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FISCAL AND TAX POLICY

## The High Cost of Getting Ahead: How Effective Tax Rates Affect Work Decisions by Lower-Income Families

by  
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- As families earn more income, benefits from government programs are reduced (or clawed back) at various phase-out rates. Benefit reductions act like hidden tax rates: they reduce the gains from work. This E-Brief presents estimates of “effective” tax rates on personal earnings for two-parent families with children.
- Because benefit programs pile up at the lower end of the income scale, low- and middle-income families’ effective tax rates are generally higher than those of higher-income families. Effective rates play a key role in family decisions by reducing the gains from working for individuals.
- This is particularly true for the secondary earner (usually the mother) in a typical dual-earner family of four, for whom working extra hours might not pay off. In some situations and provinces, she might lose more than 70 cents per extra dollar of earnings – that is, her Marginal Effective Tax Rate (METR) would be 70 percent.
- Any further expansion of the targeted transfer system – through larger low-income supplements or creating new, targeted family benefits, such as Ottawa is considering – should be approached with caution. Relief measures, such as Quebec’s newly created “tax shield,” should be explored by other high-METR jurisdictions such as Ontario. As well, universal needs-based programs available in the community could offer alternatives that support, rather than suppress, workforce participation.

Every year, Canadians file a tax return and calculate how much they owe governments. On top of that, tax filing also serves to determine family entitlements to fiscal benefit programs – such as the Canada Child Tax Benefit or the GST Tax Credit – that are paid by governments to taxpayers.

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To determine the full impact of the tax system on households' "take-home pay," one must therefore take into account the combined effect of fiscal benefit entitlements and statutory tax rates (and associated credits and deductions). It is not unusual for families at the lower end of the income scale to receive more in fiscal benefits than they pay in personal income taxes to governments. As families earn more income, fiscal benefits are reduced (or clawed back) at various phase-out rates. Benefit reductions act like hidden tax rates: they reduce the gains from work.

This E-Brief estimates the "effective" tax rates on personal earnings for two-parent families with children. "Effective" tax rates are computed by adding the amount of lost fiscal benefits to income and payroll taxes paid, divided by gross earnings.<sup>1</sup> In the context of married (or common-law) couples, effective rates for each partner are a function of the change in their own earnings, taxes paid and benefits received. In addition, since many benefits are tied to family income, the other partner's earnings must be taken into account.

Because benefit programs pile up at the lower end of the income scale, low- and middle-income families' effective tax rates are generally higher than those of higher-income families. Effective rates play a key role in family decisions by reducing the gains from working for individuals or by adding to their income.<sup>2</sup> Governments thus need to be cautious not to discourage work among certain segments of the population, such as mothers and secondary earners in a family, because of the way taxes and benefits interact and lead to extraordinarily high effective tax rates.

The Canadian tax system is based on individual income. However, the system recognizes families through tax credits, deductions and benefits whose amounts are affected by the income of a spouse (married or common-law) and the presence and age of children. These family-related tax provisions and fiscal benefits have varying effects on effective tax rates. Some provisions lower the rate or raise the income threshold at which incremental earnings become taxable. Most are benefits phased out with income, each adding from a low of 1 percentage point up to a high of 33.3 points to effective tax rates within specified income ranges. (See the [Appendix Table](#), available online, for more details on specific provisions as they would apply to a typical family of four.)

## The Effect of Taxes and Fiscal Benefit Programs on Work Incentives: METRs and PTRs

In most cases, the tax and benefit system reduces the monetary reward from earning income. For many employed workers, it might affect their incentive to earn a little more. For others, it might affect their incentive to do paid work at all. Both effects can be important, and have been the subject of a large body of empirical economic literature.

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- 1 Tax rate estimates in this study have been computed using Statistics Canada's tax and fiscal benefit microsimulation tool (SPSD/M 2015), providing a high level of detail.
  - 2 The effective tax rates computed here do not take into account social assistance and other income-tested government assistance programs delivered outside the tax system. Adding these programs would worsen work disincentives at very low income levels. On the other hand, payroll contributions to social security programs – for example, Quebec's parental insurance plan, employment insurance and the Canada Pension Plan – included in the tax computations may be matched with expectations of additional direct benefits, reducing their effect on work incentives.

The tax disincentive to earn a little more is known as the marginal effective tax rate (METR). A household's METR, at any income level, comprises the sum of the statutory income tax rate – federal and provincial – and payroll taxes, plus the effect of tax-back or phase-out rates for each benefit program to which the household is entitled. The METR thus conveys the loss, through additional taxes and diminished benefits, associated with an additional dollar of earnings.

