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FISCAL AND TAX POLICY

Who Loses Most? The Impact of Taxes and Transfers on Retirement Incomes

by
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- This study focuses on the taxation of income received in senior years – when individuals become eligible for age-related benefits paid through or alongside the tax system.
- What emerges from our analysis is a pattern common across provinces: effective tax rates are extremely high for low-income seniors, and taper off for seniors with higher incomes. The low-income tax-rate peaks are particularly high in Saskatchewan, Manitoba and British Columbia.
- The result is that many seniors are potentially unrewarded for their past earnings, savings, and foregone consumption, an undesirable policy outcome. Provinces should think carefully about the design of the tax, benefit and pension programs they initiate.
- These considerations should bear heavily on new provincial supplementary pension designs. Our calculations indicate that low-income employees who save under new Ontario and Quebec plans will receive very little net benefit from the savings they put aside.

Taxes on labour income influence personal behaviour, work decisions, consumption and investment choices, location, and family matters, so they are a frequent research topic. Less attention is devoted to tax burdens in retirement when seniors rely on their life savings, pensions, and government benefits.

The authors wish to thank and absolve for any of our errors the members of the C.D. Howe Institute's Fiscal and Tax Competitiveness Council, other reviewers, as well as colleagues at the Institute, for feedback on earlier versions of this report. The sources for all figures are authors' calculations using Statistics Canada's Social Policy Simulation Database and Model (SPSD/M), v. 21.0. Responsibility for the results and their interpretation lies with the authors.

Yet the impact of taxes on retirement income is an important consideration for pension policy, and for tax and fiscal policy generally. For example, most retirement saving is done on a tax-deferred basis, and eventual government revenue will depend in part on how drawdowns in retirement are taxed. Provincial and federal governments' new or proposed retirement savings solutions, targeted at employees without workplace pension coverage, will carry their own tax implications for those who join.

In this study we focus on the taxation of income received in senior years – when individuals become eligible for age-related benefits paid through or alongside the tax system. What emerges from our analysis is a pattern common across all provinces: effective tax rates are extremely high for low-income seniors, and taper off for seniors with medium to high incomes. The low-income tax-rate peaks are particularly high in the Western provinces, notably Saskatchewan, Manitoba and British Columbia.

The implication is that provinces need to think very carefully about the impact of their tax and pension benefit designs. Income tests and clawbacks sometimes sharply diminish the dollar benefits that seniors receive from private-source income, and can eliminate the benefits that workers thought they might have earned through working and saving in their earlier years – an undesirable policy outcome. Policymakers should be watchful of the potential impact of high effective rates for seniors on retirement saving behaviours, and on the desirability of new plan designs targeted to low- and modest-income earners.

Effective Tax Burdens

Government tax, benefit, and transfer provisions, many of them income-tested or scaled to income, powerfully affect the income that people have available for consumption or savings. It is crucial to consider all relevant provisions of the personal tax and transfer system when computing the effective tax burdens that individuals shoulder.

Canadian residents pay personal income taxes to the provincial and federal governments. Taxes payable are determined based on taxable earnings, tax credits and deductions, and legislated tax rate schedules. But governments also send money to persons for benefit programs such as the federal Guaranteed Income Supplement (GIS), the Old Age Security (OAS) pension, the GST/HST credit, and many other similar programs at the provincial level.

These payment amounts are usually determined according to net or taxable income; that is, they are reduced or clawed back at a scheduled rate as individual or family income exceeds defined thresholds. Tax burden estimates in this analysis are inclusive of all financial payments from taxpayers to governments and from governments to taxpayers. Marginal effective tax rates, METRs, therefore measure how individual disposable income (available after-tax income) changes as individuals gain an incremental dollar of taxable income from, for example, working or drawing down their retirement savings.[1] High METRs are to some extent an inevitable result of providing generous income-tested benefits.

1 The analysis presented here is based on simulations carried out using Statistics Canada's Social Policy Simulation Database and Model (SPSD/M), v. 21.0. The SPSD/M is a micro-simulation model used by researchers across Canada to assess the implications of tax policy changes. The model is comprehensive in that it integrates all of the various parts of the tax system, including benefit reduction rates and tax credits, enabling the computation of effective tax rates on working income and on taxable retirement income later in life. We further assume no major change in tax laws and regulations. Taxes are computed for the 2014 tax year.

Marginal Effective Tax Rates

The "all-in" marginal effective tax rates, METRs, for seniors are generally high, meaning greater than 50 percent across provinces, for individual seniors with up to about $17,000 of taxable pension income (Figure 1). The main influence on seniors' METRs is the sharply pitched phase-out of the GIS, a federal cash transfer that has been successful in reducing the incidence of low income among Canada's seniors over the past two generations.[2] Single seniors typically lose 50 cents of GIS for every dollar of taxable income – other than OAS – from nil to about $2,000, then 75 cents per dollar from there up to about $4,500, and finally 50 cents per dollar from there to roughly $17,000.

There are many other provincial and federal income support programs, such as provincial GIS top-ups, benefit payments for sales tax, rent, and property taxes, as well as the federal nonrefundable age tax credit.[3] Most of these stack on top of the GIS to create an environment in which their reduction above income thresholds leaves low-income seniors facing among the highest possible METRs in Canada.

The interaction of federal and provincial cash transfers that are phased out together may also give rise to arguably punitive income ranges in which seniors' METRs approach or surpass 100 percent; particularly in provinces west of Quebec. The most egregious example is Saskatchewan, where the phase out of the province's Seniors Income Plan, applied on top of the loss of GIS benefits, pushes the METR over 115 percent on the first $2,030 of a single senior's pension income, and over 180 percent on the next $1,580.[4] In Ontario and British Columbia, income-tested GIS supplement schemes, when phased out, push the METR to 100 percent on roughly the first $1,000 of taxable pension income received. In Alberta, the combination of the GIS and the Seniors Benefit program means seniors face a METR of 92 percent between taxable incomes of roughly $2,000 to $4,500.

For seniors at higher levels of income, the clawback of Old Age Security benefits (starting at around $64,900 of taxable income from private sources) means that they face METRs approaching 50 percent in many provinces.

High METRs Mean High Average Effective Tax Burdens in Retirement

The peculiar shape of the METR curves in Figure 1 – very high marginal rates at low retirement income levels, followed by a sharp rate reduction – result in many seniors facing a regressive tax system in retirement. In other words, the lesser the income from private taxable sources (including from the Quebec/Canada Pension Plans, Q/CPP) enjoyed in retirement, the higher the average effective tax (and clawback) rate.

