

Participation Tax Rates in British Columbia

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Abstract

This paper defines, describes, and demonstrates the effective tax rates for British Columbia's system of income supports. The scope of the analysis includes federal and provincial income taxes, refundable and non-refundable tax credits, and Income Assistance provided by the B.C. government. The analysis combines different elements incrementally to show how the pieces interact to create the net effective tax rates that matter for assessing work incentives. Because income supports are targeted at lower-income citizens, the analysis focuses mostly on those at low-income levels.

Introduction

Income support programs normally target lower-income earners to boost their incomes to levels commensurate with society's vision of what is necessary for a decent standard of living. While this targeting of income support is beneficial by focusing public dollars on those who need it most, the necessary consequence of targeting is that support must be removed as income grows. This removal of income support acts like a tax by lowering the net income that results from work. When these so-called effective tax rates become high, they may begin to affect work decisions and dissuade labour market activity. The presence of these taxes on work effort does not mean income supports aren't important and necessary, but the magnitudes and patterns of these taxes should be measured and assessed when designing income support programs.

This paper defines, describes, and demonstrates the effective tax rates for British Columbia's system of income supports. The scope of the analysis includes federal and provincial income taxes, refundable and non-refundable tax credits, and Income Assistance provided by the B.C. government. The analysis combines different elements incrementally to show how the pieces interact to create the net effective tax rates that matter for assessing work incentives. Because income supports are targeted at lower-income citizens, the analysis focuses mostly on those at low-income levels.

Work decisions are made both at the participation margin (working at all vs. not working) and at the intensive margin (working an extra hour). The presence of fixed costs of work (such as getting prepared for a workday and commuting to work) mean that working only a few hours a week may not bring in enough wages to cover the fixed costs. So, with fixed costs of work, the participation margin becomes a more important consideration. The participation margin may matter even more for lower earners, as their potential wages make it hard to overcome the fixed costs of work when the hours of work are low.

For this reason, the main focus of the effective tax rate analysis in this paper is at the participation margin. The related tax concept employed here is the participation tax rate. The participation tax rate compares the difference in taxes, subsidies, and benefits received when there is no market work to the taxes, subsidies, and benefits received when someone works. This difference is then divided by the gross income to arrive at the participation tax rate. So, if someone moves from not working to earning \$10,000, but loses \$4,000 in benefits, the participation tax rate would be 40%.¹

A second tax concept in the analysis looks at the change in taxes, benefits, and subsidies at the intensive margin for someone deciding whether to work an extra hour. This tax concept is known as the marginal effective tax rate and is relevant for the intensive margin decisions. Even if one believes that the participation margin is more important for lower earners, the marginal effective tax rate is still a useful part of the analysis because it forms the building

¹ In addition to taxes, other factors may influence the participation, such as the like the fixed costs of work (things like childcare and commuting costs, for example). A complete analysis would include full consideration of these factors and how policy might influence the fixed costs of work in other ways. This point is discussed further below.

blocks of the participation tax rate. That is, the understanding the magnitudes and patterns of participation tax rates can be enhanced by studying how the marginal effective tax rate moves at different levels of income. For this reason, the analysis in this paper also incorporates study of marginal effective tax rates.

The paper proceeds by first providing a theoretical framework for the analysis. I then describe with precision the details of the tax and benefit system that determine the shapes of the marginal effective tax rates and participation tax rates. Between the federal and B.C. government systems for taxes and transfers, there are many components to consider. Finally, I produce simulations of the marginal effective tax rates and participation tax rates for fictive B.C. residents across different income and family groups, taking into account federal and provincial tax and benefit programs, including Income Assistance for people with and without disability.

Two main lessons emerge from the analysis. First, participation tax rates are high for many British Columbians of modest earning potential, reaching 50%–75% for some people at earnings levels around \$20,000. Second, the pattern of participation tax rates and marginal effective tax rates is complex, suggesting that simplifying and rationalizing how the different parts of the fiscal tax and benefit system interact is an important goal for any reform of the income support system.

Theoretical Framework

In this section I provide a formal definition of the marginal effective tax rate and the participation tax rate. Following that, I review the theoretical literature on income taxation and participation tax rates.

Definitions

The theoretical analysis of income taxes is abstracted from several real-world complications to allow formal analysis. A before-tax income of amount z is mapped into after-tax income y by a general income tax function T according to

$$y = z - T(z).$$

In this framework, the before-tax income z includes income from work or from capital income sources, but not income from government income support programs. The tax function $T(z)$ naturally includes the taxes owing as determined by the system of income tax brackets and income tax rates. But the tax function here also includes any income supports that are received by people at each before-tax income level. So, if someone with before-tax income $z = \$1,000$ must pay income taxes of \$200, but receives a tax credit (such as the GST sales tax credit) for \$50, then the tax function $T(1,000)$ gives a value of \$150.

In this framework, I can define precisely the marginal effective tax rate and the participation tax rate. The marginal tax rate at any taxable income level z is defined as

$$METR(z) = \frac{\partial T}{\partial z} = T'(z).$$

This derivative captures how the value of the tax function changes for a marginal change in before-tax income. The participation tax rate is defined by the difference in taxes at any given income level z compared to the taxes at pre-tax income level $z=0$, all divided by income z .

$$PTR(z) = \frac{T(z) - T(0)}{z}.$$

This framework as described so far incorporates only income taxes and cash income-related benefits. Many programs, however, are income-related but non-cash. These non-cash benefits are more difficult to include in the framework. For example, in the United States, many low-income families are eligible for health insurance through Medicaid. The actuarial value of Medicaid can be attributed, with some assumptions and calculations about expected use of health services. For B.C. residents, those receiving Income Assistance can be eligible for basic dental and optical coverage. Partial coverage for pharmaceutical costs in B.C. is provided through Fair PharmaCare, which is not tied directly to Income Assistance receipt but does vary with family income.