The disincentive to participate in the labour market at all is measured through the participation tax rate (PTR). A household's PTR is the ratio of the total amount of taxes, fiscal contributions, payroll deductions and loss of fiscal benefits on the entire earnings from work. Basically, the METR matters because it affects family incentives to work more – for instance, by working overtime or taking on a second job. The PTR affects the incentive to look for a job at all.

Many studies have found a statistical relationship between family work hours and high marginal rates and, in particular, a negative impact on work incentives for mothers.<sup>3</sup> Empirical studies of the paid-work behaviour of married men and women estimate that wives and mothers, who are most often the secondary earner, and low-skilled workers, are much more responsive to wage and tax rate variations.<sup>4</sup> This means high METRs or PTRs, for a child-caring spouse, are likely to have an impact on incentives to work longer hours, to seek part-time work or to re-enter the workforce – leading to fewer paid work hours than people otherwise might choose.

### **METR Scenarios for a Family of Four**

Consider a hypothetical married couple, Jennifer and Jeffrey, with two young children. Both Jeffrey and Jennifer have paid jobs. Jennifer, however, is considering increasing her workload to earn extra income. One factor she must consider in her decision is how much of the extra income she will get to keep after deducting income taxes and reductions of government fiscal benefits for the family. In some situations and provinces, she might lose more than 70 cents per extra dollar of earnings – that is, her METR would be 70 percent. Three main factors determine Jennifer's METR and how much the family will lose in taxes and benefits: the family's income and how much more Jennifer is considering earning, her province of residence and how the family income is split between her and her husband. For illustrative simplicity, let us assume Jennifer and Jeffrey each earns half of the family income.

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3 For reviews of the literature on the relationship between wage earnings, taxation and employment, see Bargain, Orsini, and Peichl (2013); Blundell (1995); Bocconi University (2011); Fortin and Lacroix (2002); and Meghir and Phillips (2010). There is a wide range of empirical results, which vary by sub-groups studied, the margin of response (participation versus additional work) and empirical methods. Ohanian, Raffo, and Rogerson (2007) find a very strong statistical link between hours of work and labour taxes across member countries of the Organisation for Economic Co-operation and Development.

4 In general, lower-income, less-educated people have a greater tendency to adjust their paid work behaviour through workforce participation decisions, while more-educated workers tend to adjust through the number of hours they work. Older workers nearing retirement are also affected by the tax and transfer system (Duclos et al. 2015). Middle-income male primary earners' work decisions are generally less affected by the tax and transfer system than are mothers and secondary earners.

At very low family employment income levels – from about \$3,000 to \$10,000 – the federal Working Income Tax Benefit (WITB) rewards workers for taking on more work, resulting in negative METRs.<sup>5</sup> Past the \$16,000 mark, however, as the WITB and most other federal and provincial refundable credit and income-tested benefits are successively, and sometimes simultaneously, reduced with each extra dollar of earnings, Jennifer’s METR climbs very rapidly, and stays high up to about \$50,000 of family income (Figure 1). The overlap of benefit withdrawal rates yields METRs for low- and middle-income families generally much higher than those for high-income families. At a family income ranging from \$35,600 to \$42,300 in Ontario, Jennifer’s METR on her extra income would exceed 70 percent. If she lived in Quebec, where tax and benefit phase-out rates are generally higher, her METR on incremental income would surpass 80 percent between \$37,300 and \$42,300 of family earnings. In the western provinces, our illustrative family’s METRs would peak at around 60 percent.

### Participation Tax Rates Scenarios for Lower-Income Spouses

Workers often face discrete choices when contemplating how many paid hours of work they will supply. Employment is generally offered on the basis of a set number of expected work hours. At the margin, some mothers (or fathers) of young children face the choice of either taking on paid full-time or part-time employment or staying at home to care for the children. The greater the PTR – the proportion of earnings lost to taxes and benefits withdrawn – the lesser the incentives to take on employment.