Effective rates can be very high at low levels of pension income, particularly in provinces having adopted seniors' income supplement schemes, as in the West. Figure 2 shows the effective "all-in" tax rate for a stylized single senior as personal pension income (including Q/CPP) grows from zero to $50,000. Effective rates are greater than 60 percent in most provinces up to taxable income (other than OAS) of about $12,000, and generally higher than 50 percent up to around $25,000 (Figure 2).

2 The low-income rate among seniors, as defined by Statistics Canada, declined from about 30 percent to a low-income rate of about 5 percent currently. The incidence of seniors in low income fell below the rate in the overall population in 1990, and remains below (Statistics Canada CANSIM Table 202-0802).

3 We do not in this brief discuss the impact of marginal earnings on in-kind benefits, such as transit and other assistance that may be provided by provinces or municipalities.

4 Saskatchewan's Seniors Income Plan maximum benefits are reduced by $1.369 for every $1 reduction of the single senior's GIS benefit.

Figure 1: Marginal Effective Tax Rates (METR) for a Typical Single Senior, 2014

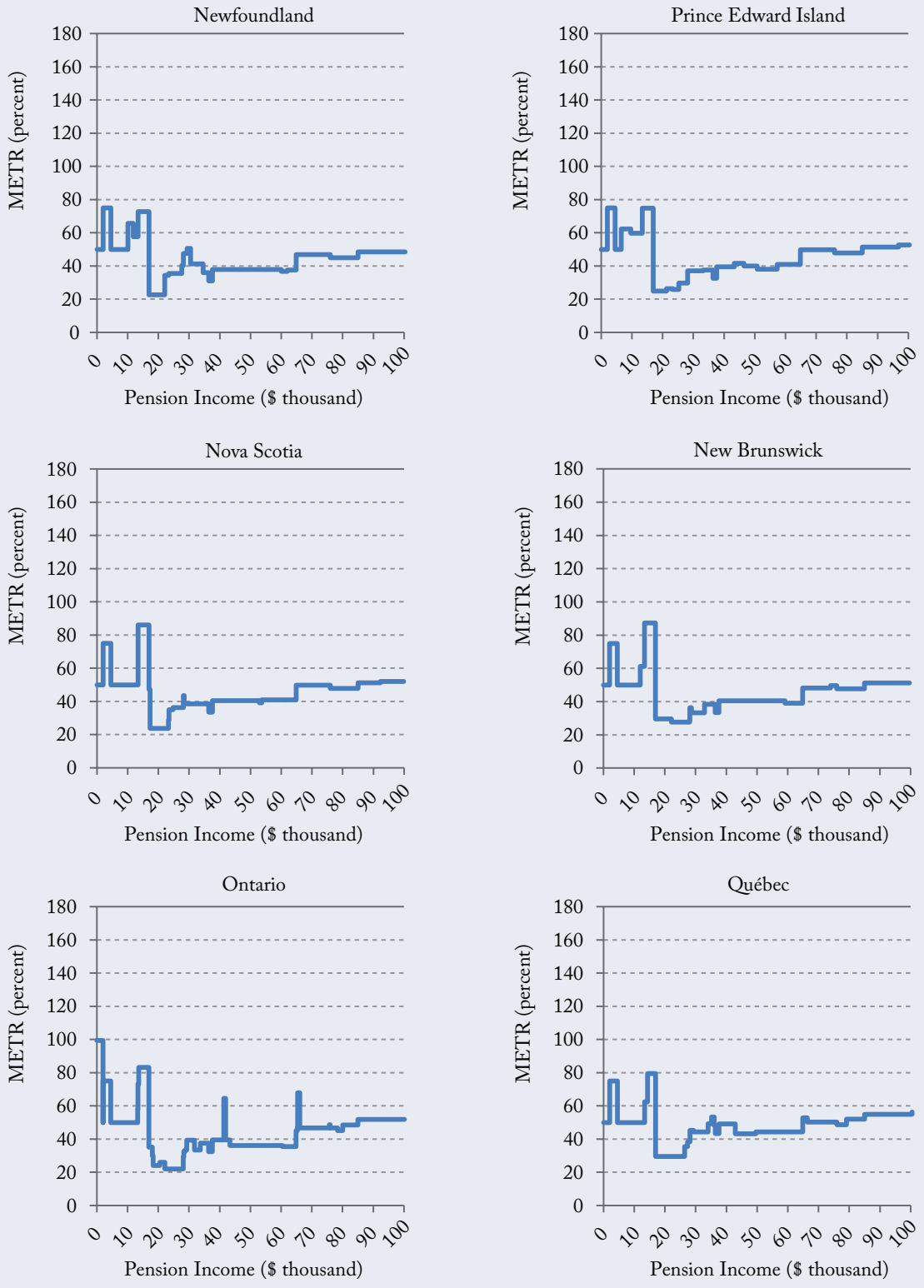
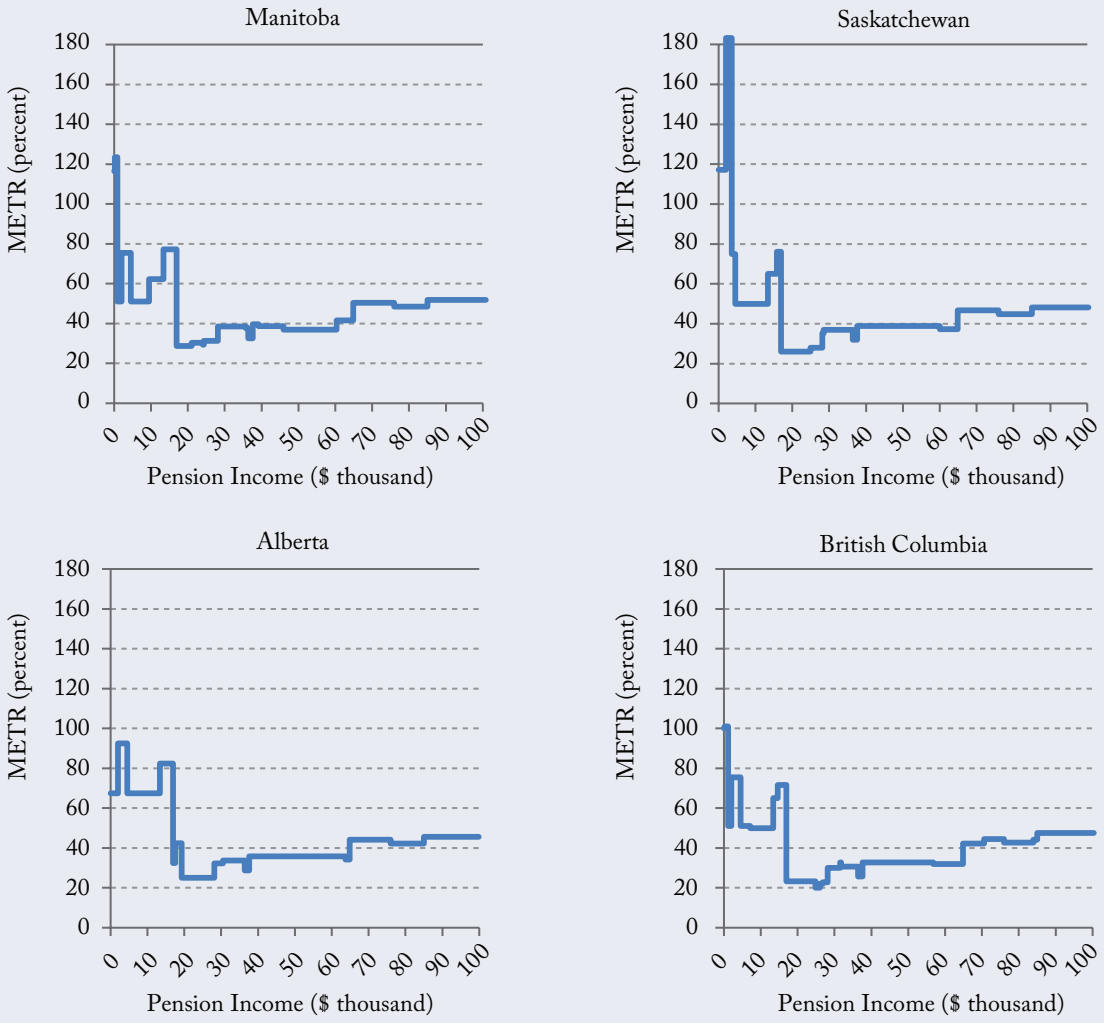