Within the theoretical framework, these non-cash benefits could be, in principle, included in the tax function $T(z)$ by transforming them into a cash value. This cash value of benefits could then be subtracted from the income taxes owed at each value of z to arrive at taxes net of benefits. For the non-cash benefits tied directly to Income Assistance receipt, the removal of benefits when someone has sufficient earnings to be ineligible for Income Assistance means that the tax function jumps discontinuously. For example, if moving from \$1,000 of monthly earnings to \$1,001 moved someone out of Income Assistance eligibility, the loss of the non-cash benefits would jump the net value of $T(z)$ by the amount of the lost non-cash benefits. This loss of non-cash benefits has implications for the participation tax rate, since going from zero earnings to a positive amount of earnings may mean giving up those non-cash benefits and therefore could have a material impact on the overall participation tax rate. Because of the difficulty in attributing value to non-cash benefits, the analysis presented in this paper focuses only on cash benefits.

In addition, other factors that influence the work decision can be influenced by policy as well. For example, childcare and commuting costs impose fixed costs on getting to work. These kinds of costs are highly heterogeneous across people depending on their family and living situations, so they are more difficult to include in modeling of the type undertaken in this paper. However, it is important to keep in mind that policies that lower the price of childcare and commuting could also have an impact on participation decisions as well.

Theory

The general framework for optimal income taxes comes from Mirrlees (1971). In the Mirrlees framework, the government chooses a tax function $T(z)$ that maps before-tax income z into after-tax income y . The government needs tax revenue to fund public services but has to contend with the challenge that tax rates set too high may dissuade some work effort. If the

government could observe everyone's ability to earn, it might be a simpler problem to devise tax rates that did not depend on everyone's decision of how much effort to expend. However, in the Mirrlees framework, the government observes before-tax income but not anyone's innate ability to earn income. This means that with high taxes, a high-ability person might choose a lower amount of effort in order to avoid the taxes that would be owed by putting in the full amount of highly taxed effort. The Mirrlees framework explicitly trades off the benefits to society of having people expend full effort with the need to raise revenue for public purposes, along with a concern for redistribution.

The optimal income tax rates that come out of this Mirrlees framework can take various shapes.² A standard formulation of the Mirrlees framework features

- an initial transfer of benefits to those with no earnings
- a high effective marginal tax rate that taxes back those benefits at low earnings levels
- lower effective marginal rates at middle-income ranges to provide strong work incentives
- increasing marginal effective tax rates at higher-income ranges both to suit redistributive tastes and because the smaller number of people decreases the tax revenue consequences of dissuaded work effort

The result of this pattern is a U-shaped schedule for the optimal marginal effective tax rate.

The importance of participation tax rates was first explored in Saez (2002), a paper that studies how work effort responds to the marginal effective tax rate and participation tax rate. The relative strength of the response to participation and intensive margins matters a lot for the optimal tax rates the model suggests for lower earners. When the response to the participation tax rate is relatively large, the tax system should start with a small transfer to those not working, but phase in a working subsidy over low-income ranges. This has the impact of subsidizing work participation because you get the work subsidy when you participate, but you don't get it if you don't participate. In contrast, when the response to the intensive margin is relatively large, the tax system should give larger initial transfers at zero income and then phase them out, like a negative income tax. This smoothness ensures that marginal tax rates are not too large along any particular segment of income.

Evidence

In this section, I discuss evidence on income support programs and work decisions, with specific attention to the extensive margin decision and the participation tax rate. I begin with evidence on the earned income tax credit (EITC) in the United States and then proceed to evidence from Canada.

The earned income tax credit in the United States is a refundable income tax credit that increases with earnings then is phased out when income exceeds a threshold. In 2019, the maximum amount with two children was \$5,828. Its structure means that those who are working

² See Diamond (1998) for the modern U-shaped formulation, and Saez (2002) for the standard formulation with respect to lower earners.

at modest income levels receive it, while those not working do not. This creates an incentive to participate in the labour market.

A landmark study on the EITC was Eissa and Liebman's (1996), which compared single women with children (who were eligible for the EITC) to childless single women in years before and after an expansion to the EITC. Eissa and Liebman found a boost in labour force participation of 2.8 percentage points, but no significant change on the intensive margin of hours worked. This finding is echoed in much of the empirical literature over the last 20 years, with much stronger evidence for an impact on the extensive participation margin than the intensive hours margin. Reviews of this literature can be found in Hotz and Scholz (2003), and more recently by Nichols and Rothstein (2016) and Hoynes and Rothstein (2017).

A challenge to the previous findings in this literature has been launched by Kleven (2020). This paper re-examines several reforms to the EITC over the years, finding no evidence of a participation margin effect. Kleven argues that previous evidence may have been confounded by contemporaneous reforms to welfare programs in the United States. He suggests that the complexity of the EITC may inhibit understanding of how the credit works, which generates the non-response he observes. In other words, the complexity of the tax and benefit system may obscure the positive impact of the incentives that were designed to promote work.

Canadian evidence on the importance of the participation margin comes from Milligan and Stabile (2007). Their paper looks at a reform to child benefits in the late 1990s and early 2000s that integrated child benefits with provincial social assistance programs. The National Child Benefit Supplement in some provinces was directly subtracted from provincial social assistance, crowding out the provincial payment dollar for dollar. This left the family no better off if they stayed on social assistance. However, if the parent were to join the paid workforce, they would not lose the National Child Benefit Supplement payment if they had modest earnings levels, meaning that it gave a substantial incentive on the participation margin by lowering the participation tax rate. The paper finds that the impact of this benefit structure on the participation margin of labour supply was large, potentially accounting for about one-quarter of the observed decline in social assistance receipt among single parents between 1997 and 2000.