Coming back to Jennifer and Jeffrey, assume that Jennifer is currently unemployed but is contemplating taking on paid work, earning \$29,000 a year – which is the estimated median earnings for working mothers of young children.<sup>6</sup> How much of her earnings would her family get to spend after taking into consideration additional taxes paid<sup>7</sup> and reductions to fiscal benefit entitlements? These sums, or her PTR, will depend on Jeffrey’s income, since fiscal benefit entitlements are set on the basis of family income, as are a few tax credits – such as the family tax cut and the spousal credit – and other contributions – such as the Ontario Health Premium. Figure 2 shows Jennifer’s participation tax rate on her \$29,000 earnings as a function of various scenarios for Jeffrey’s income. Scenarios are selected based on the earnings distribution of fathers of young children in two-parent families.<sup>8</sup>

If Jeffrey earned \$25,000, Jennifer’s PTR would be highest in Quebec (66 percent) and Ontario (58 percent) and lowest in Saskatchewan (46 percent) and British Columbia (46 percent). Overall, her PTR would be 50 percent or greater in seven provinces. Nearly half of the PTR value at this lower family income threshold is accounted for by the withdrawal of income-tested government benefits.

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- 5 The WITB’s purpose is to counter the “welfare wall” originating from the loss of social assistance and other welfare benefits as people return to work.
  - 6 Median employment income in 2015 of mothers in two-parent families with at least one child age six or younger (derived from Statistics Canada’s SPSD/M 2015).
  - 7 Including mandatory contributions to the Quebec/Canada Pension Plan, provincial healthcare premiums and employment insurance premiums.
  - 8 About 20 percent of fathers earn up to \$25,000, 40 percent earn up to \$50,000, 60 percent earn up to \$70,000, 80 percent earn up to \$95,000 and only 5 percent earn more than \$140,000.

Figure 1: Marginal Effective Tax Rates for a Typical Dual-Earner Family of Four, by Province, 2015