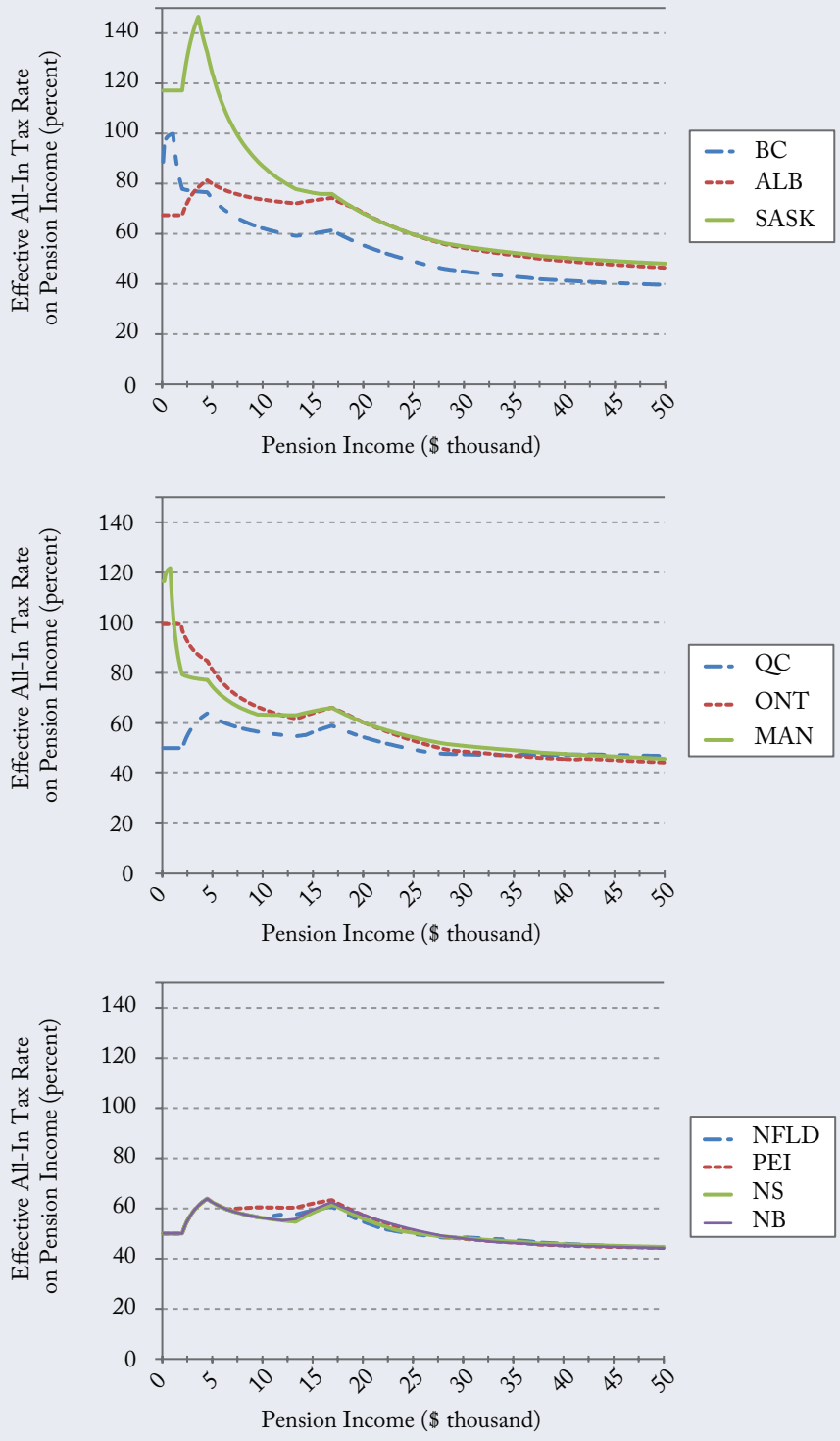


Figure 1: Continued



Assumptions: Taxes and benefit clawbacks are computed for a single GIS-eligible senior individual with no other sources of taxable income. British Columbia Medical Services Plan premiums and related premium assistance are not modeled. The Ontario Health Premium is modeled.

Figure 2: Effective "All-In" Tax Rate on Pension Income, No CPP, 2014



Note: The effective "all-in" tax rate consists of the total of taxes paid, and benefits clawed back, as a fraction of the entire amount of taxable pension income, for a single GIS-eligible senior individual with no other sources of taxable income.

Retirees will typically pay the highest effective rates – on incomes from zero dollars up to a few thousand dollars in pension income – on their benefits from the Q/CPP, which are paid to them regardless of what other income they might receive. The Q/CPP are mandatory retirement income support programs, so the impacts of high clawback rates on individual incentives may be less pronounced than if participation was voluntary. The Q/CPP greatly reduce the fiscal cost to governments that offer income-tested support programs targeted at low-income seniors, such as the federal GIS and similar provincial programs.