Further Canadian evidence on the participation margin comes from Schirle (2015), who looks at the introduction of the Universal Child Care Benefit. This benefit paid a flat amount to all families with children under age six. Since the benefit was received whether or not the parents worked, it had no impact on the incentives as measured by the participation tax rate. The payment was very salient and simple, with a monthly cheque or direct deposit made to each eligible family. Schirle finds that the Universal Child Care Benefit led to a small decrease in labour market participation, mostly among lower-educated women. Koebel and Schirle (2016) break apart this effect by marital status, finding important differences—for divorced parents the extra dollars actually lead to an increase in labour market participation, possibly by facilitating the payment of child care.

Overall, the evidence strongly suggests that income support policy can have an impact on the labour market participation margin. While the recent evidence from Kleven (2020)

increases doubt about the evidence from the United States and the EITC, those results can be reconciled with the Canadian evidence, if we think that the policy changes that generated the Canadian evidence were more transparent and more salient than the EITC changes that underlie the U.S. evidence.

What Shapes the Tax Rates

Marginal and participation tax rates are affected by several elements of the tax and transfer system. Some of these elements are on the tax form, while others are not. In this section, I describe the structure that underlies the pattern of marginal and participation tax rates observed in British Columbia. The discussion begins with what is on the tax form, then moves on to other taxes and benefits, including B.C.'s Income Assistance. The focus in this section is descriptive; aiming to build understanding of the different components and how they work. The following section engages the impact empirically through simulations. A full description of each relevant element of the tax and benefit system for Canada and for B.C. is provided in the Appendix.

The starting place is the family unit. For cash income benefits such as Income Assistance or tax-system related benefits like the Canada Child Benefit, the number of children matters, along with any spouse (either married or common-law). Other parts of the system, such as the income tax brackets and rates themselves, are conceived at the individual level rather than the family level. Finally, other parts of the tax system, such as spousal credits, can be shared across spouses. This combination renders our system to be a hybrid between a purely individual or a family-based tax and benefit system. For this reason, interdependencies between spouses are important to consider when calculating marginal or participation tax rates.

For income taxation, tax rates are built upon a core rate-and-bracket structure. Both at the provincial and federal levels, bracket thresholds are defined for levels of taxable income and tax rates applied to income between these thresholds. For the marginal tax rate, it is the tax rate in the bracket of the last dollar earned that matters. For the participation tax rate, it is the total tax bill across all the brackets with income that matters. To note, these rates and brackets depend only on individual income, not family or couple income.

Tax credits, deductions, and other benefits delivered on the tax form interact with the rates and brackets to influence marginal and participation tax rates. For example, the Canada Workers Benefit (CWB) is a refundable tax credit delivered through the annual tax return that affects both marginal and participation tax rates. The CWB is first phased in as earned income grows, then after a certain threshold is phased out until reaching zero. So, if a tax filer is in either the phase-in or phase-out range of income, the marginal tax rate is affected. In addition, since no CWB is received when there is no earned income, it serves to lower the participation tax rate by partially offsetting income taxes for those receiving it. Other credits and deductions are phased in or out with income on the tax forms in similar ways, creating similar bumps and valleys on the marginal and participation tax rates.

In addition to benefits paid on the tax form, there are other tax benefits delivered to households off the tax form. For example, the Canada Child Benefit and GST tax credit are paid on a regular periodic basis to families based on the income reported in the previous year's tax filing. Many provinces have similar tax credits for the HST, while B.C. has a climate action tax credit as part of the carbon tax fiscal package. In most cases, these refundable tax credits are reduced based on a couple's net income, which introduces a cross-spouse dependency. For families in this phase-out range, their marginal tax rate increases as they lose some of the refundable tax credit for each extra dollar earned.

Beyond income taxes, other taxes are levied against earned income. For example, Canada Pension Plan premiums and employment insurance premiums are paid on earned income between specified ranges. The Medical Services Plan premium was, until recently, payable by families over certain income thresholds in B.C. but has now been cancelled.

The final element of the tax and benefit system with a significant impact on marginal and effective tax rates is the structure of Income Assistance payments. For both regular benefits and benefits for persons with a disability, Income Assistance benefits are phased out dollar for dollar above a certain threshold. The income definition used for this clawback of benefits is based on a concept of take-home pay, which accounts for income taxes and some other regular paycheque deductions. This reduction of Income Assistance benefits moves marginal tax rates to around 100% for those earning in the reduction range and has a substantial impact on participation tax rates since those working lose some or all their Income Assistance benefits.

All these taxes and benefits combine with complex interactions to yield the overall marginal and participation tax rates facing lower-income workers in British Columbia. These tax rates are important because they can contribute to how much it pays—on net after taxes and benefit reductions—to move from not earning income to engaging in the paid labour force. The next section engages with this complexity through simulations of typical family situations for those with different levels of income.