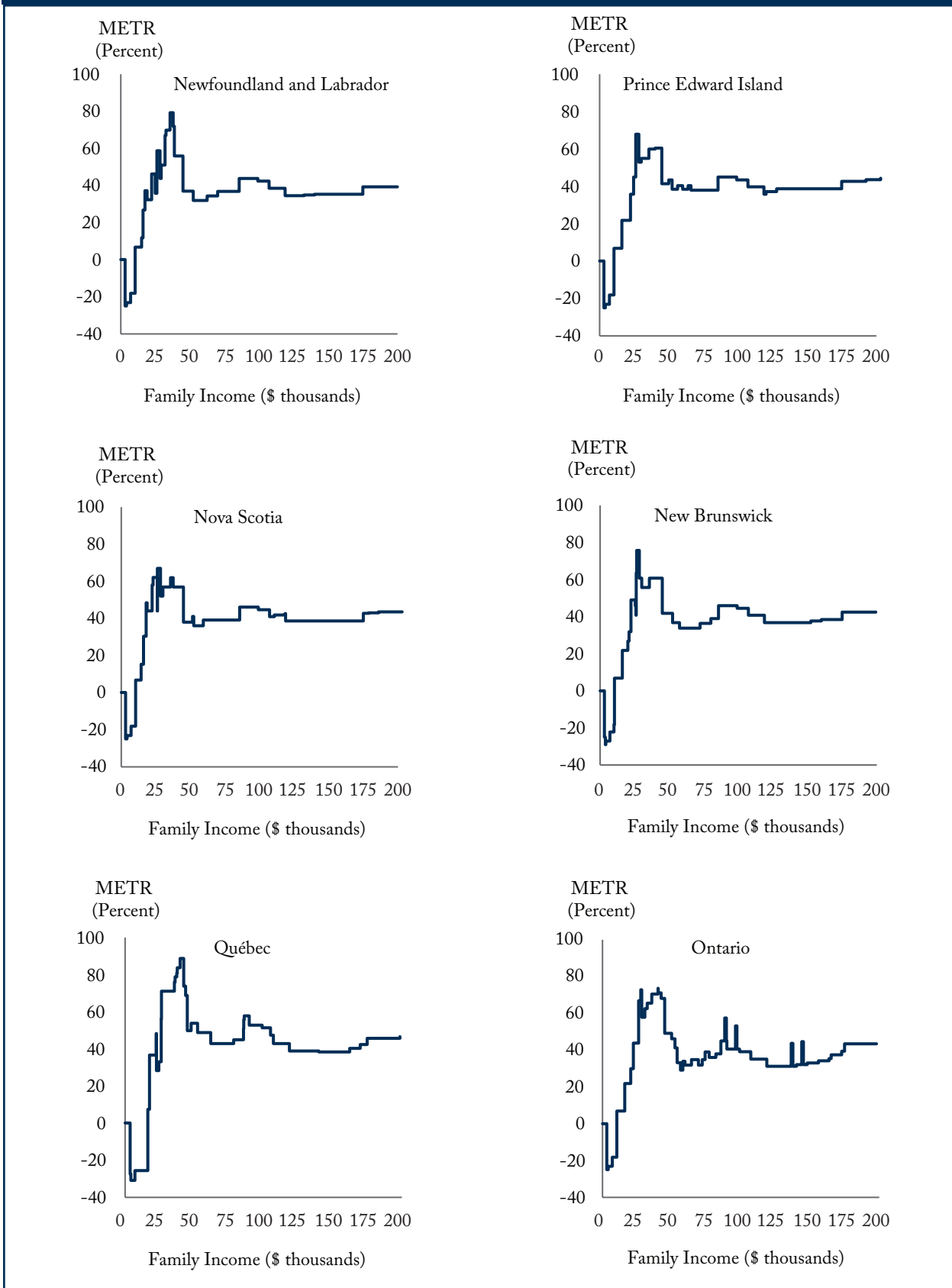
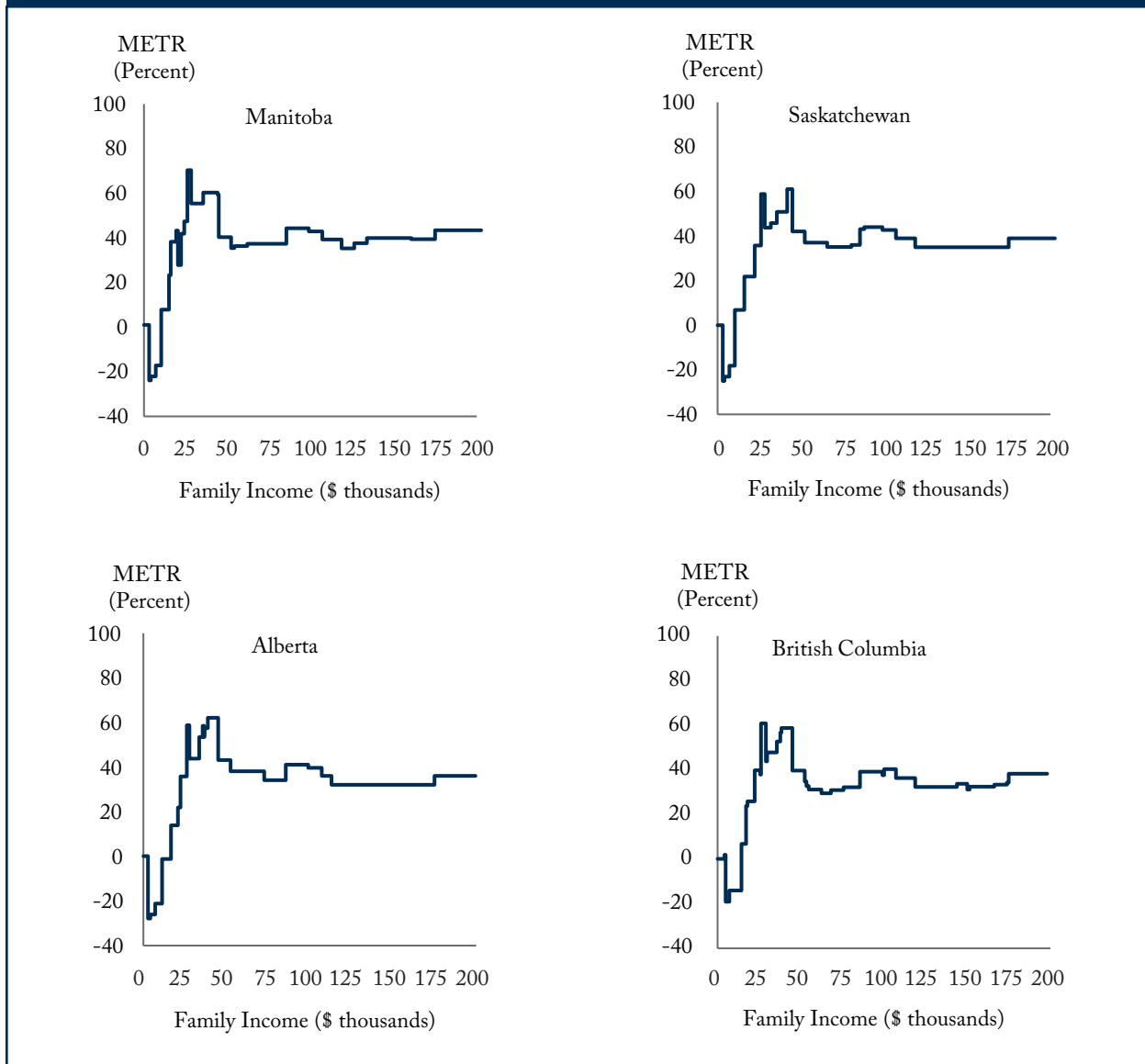