In return, very high effective rates on Q/CPP income greatly reduce the returns to employee and employer contributions into the program. This situation may encourage lower-income workers to work outside the tax system, in addition to providing strong financial incentives to retire early and take up Q/CPP at age 60.[5]

In Saskatchewan, the all-in effective tax rate for a single senior is punitive, greater than 100 percent, up to about $7,350 of pension income from taxable sources (other than OAS). Many seniors are affected by these high rates – about 25 percent of Saskatchewan's single seniors fall under this threshold. This is a bizarre situation, in which seniors would enjoy greater disposable income if they had earned no income from private sources or from the CPP. Rates approaching, or in excess of, 100 percent raise questions about equity among seniors because consumption sacrificed through saving for retirement while working is little rewarded (or even punished) in their retirement years. In general, high rates send the wrong incentives to those wanting to save privately for retirement.

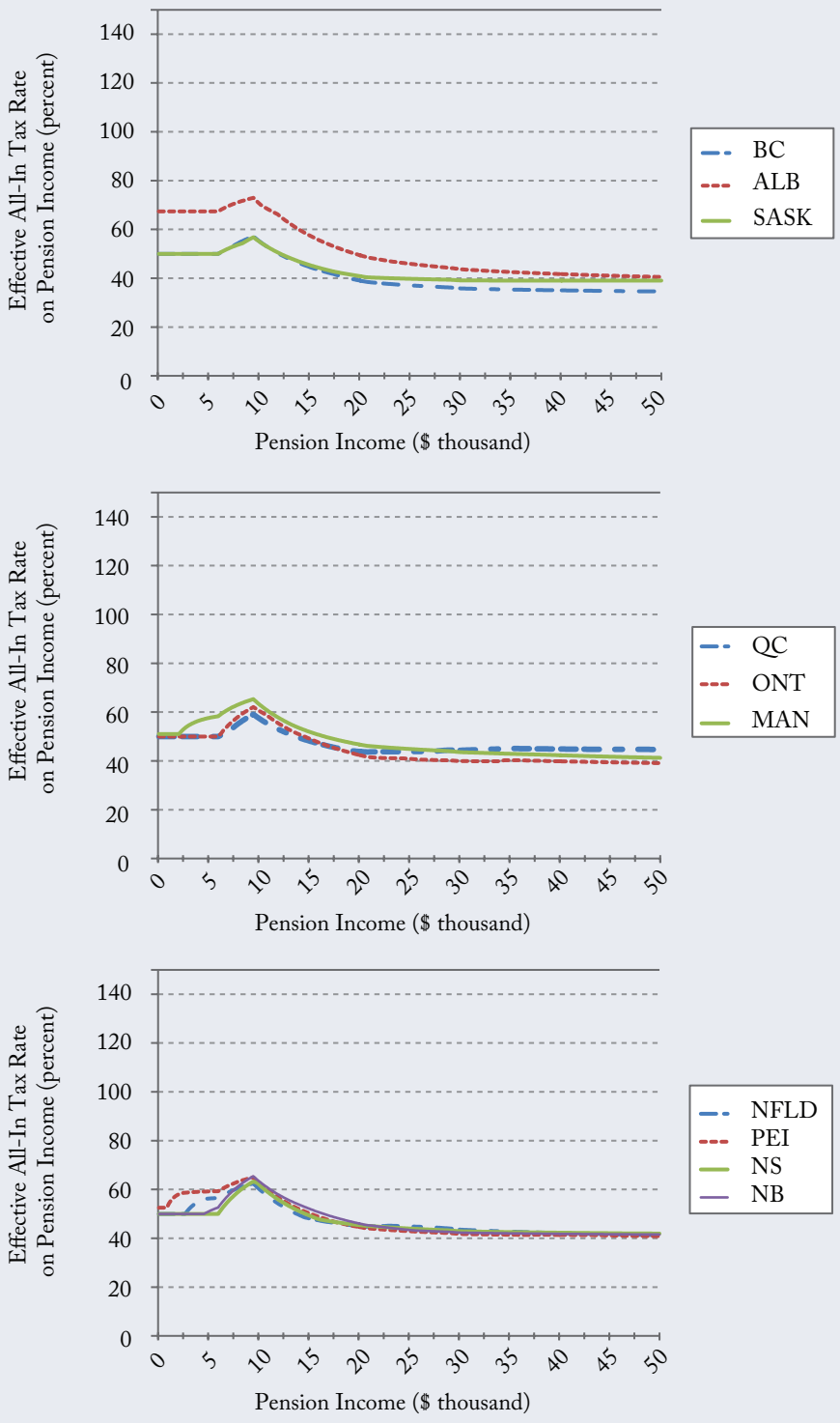
Most Canadians collect, or expect to receive, Q/CPP benefits, and thus the effective rates that they will face with respect to their retirement income from private sources will be determined by amounts above, or other than, Q/CPP entitlements. This means that effective all-in rates on pension and other taxable income (other than OAS and Q/CPP) are generally smaller than shown in Figure 2.

CPP payments for new beneficiaries average $7,345. Above that amount, additional pension income of $12,000 to $15,000 will usually be taxed at average effective rates greater than 50 percent on the margin, depending on province of residence (Figure 3). As a general rule, the closer that non-discretionary retirement income approaches the point where GIS is fully clawed back, the lower the effective tax rate on discretionary retirement income. However, even a new CPP beneficiary receiving the maximum benefit of $12,460 will not have exhausted all GIS eligibility, and thus the average effective all-in rate will we be higher than 50 percent on private income ranging from about $6,500 to $10,000 (Figure 4).

Lastly, many individual seniors receive a regular stream of pension income from sources such as defined-benefit pension plans, on top of the Q/CPP. The effective tax rate on this pension income may be very high as a result of lost income-tested benefits (see Figure 2). However, once pension income passes the point where all means-tested benefits have been lost, any new additional discretionary income will be free of benefit clawbacks, resulting in lower METRs. Consider the effective tax rate on taxable pension income in excess of $25,000 annually for a stylized senior individual. Since this represents a level of income sufficient to pull the recipient out of the GIS clawback range, the effective tax rate on additional pension income is now relatively lower although it increases with income (Figure 5).