Simulations

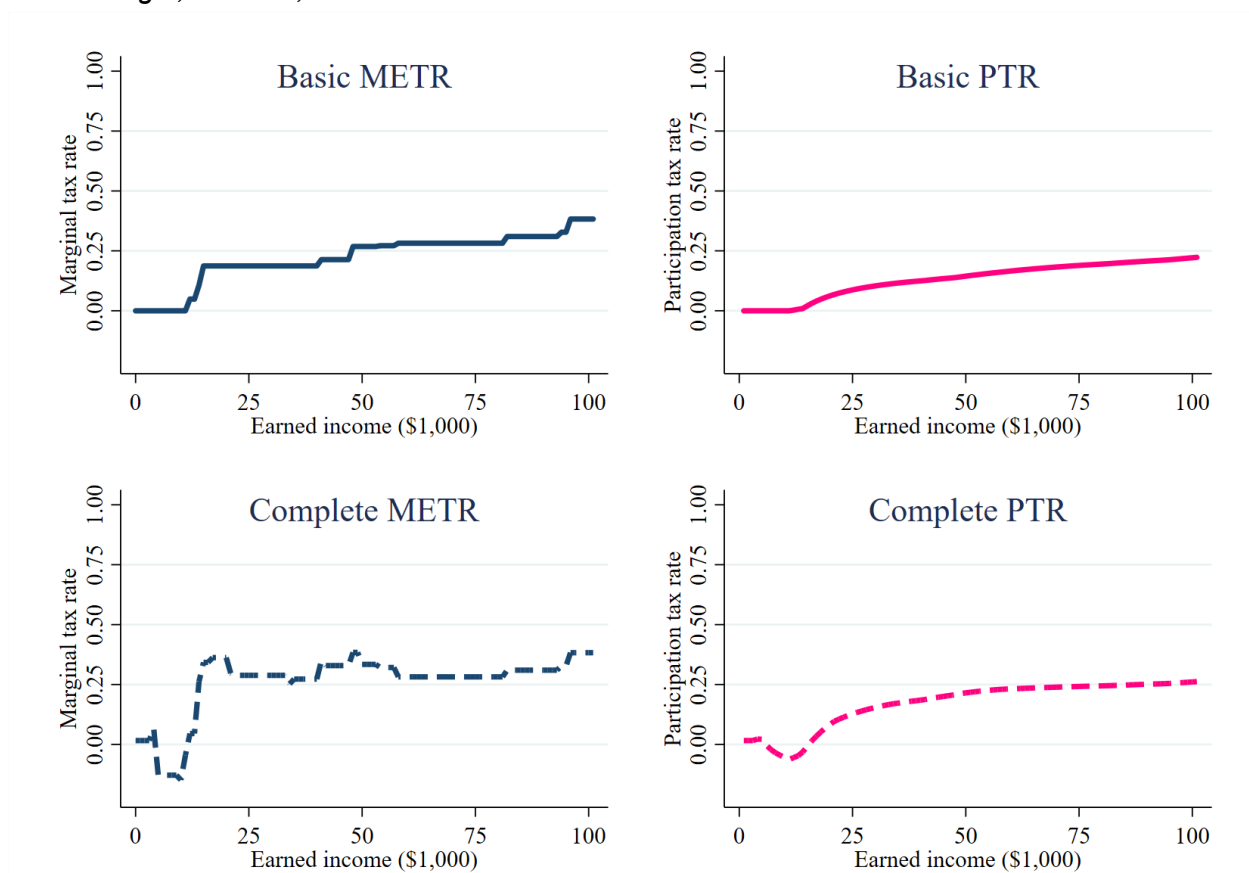
In this section, I simulate the overall impact of taxes and benefits on the marginal and participation tax rates of families at different income levels and different family makeups, and of different disability status. I start with a more basic measure of marginal and participation tax rates and then build in more elements of the tax and benefit system, including B.C.'s Income Assistance payments. The fiscal impact of the tax and benefit system on work is of course only one factor in the work decision. Fixed costs, preferences, and other elements of life circumstances matter as well. The analysis here aims to clarify the extent of the fiscal impact which can be added to the impact of other factors in a full analysis.

The analysis is set in the 2019 tax year and with 2019 benefit payments. Because of the COVID-19 pandemic in 2020, one-time benefit payments and adjustments make it difficult to model a typical situation. So, the analysis uses 2019 as the base. One exception is for Medical Services Plan Premiums, which were actually still in place in 2019 but are not included in the

analysis here because Medical Services Plan Premiums are being permanently curtailed in 2020.

To begin, Figure 1 shows the marginal effective tax rate and the participation tax rate for a single person without children and assuming they do not receive Income Assistance. There are four panels in the figure. The left-hand side shows the marginal effective tax rates and the right-hand side shows the participation tax rates at different levels of earned income, up to \$100,000. The top two panels show the results for a “basic” measure, including just the rates and thresholds in the federal and provincial income taxes. The bottom two panels show the “complete” tax rates, including all taxes and benefits (except for Income Assistance).

Figure 1
Tax Rates for Single, No Kids, No Income Assistance



Notes: Simulations using the Canadian Tax and Credit Simulator. The left-hand side shows marginal effective tax rates. The right-hand side shows participation tax rates. The “basic” simulations on the top show just the impact of tax rates and brackets. The “complete” simulations on the bottom show the impact of tax rates and brackets along with all refundable and non-refundable tax credits.

The Basic METR shows the marginal tax rate looking only at the income tax rates and brackets. The “stair step” pattern visible here makes sense, as the tax filer progresses through the different tax brackets applicable for federal and provincial income taxes. At low- and middle-

income levels, the marginal tax rate on extra work is around 25%–30%. The corresponding basic participation tax rate on the right-hand top panel shows a smooth rising between 0% and 24% over this range of income. Using only the basic income tax here, the participation tax rate is quite modest at lower-income levels, and by itself would not provide much of a disincentive against joining the paid workforce.

