10% of annual earnings saved | 113.4% | 52.8%     | 81.0%       | 44.6%         | 122.0%         | 165.7%  |
| <b>\$90,000</b>              |        |           |             |               |                |         |
| 2% of annual earnings saved  | 165.7% | 55.3%     | 55.3%       | 42.9%         | 156.5%         | 186.0%  |
| 5% of annual earnings saved  | 148.2% | 55.1%     | 61.5%       | 42.9%         | 140.5%         | 165.6%  |
| 10% of annual earnings saved | 124.7% | 49.0%     | 116.5%      | 42.9%         | 121.4%         | 141.4%  |

Note: "CG" stands for capital gains; "TFSA & CG" and "TFSA & RRSP" denote scenarios when the amount of savings that exceeds TFSA contribution limit is saved respectively in financial assets that generate capital gains outside of registered vehicles and RRSP.

2% and 4% rate refer to the real interest rate on mortgage.

Income level refers to income from earnings of an individual. As such, the total income from earnings of a couple is double the indicated amount.

It is important to underline that the main purpose of this simulation is to provide an illustration. Once the key assumptions are changed, particularly those related to the split of income between spouses, the composition of taxable income in retirement, and the amount of mortgage credit, the results of the comparison of savings outcomes may be noticeably different.

What is important to take away is that every individual/family is relatively unique and that there is an optimal state for each set of assumptions and actualities. And that optimization, for most Canadians **must** be planned.

Summing up the discussion, the following points are deemed to be important. First, most observers agree that the current Canadian retirement income system is performing fairly well; however shortfalls appear to exist. Second, the effectiveness of the proposed solutions for improving the retirement income system greatly depend on the correctness of the problem definition; and the latter presents certain challenges. Third, relying on private retirement savings continues to be of high importance for Canadian households as the immediate remedy of enhancing retirement income coverage is not available. Fourth, a number of savings options are already in place and may provide tax advantage to individuals when saving for retirement.



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Fifth, the simplified comparison of the savings options suggests that saving through accelerated mortgage payments may yield the highest return compared to other savings options. However, choosing among the options requires a critical and thorough assessment of their advantages and disadvantages as they pertain to the specific circumstances of the saving individual.

## Closing Comments

Saving for retirement is said to be only one of the components of planning for retirement; the latter also includes determining retirement goals and identifying specific strategies for achieving those goals. Considering planning for retirement in broader terms than just setting aside a portion of monthly income is probably the right approach as the narrow focus of savings may overlook some important strategies of accumulating retirement capital. As the simulation presented in this paper reveals, the best saving outcome may be achieved through the strategy that often would not be viewed as “saving for retirement”.

The *Pay yourself first* rule may also benefit from a broader approach. *Educate yourself first* on what may constitute the best savings options given the personal circumstances and retirement goals would seem to be a natural and essential first step in saving for retirement. We encourage Canadians to be more proactive in obtaining advice from financial professionals. More than that, though, we urge individuals to critically review the information available and undertake their own assessment and number crunching. The anecdotal evidence suggests that patients often ‘do their homework’ before attending a doctor’s appointment –searching Google, Wikipedia and specialized medical sites are often used for that. Assuming the same prudent approach to researching matters of financial health would be advantageous.

Adhering to the chosen saving strategy and improving savings discipline is another critical element of successful planning for retirement. The discipline of saving is often associated with the need for financial sacrifice. While that may indeed be the case for some, the constantly increasing levels of personal consumption of non-essential goods would rather suggest that many of our consumer purchases are driven by whim rather than necessity and thus may be adjusted to accommodate necessary savings. Moreover, sacrifices in the early years, or sooner rather than later, can yield high dividends over a lifetime and serve to promote a financial independence perhaps not imaginable by many.



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