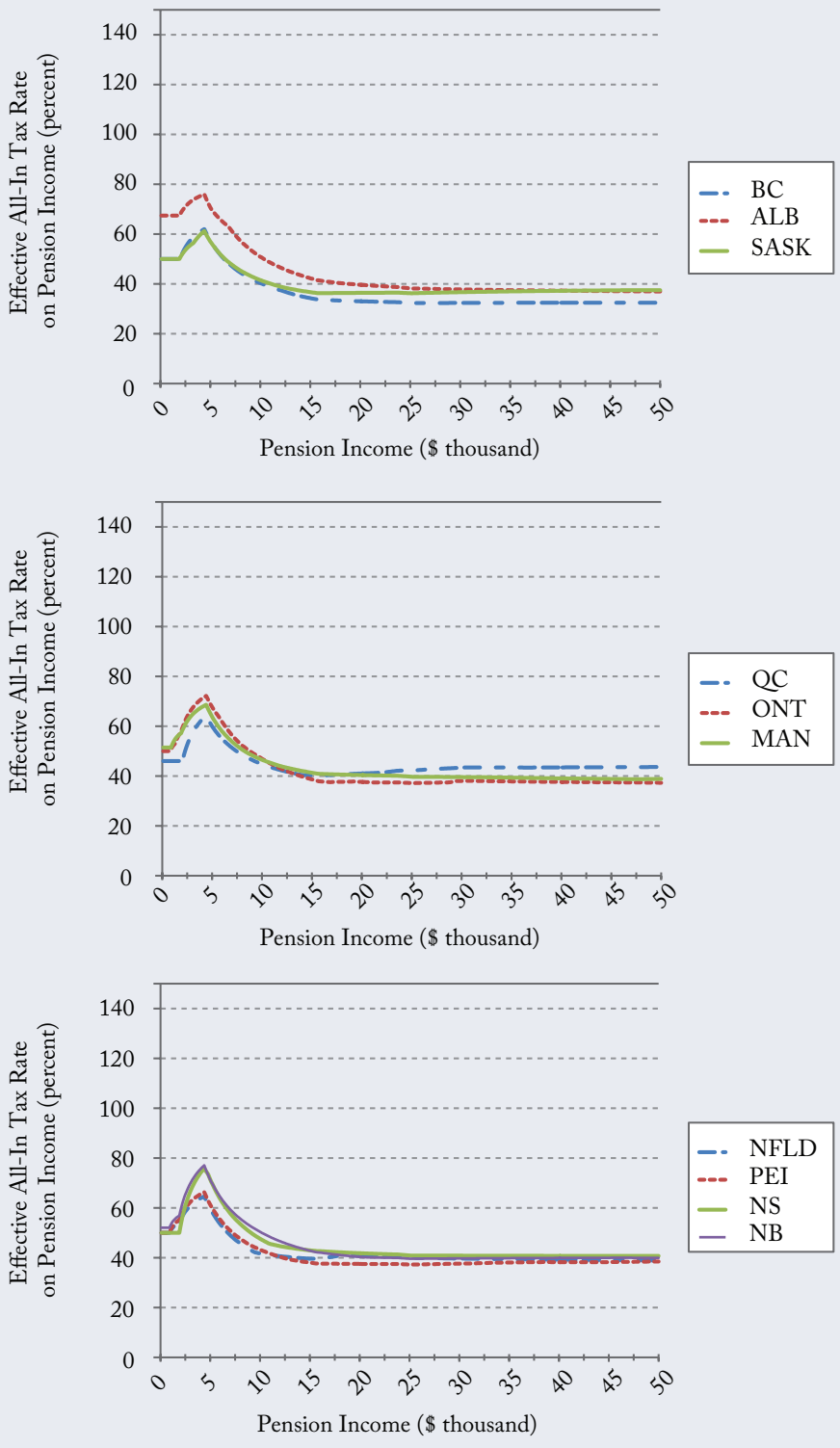
5 See Milligan (2005), Milligan and Schirle (2008), and Laurin et al. (2012).

Figure 3: Effective Tax Rate on Pension Income, Average CPP for New Beneficiaries, 2014



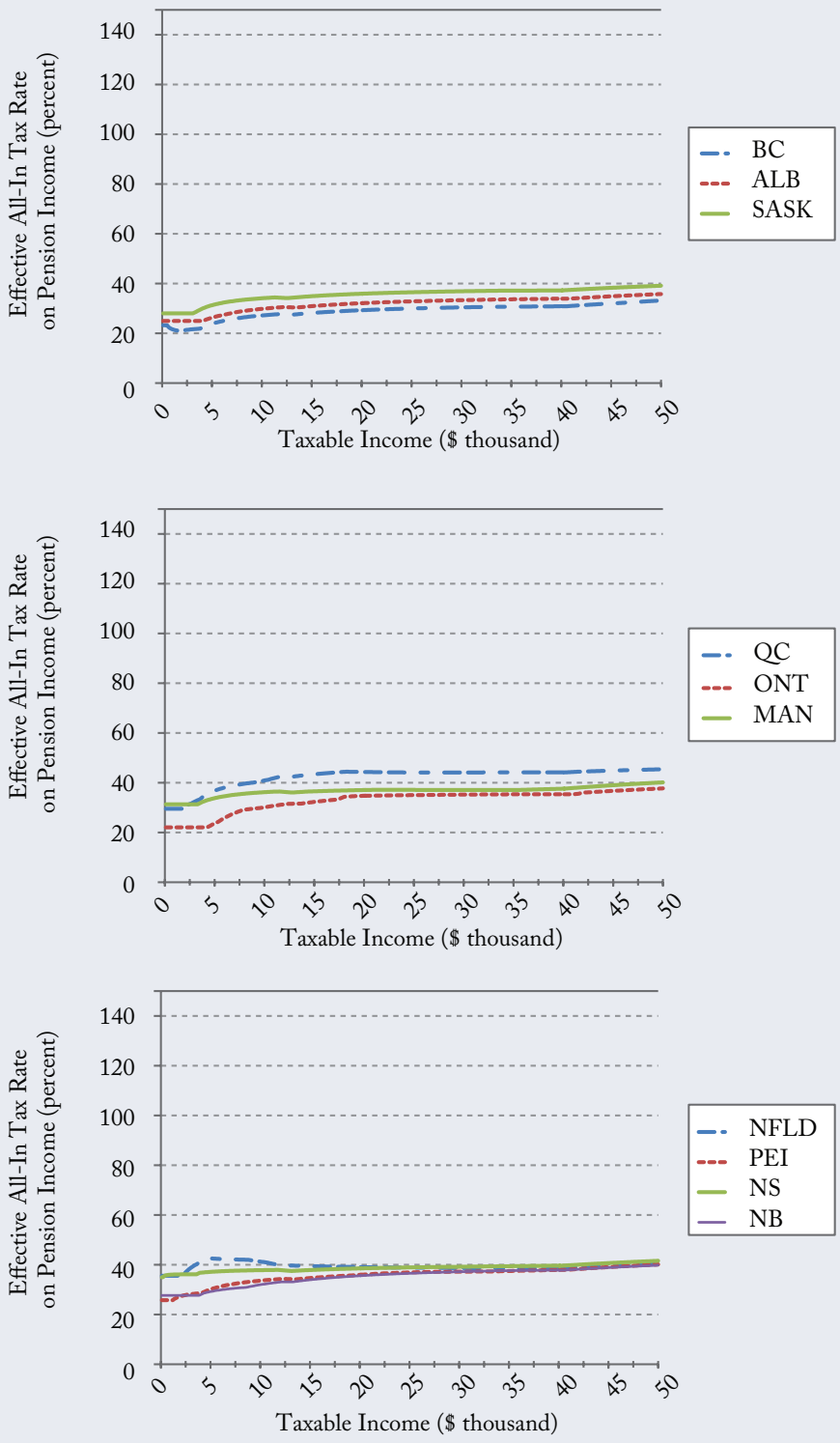
Note: The effective "all-in" tax rate represents total taxes and benefits reductions associated with incremental pension income, expressed as a fraction of the entire amount of such incremental pension income, taking CPP benefits as given (average amount for a new beneficiary, or $7,345). Computations are for a single GIS-eligible senior individual.