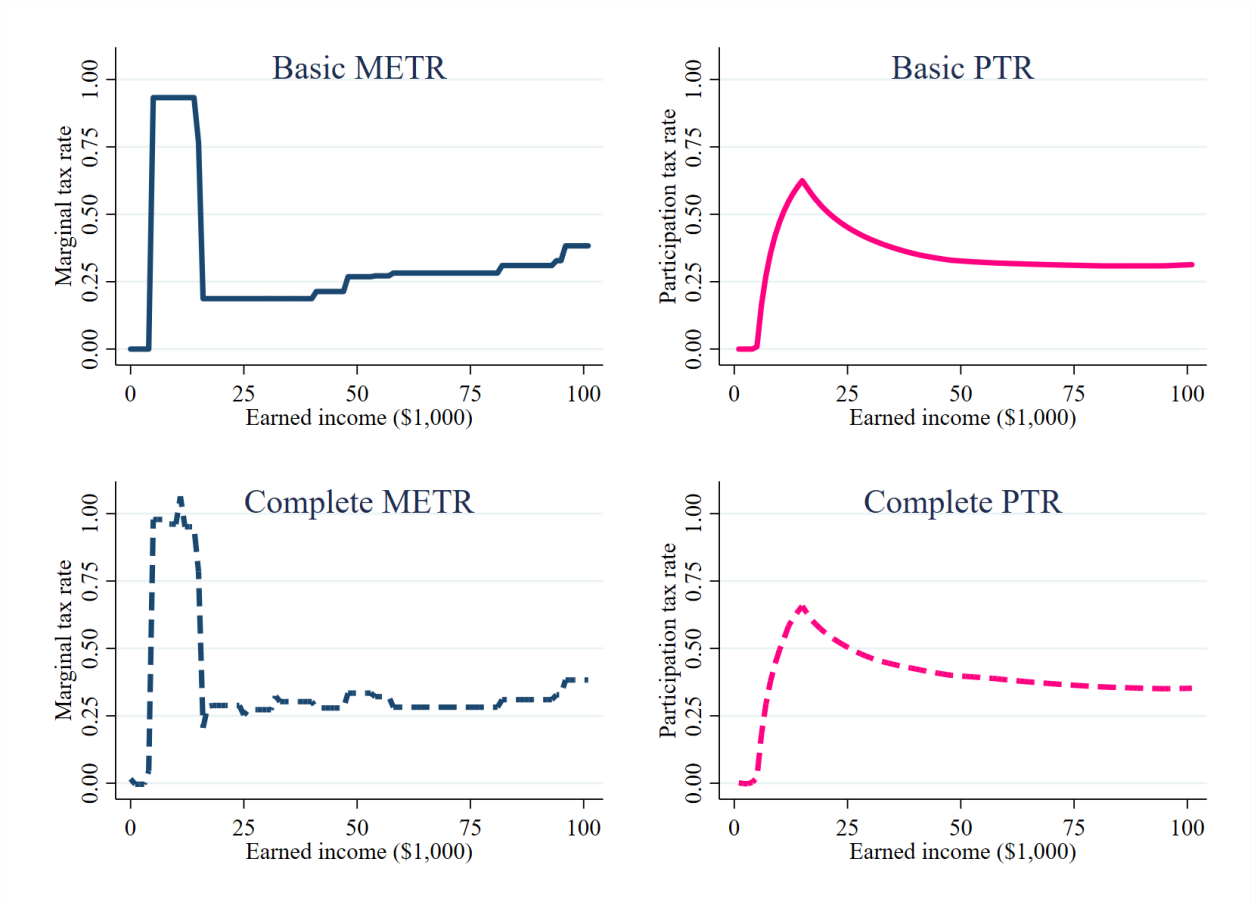
The Complete METR in the bottom panel now includes the impact of the other taxes and benefits (except for Income Assistance). The schedule of marginal tax rates here is more complicated to interpret. It initially dips below zero, as the CWB provides a wage subsidy, and no income taxes are owed over this very low-income range. When the CWB is phased out before \$25,000, the marginal tax rate bubbles up over 25%. Compared to the Basic METR above, there are other “bubbles” on the Complete METR schedule where the GST tax credit and other tax credits are phased out. This makes the shape of the overall marginal tax rate schedule look rather flat over the income range from \$25,000–\$100,000. On the right, the Complete PTR shows an initial dip below zero followed by a quick ascent to just under 25% where it then slowly rises. Again, for a single childless individual, the participation tax rate does not appear to provide a strong disincentive to join the paid workforce.

I now augment the scenario by considering Income Assistance. Figure 2 shows the same four panels as Figure 1, but assumes the individual receives Income Assistance. The major difference in compared to Figure 1 is the large bump in the marginal tax rate schedule at low incomes. This happens because Income Assistance is reduced by a dollar for each dollar of take-home earnings until Income Assistance reaches zero. As can be seen in the right-hand panels, this has a large impact on the participation tax rates, which now reach over 50%. This indicates that if someone can consider going from not earning to earning \$20,000, about half of that extra income would be foregone because of taxes, refundable tax credits, and the withdrawal of Income Assistance. This suggests a more substantial impact of participation tax rates on the work decision compared to the case in Figure 1 that did not consider Income Assistance. This shape for participation tax rate is what gives rise to the term “wall,” used to describe the policy-imposed barrier to joining the paid workforce. Here, the wall shape is evident for those at modest potential earning levels.

The next case (Figure 3) considers the marginal effective tax rate and participation tax rate for someone on Income Assistance with a disability. The benefit rates for a person with a disability are higher, as is the allowed earnings before benefits are reduced. The higher benefit rate means that the segment where benefits are reduced dollar for dollar with take-home earnings is wider in the marginal tax rates here than in the case for regular Income Assistance above. Similarly, the participation tax rates on the right-hand side are larger for those joining the paid workforce. For the Complete PTR, the participation tax rate exceeds 75%, around \$25,000 of earnings. This represents a fairly tall benefit wall for those seeking to earn.