Figure 4: Effective Tax Rate on Pension Income, Maximum CPP for New Beneficiaries, 2014



Note: The effective "all-in" tax rate represents total taxes and benefits reductions associated with incremental pension income, expressed as a fraction of the entire amount of such incremental pension income, taking CPP benefits as given (maximum amount for a new beneficiary, or $12,460). Computations are for a single GIS-eligible senior individual.

Figure 5: Effective Tax Rate on Pension Income in Excess of $25,000, 2014



Note: The effective "all-in" tax rate represents total taxes and benefits reductions associated with incremental pension income, expressed as a fraction of the entire amount of such incremental pension income, given an annual base income of $25,000 (constituted of $12,460 in CPP benefits and a retirement annuity of $12,540). Computations are for a single GIS-eligible senior individual.

Implications for Retirement Savings Behaviour

The anticipated tax treatment of income from discretionary pension sources in retirement may influence private savings behaviour while working. In particular, one would think that the higher the effective tax rate on tax-deferred retirement saving withdrawals in retirement, the lesser the incentives to save in RRSPs, as opposed to saving in taxable accounts or in Tax Free Savings Accounts (TFSA).

Horner (2008) computes a life-cycle model to estimate the potential scale of the behavioral effects of GIS reduction rates on retirement savings. For GIS recipients, he obtains higher net-of-tax rates of return on retirement funds invested in unregistered taxable accounts than on funds invested in tax-deferred RRSPs (rates of return are even negative for some GIS recipients on funds invested in tax-deferred accounts). This suggests that low- to modest-income workers should tend to prefer current consumption over future consumption, yielding low savings rates, and invest primarily in non-registered investments. At income levels sufficient to pull out of the GIS clawback range, individuals who prefer high savings levels would choose tax-deferred accounts.

Although we cannot establish causality, we can observe several situations in which predicted behaviour matches reality.

First, many workers, particularly in the public sector, have defined-benefit workplace pensions, and nonetheless have useful registered retirement savings plan (RRSP) contribution room. These pension plan participants may confidently expect a lower or similar effective tax rate on RRSP withdrawals, during retirement, compared with the rate at which they take deductions for their initial contributions. This gives these individuals stronger financial incentives to contribute to RRSPs – even though they participate in defined-benefit pensions – than others without workplace pension coverage (Figures 3 and 4 vs Figure 5). Consistent with tax incentives, we observe that pension plan participants generally have high RRSP participation rates, above other segments of the population (Wannel 2006, Akyeampong 1999).[6]

Secondly, we would expect that low- to modest-income earners not covered by a workplace pension plan would have a greater propensity to save outside RRSPs than in them. This is because high future effective taxes on the proceeds from registered savings in retirement may encourage individuals at more modest employment income levels to disregard sheltered savings in favor of unsheltered savings (Horner 2008). More than one-third of annual unsheltered investment income in 2013 was earned by low- to moderate-income workers ($5,000 to $50,000), and these workers represented about half of all workers reporting unsheltered investment income.[7]

At the same time, and consistent with predicted behaviour, only a fifth of those workers who accumulate unsheltered assets, and do not participate in a contributory workplace pension plan, contribute to an RRSP, although they had eligible earnings and hence available contribution room.[8] Observers might have expected that they would make greater use of their RRSP room, rather than investing their savings in taxable accounts.

6 Also at play may be a greater awareness of the importance of pension and retirement savings issues by workplace plan members.

7 Authors' calculations based on SPSD/M, v. 21.0. Work earnings comprise income from employment or self-employment. Investment income comprises interest, dividends, capital gains (realized), and earnings from other investments.

8 Ibid.

Lastly, since 2009, the year TFSAs were first introduced, we would expect savers anticipating high effective rates on withdrawals in retirement to favour TFSAs over RRSPs and taxable accounts (Shillington 2003, Laurin and Poschmann 2010). Consistent with anticipated behaviour, early statistics on TFSA investments show that TFSAs are a popular means of savings for individuals across all income levels. In 2011, individuals with total incomes below $40,000 accounted for nearly half of all TFSA holders and total TFSA contributions (Canada 2012).

Implications on Incentives to Earn Income in Senior Years

Taxes reduce the returns from earning income and thus may affect labour decisions in two ways. At the "intensive margin," relatively high tax rates on an additional dollar of earnings may dissuade workers from working additional time. At the "extensive margin," a relatively high tax burden on labour earnings in general may dissuade individuals from taking on employment, especially if they can count on income from other sources, such as government transfers or family support.

Consider, for instance, GIS-eligible senior individuals in receipt of average CPP benefits for new beneficiaries (as shown in Figure 3). They would potentially face "all-in" effective tax rates of 50 percent or higher up to about $12,000 of earnings from employment past the exemption level,[9] and around 60 percent or higher in many provinces, where clawbacks hit their peak at around $10,000 of income. Effective rates at this level are likely to negatively influence labour decisions of seniors, and raises questions about fairness.

Case Studies: Tax Implications for New Designs

We focus on two case studies here, in Ontario and Quebec. The Ontario government presented a proposal, in its 2014 budget, to set up an Ontario Retirement Pension Plan (ORPP) for employees who do not participate in a workplace pension plan. The ORPP would be based on the CPP, expanding its reach to cover an additional 15 percent of annual earnings, up to $90,000. The Ontario government appointed a new Associate Minister of Finance specifically to implement this proposal by January 2017.

Quebec's Voluntary Retirement Savings Plans (VRSPs) legislation took effect July 1st 2014. VRSPs are multiemployer group capital accumulation plans in which the employee and the employer may contribute. Employers of five or more employees that do not sponsor a pension plan, a group RRSP, or a group TFSA, will be required to offer a VRSP, and auto-enroll their employees, who will be permitted to opt out. Employers are not mandated to contribute on behalf of employees, but participation is encouraged.

These plans target employees without workplace pension coverage, under the assumption that such lack of access makes it more difficult for these workers to save enough for retirement. Below, we review the tax implications of each plan based on illustrative single individuals.

ORPP's Tax Implications

The ORPP will be built "on the key features of the CPP, and could later be integrated with the CPP should negotiations on an enhancement be successful in the future (Ontario 2014)." Participation in the plan will be mandatory for employees without workplace pension coverage, and their employers. A 3.8 percent contribution rate on earnings up the $90,000 has been suggested, split evenly between employees and employers. The aim is

9 The first $3,500 of employment earnings is exempt from the income test used to determine GIS eligibility.

Table 1: Projected ORPP Contributions and Benefits for Stylized Individuals, Constant 2014 Dollars

	ORPP Annual Contributions		ORPP Benefit	CPP Benefit
	Employee	Employer		
Bernadette *$25,000*	$409	$409	$3,560	$5,935
Barb *$45,000*	$789	$789	$6,410	$10,680
Bonnie *$70,000*	$1,264	$1,264	$9,970	$12,460
Bernice *$90,000*	$1,644	$1,644	$12,815	$12,460

Source: Ontario (2014) p. 308, and authors' calculations. CPP and ORPP amounts assume 40 years of contributions on steady career earnings (before tax).

to replace 15 percent of earnings (up to the $90,000 threshold) in retirement, on top of the CPP's 25 percent (up to the $52,500 threshold).

Consider four illustrative individuals based on the examples provided in the Ontario budget (Ontario 2014). Bernadette, Barb, Bonnie and Bernice plan to work for 40 years and have steady career earnings of $25,000, $45,000, $70,000 and $90,000 respectively, in 2014 dollars. ORPP contributions and benefits, on top of the CPP, are shown in Table 1.

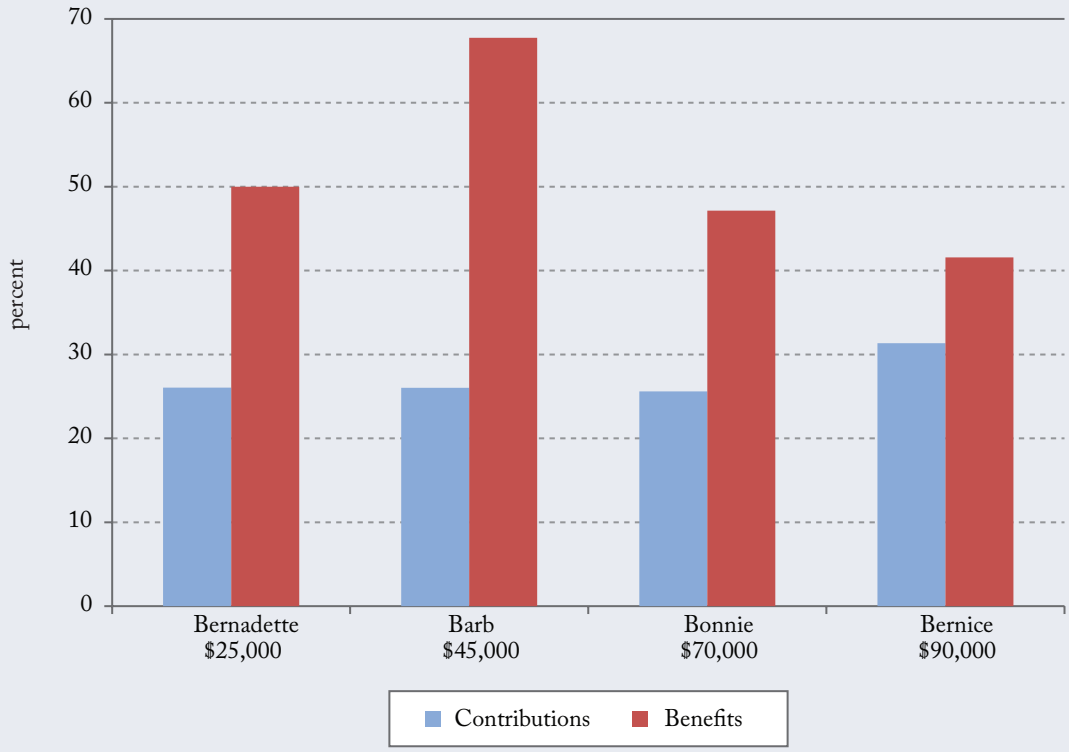
The tax treatment of ORPP contributions and benefits is not yet known. It is nonetheless reasonable to assume that it would mirror the CPP to ensure consistency should the ORPP in future be integrated with the CPP. We assume that employees would receive a non-refundable tax credit for their ORPP contributions, while employer contributions would be non-taxable to the employees. In retirement, ORPP benefits would be fully taxable as pension income, on top of CPP benefits.

The computation of taxes and benefits for our stylized individuals shows high effective tax rates on ORPP benefit, as one would expect from looking at earlier results in Figures 3 and 4. Bernadette would lose 50 percent of her ORPP benefits, Barb nearly 70 percent, Bonnie a little less than 50 percent, and Bernice over 40 percent (Figure 6). They would pay taxes and clawbacks on ORPP benefits in retirement at rates that are significantly higher than the refundable rates that apply to employment earnings contributed into the plan (Figure 6). Many Ontarians might be better off saving privately through, for example, Tax Free Saving Accounts.

VRSP's Tax Implications

Quebec's VRSPs are new, multi-employer, group retirement savings plans in which employee and employer participation is voluntary. Employers have had the capacity to offer a VRSP since July 2014. Employers of five or more employees who do not offer a workplace pension plan, a group RRSP or a group TFSA are required to offer

Figure 6: Effective Tax Rates on ORPP Contributions and Benefits, 2014 constant dollars



Note: Effective tax rates for modeled individuals represent the total incremental taxes and benefits reductions associated with ORPP benefits, expressed as a fraction of the entire amount of annual ORPP benefits received, taking CPP benefits as given. The employee-paid portion of ORPP contributions is assumed to give rise to a non-refundable tax credit, as are CPP contributions. The employer-paid portion of ORPP contributions for the benefit of employees are treated as if they were paid to employees and deducted from income, replicating the tax treatment of CPP contributions for the self-employed.

and automatically enroll their employees in a VRSP.[10] Plans are administered by authorized financial institutions. Employees are auto-enrolled into the plan – but they are free to opt out – at a default contribution rate of 4 percent, as of 2019. Employers may match employee contributions. Neither employees nor employers are required to participate and contribute.