Figure 2

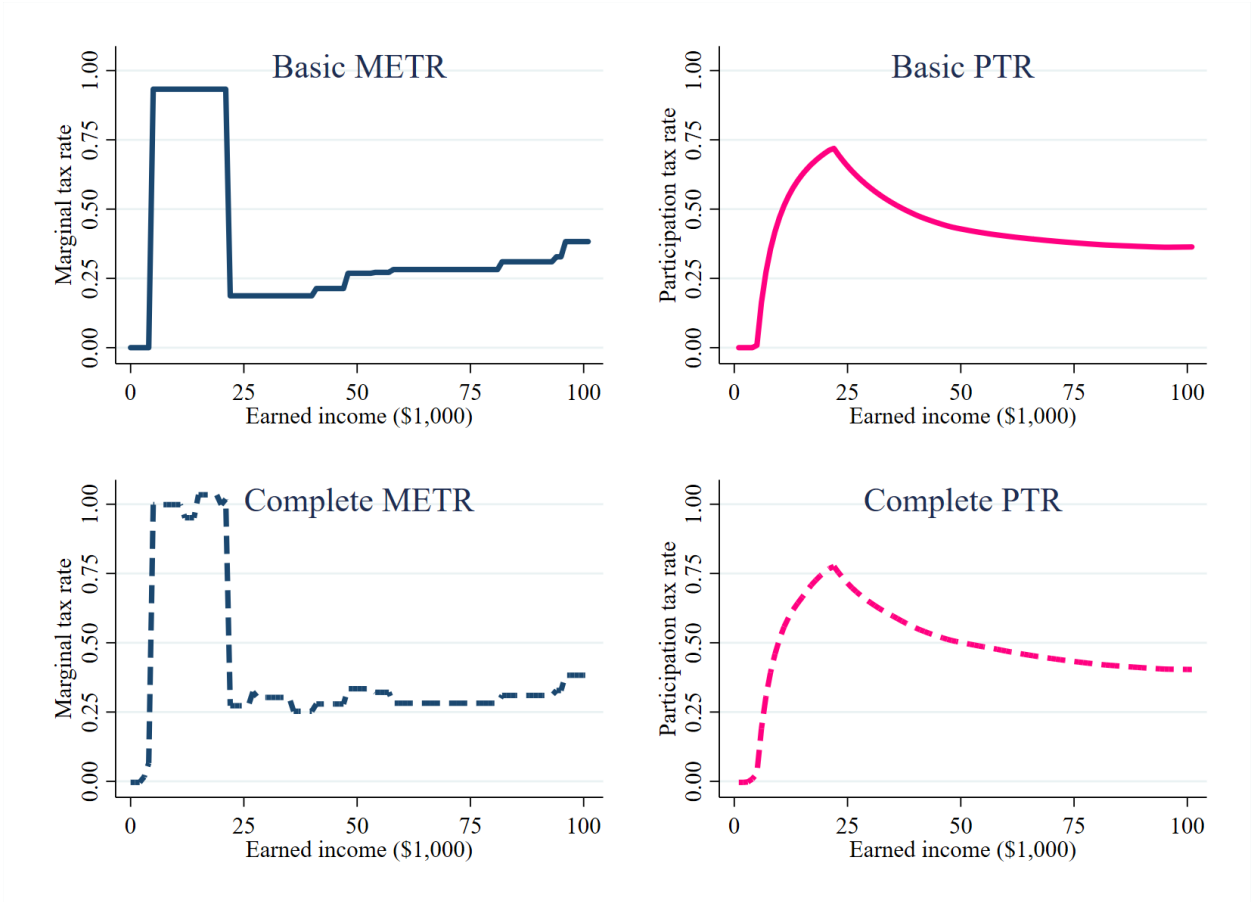
Tax Rates for Single, No Kids, With Income Assistance



Notes: Simulations using the Canadian Tax and Credit Simulator. The left-hand side shows marginal effective tax rates. The right-hand side shows participation tax rates. The “basic” simulations on the top show just the impact of tax rates and brackets. The “complete” simulations on the bottom show the impact of tax rates and brackets along with all refundable and non-refundable tax credits.

Figure 3

Tax Rates for Single, No Kids, With Income Assistance (with Disability)

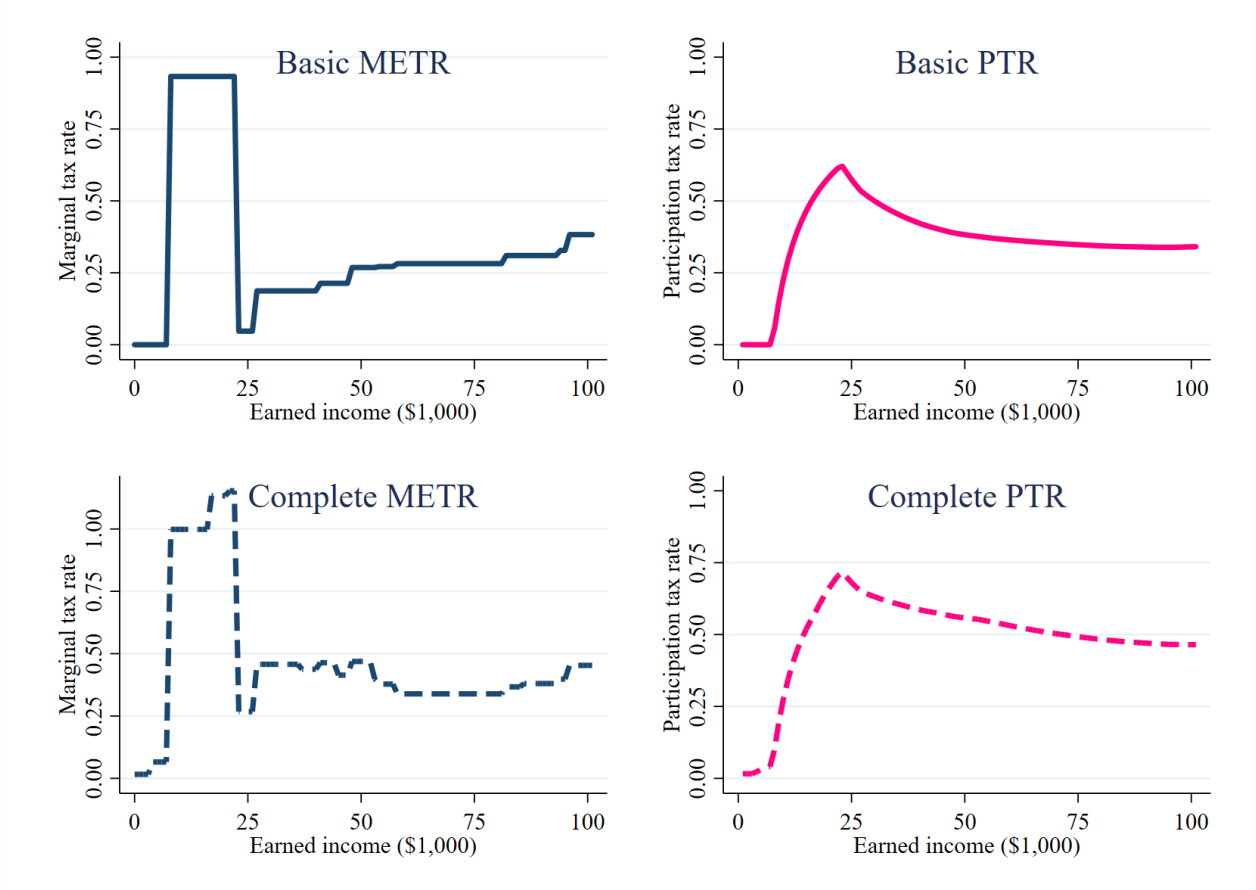


Notes: Simulations using the Canadian Tax and Credit Simulator. The left-hand side shows marginal effective tax rates. The right-hand side shows participation tax rates. The “basic” simulations on the top show just the impact of tax rates and brackets. The “complete” simulations on the bottom show the impact of tax rates and brackets along with all refundable and non-refundable tax credits.

The final analysis of the tax rates for singles is shown in , which considers the case of a single parent with two children. The addition of children changes Income Assistance benefits, but also means that refundable tax credits at both the federal and provincial level become relevant. These refundable tax credits (like the Canada Child Benefit) increase the marginal effective tax rate over income ranges where they are phased out, and also the participation tax rate for cases where participation means they receive lower refundable credits.

Figure 4

Tax Rates for Single, Two Children, With Income Assistance

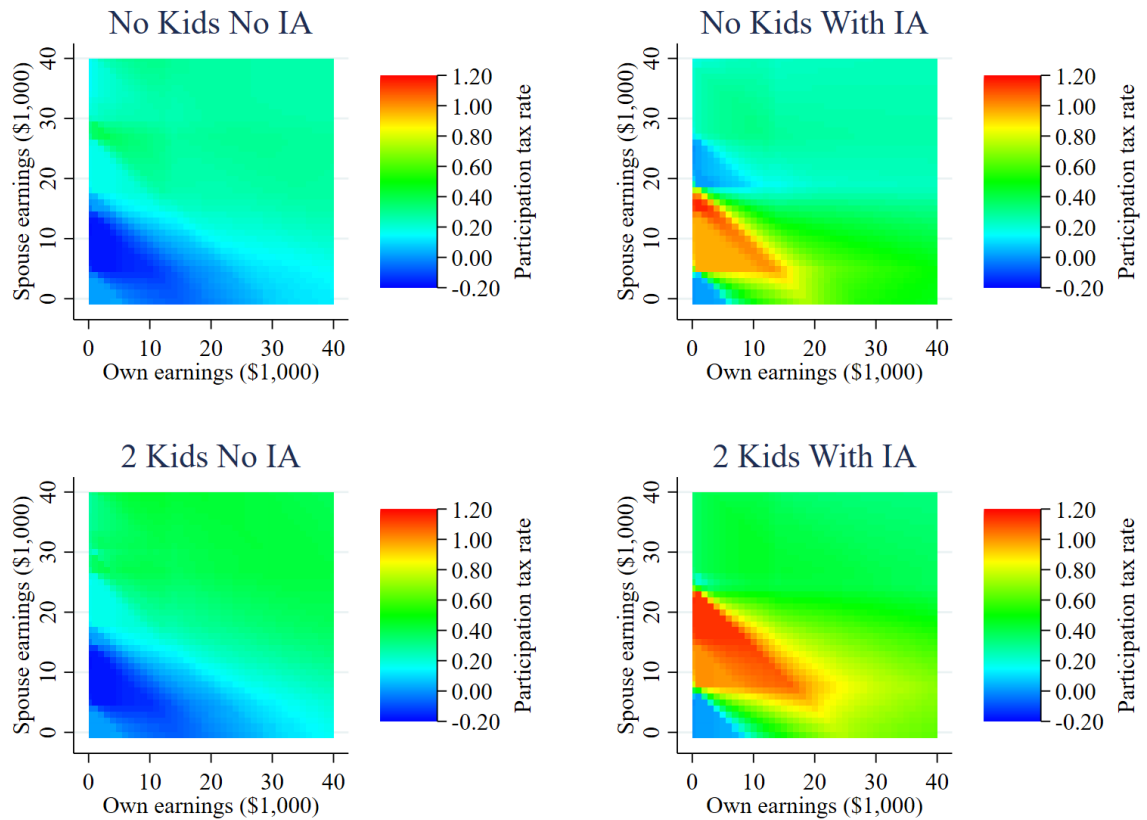


Notes: Simulations using the Canadian Tax and Credit Simulator. The left-hand side shows marginal effective tax rates. The right-hand side shows participation tax rates. The “basic” simulations on the top show just the impact of tax rates and brackets. The “complete” simulations on the bottom show the impact of tax rates and brackets along with all refundable and non-refundable tax credits.