10 Employers are obligated to offer a VRSP at the latest by 31 December 2016, if, on 30 June 2016, they have 20 or more eligible employees; at the latest by 31 December 2017, if, on 30 June 2017, they have 10 to 19 eligible employees; and no later than a later date that will be determined by the government, which cannot be prior to 1 January 2018, if they have 5 to 9 eligible employees.

Table 2: Projected VRSP Contributions, Capital Accumulation over 35 Years, and Retirement Annuity for Stylized Individuals, Constant 2014 Dollars

	VRSP Annual Contributions		35-yrs Capital Accumulation (1)	Retirement Annuity (2)
	Employee	Employer		
Bernadette *$25,000*	$1,000	$1,000	$92,866	$6,189
Barb *$45,000*	$1,800	$1,800	$167,159	$11,141
Bonnie *$70,000*	$2,800	$2,800	$260,025	$17,330
Bernice *$90,000*	$3,600	$3,600	$334,318	$22,282

Note:
(1) Assumptions: 2% inflation, nominal wage growth of 2%, and nominal rate of return on investment net of fees of 5%.
(2) Assumptions: Average life annuity rate from ten major financial institutions, single life male, 65 years old, no guarantee (registered). As of August 2014.

Consider the illustrative examples of Bernadette, Barb, Bonnie and Bernice above. They each put 4 percent of their gross earnings into a VRSP for 35 years, matched by employer contributions for a total of 8 percent of earnings annually. For simplicity, assume that annual earnings grow with inflation (2 percent), that they each earn an after-fee annual rate of return on investments of 5 percent, and that they annuitize their entire savings in retirement through purchase of a life annuity – thus replicating the structure of defined-benefit pension plans. Projected amounts of annual contributions, capital accumulation and retirement annuity are shown in Table 2.

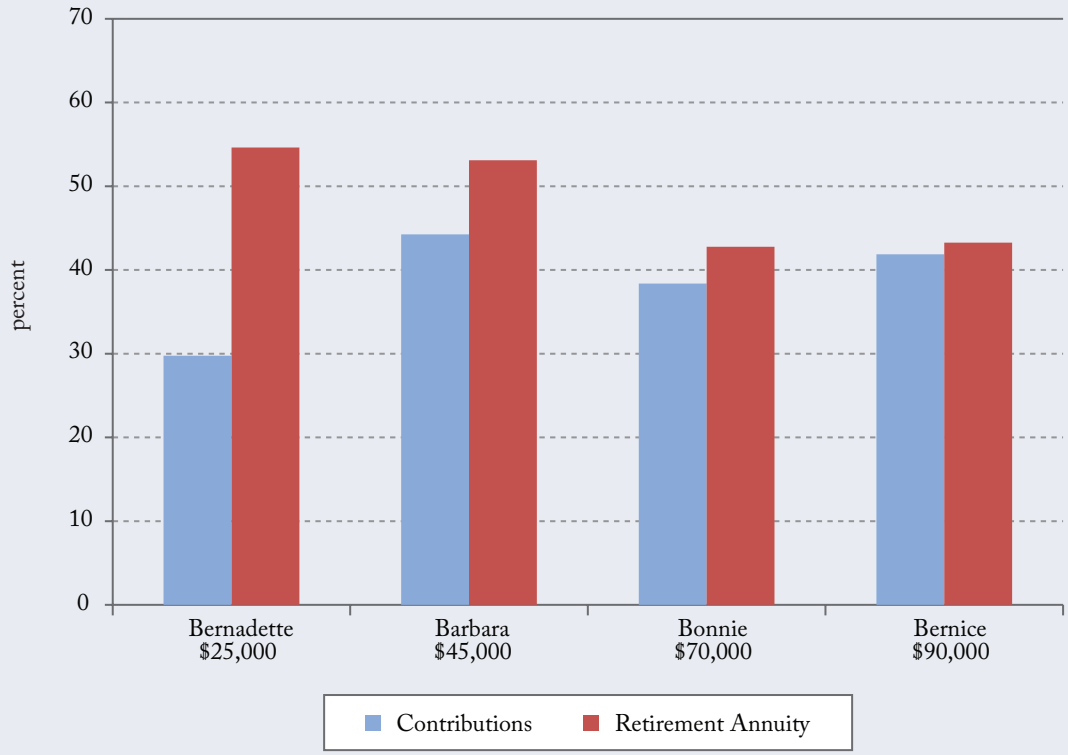
The tax treatment of VRSPs is roughly the same as RRSPs – contributions are fully deductible, while withdrawals are taxable. The lowest income earners in our example, Bernadette and Barb, can expect taxes and benefit clawbacks on their retirement annuity to approach 55 percent, well in excess of the 30 and 44 percent, respectively, of contributions refunded annually while working. The same is true for the other two, Bonnie and Bernice, although the gap between the refundable rates on contributions and the effective tax rates on retirement annuities is considerably less (Figure 7).

Conclusion

Our analysis straightforwardly shows that the design of Canada's tax and benefit system creates extremely high marginal effective tax rates for low-income seniors. This observation holds across provinces, and in some provinces and income ranges the rates may only be described as punitive.

The result is that many seniors are potentially unrewarded for their past earnings, savings, and foregone consumption, raising fairness questions. This is an undesirable policy outcome in any case, and one we should keep in mind when designing new retirement savings vehicles; further, the incentive structure may create unintended and undesirable behavioural outcomes.

Figure 7: Effective Tax Rates on VRSP Contributions and Projected Annuity Income in Retirement, 2014 constant dollars



Note: Effective tax rates for modeled individuals represent the total incremental taxes and benefits reductions associated with the VRSP retirement annuity, expressed as a fraction of the entire VRSP annuity, taking CPP benefits as given. Benefit programs include estimated Quebec Drug Plan premiums, average deductibles and co-payments. Employee-paid and employer-paid (on behalf of employees) VRSP contributions are tax deductible.

The implication is that provinces should think very carefully in the design of the tax, benefit and pension programs they initiate, to avoid stacking benefit reductions, clawbacks and taxes that generate punitive results. In addition, we should be conscious of the potential for high effective rates to alter individual savings behaviour, and anticipate that more, future investments will be channelled into vehicles other than registered retirement savings plans, such as TFSAs.

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