The final analysis moves from the case of a single person to a married or cohabitating couple. While singles significantly outnumber couples on Income Assistance in BC, examining couples helps to clarify how taxes and benefits interact within the family unit. In Figure 5, I display the participation tax rate facing the couple for different combinations of earnings. Along the x-axis are the earnings of one side of the couple, and the y-axis shows the earnings of the spouse. The participation tax rate here comes from considering what happens when someone considering work at an earnings level on the x-axis has a spouse already earning a level on the y-axis. The participation tax rate is indicated by the colour, ranging from blue (“cold”) to red (“hot”). The four panels show cases with and without Income Assistance and with and without children.

Figure 5

Participation Tax Rate for a Couple Without children, No Income Assistance



Notes: Simulated participation tax rates using the Canadian Tax and Credit Simulator. The colours indicate the range of the participation tax rate for an individual considering work at an earnings level on the x-axis, given that they have a spouse earning the amount on the y-axis.

Without Income Assistance in the left-hand panels, work at lower earnings levels results in low or even negative participation tax rates, owing in part to the Canada Workers Benefit which subsidizes work for low earners. At higher earnings levels, participation tax rates are in the 30%–60% range once the spouse has at least \$20,000 of annual earnings. When Income Assistance is added to the analysis, regions with participation tax rates nearing and exceeding 100% are observed, as the dollar-for-dollar phase-out of Income Assistance benefits has a large impact on the financial impact of work, in combination with the other refundable tax credits.

Discussion

The main lesson from this analysis is that the participation tax rates reach fairly high levels for those with modest potential earnings—over 50% in many cases and even over 75% in others. These higher participation tax rates particularly affect those with lower-waged work

opportunities, with the peak tax rate happening around \$25,000 of annual earnings. For those on Income Assistance for a disability, the participation tax rate can be particularly high, owing to the higher benefit level and how those benefits are phased out. These relatively high participation tax rates erect a “wall” that can impede labour market participation.

The second lesson from the analysis is that the pattern of marginal effective tax rates and participation tax rates is complex and confusing. The overall shape of the tax rates depends less on the traditional rate-and-bracket structure and much more on the phasing out of both Income Assistance benefits and refundable tax credits. Because these phase-outs mostly affect lower-income people, the result is that the highest marginal effective and participation tax rates in most cases are found at lower-income levels, which is in some contrast to the ideal of progressive taxation. Of course, this analysis requires considering income-tested benefits and income taxes on an integrated basis, but this integrated view seems appropriate with so many income-tested benefits being delivered through the tax system.

This complexity of the structure of marginal effective tax rates and participation tax rates has two important implications for the design of income supports. First, this is confusing for those receiving benefits and earning income. The foundation of market economics is that economic actors know the prices and consequences of any economic actions they take. This falls apart when these consequences are obscured by complexity. Second, for those designing fiscal systems, the complexity means that interactions between programs may not be taken into account when program changes are made. This can result in overall tax rates that are clearly contrary to good economic policy—like marginal effective tax rates that exceed 100%.

This analysis has implications for any proposed redesign of Income Assistance, including basic income schemes. The great opportunity is to ensure any redesign simplifies and rationalizes the way that benefits, taxes, and refundable tax credits interact to generate complex patterns of tax rates. The great challenge is to enact reforms that smooth out these tax rates while still providing necessary benefit levels and at reasonable cost to the treasury. This challenge always confronts reforms to income support. Labelling a reform to income supports as “basic income” does not relieve the policy redesign from grappling with these tough trade-offs.

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Appendix

This appendix documents the parameters of the tax and benefit system as of 2019 that are used in this analysis. First are the British Columbia parameters, followed by the federal parameters.

British Columbia

Tax brackets and rates

Tax bracket	Rate
\$0–\$40,707	5.06%
\$40,707–\$81,416	7.7%
\$81,416–\$93,476	10.5%
\$93,476–\$113,506	12.29%
\$113,506–\$153,900	14.7%
\$153,900+	16.8%

B.C. low income climate action tax credit

- \$154.50/adult; \$45.50/child
- Decreased by 2% on family net income over \$34,876 (single) \$40,689 (couple)

B.C. early childhood tax benefit

\$660/year per child under age six

Phased out at 1.32% after \$100,000 of family net income

B.C. sales tax credit

- \$75/person
- Phased out at 2% over \$15,000 (single) \$18,000 (couple) of income

Income Assistance

See <https://www2.gov.bc.ca/gov/content/governments/policies-for-government/bcea-policy-and-procedure-manual/bc-employment-and-assistance-rate-tables/income-assistance-rate-table>.

Unit size	Employable singles, couples, two-parent families	Employable one-parent families	Shelter maximum
1	\$385	XX	\$375
2	\$507.22	\$525.58	\$570
3	\$601.06	\$525.58	\$660
4	\$601.06	\$525.58	\$700

5	\$601.06	\$525.58	\$750
6	\$601.06	\$525.58	\$785
7	\$601.06	\$525.58	\$820

Federal

Tax brackets and rates

Tax bracket	Rate
\$0–\$47,630	15%
\$47,630–\$95,259	20.5%
\$95,259–\$147,667	26%
\$147,667–\$210,371	29%
\$210,371+	33%

GST tax credit

- \$290/adult; \$153/child
- Phased out at 5% on net family income over \$37,789

Canada Child Benefit

- \$6,639/child under age 6; \$5,602/child 6–17
- Phased out at 7%/13%/5%/19%/23% for 1/2/3/4 kids on net family income over \$31,120 until \$67,426

Canada Workers Benefit

- \$1,355 (single); \$2,335 (with spouse or eligible dependent)
- Phased in at 26% over \$3,000 of earnings
- Phased out at 12% on family net income over \$12,820 (single) \$17,025 (with spouse or eligible dependant)