Figure 1: Continued

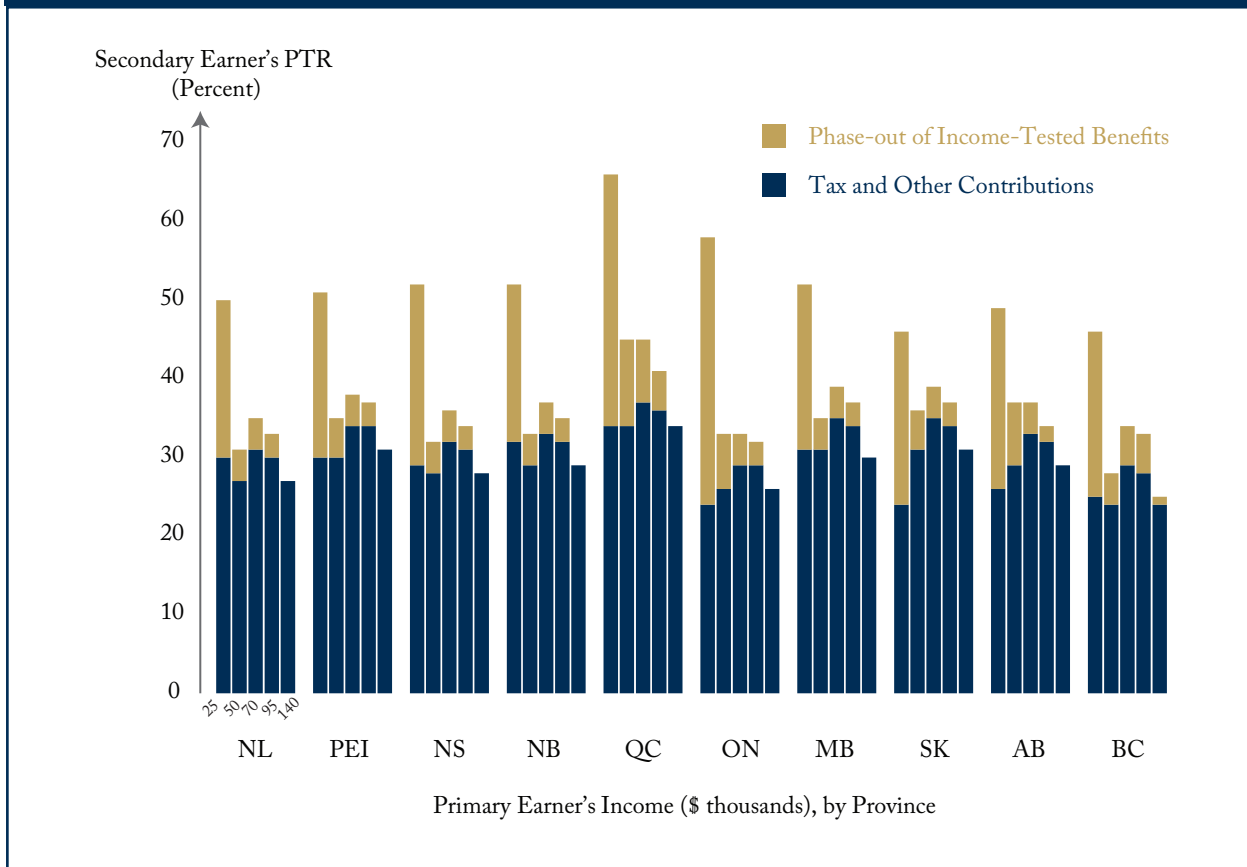


Assumptions: Family consists of two parents and two children. Each parent earns 50 percent of the family's income and both children are under age six. The family's sole income source is employment. The Ontario Health Premium is modeled, but child care expenses and British Columbia Medical Services Plan premiums and related premium assistance are not.

Source: Author's calculations using Statistics Canada's SPSPD/M, v. 22.0.1; responsibility for the results and interpretation lies with the author.



**Figure 2: Participation Tax Rates for the Secondary Earner of a Typical Dual-earner Family of Four, by Province, 2015**



Source: Author's calculations using Statistics Canada's SPSD/M, v. 22.0.1.

Jennifer's PTR would come down substantially, however, if Jeffrey's earnings reached \$50,000, reducing their eligibility for benefits in the first place. Her PTR would be highest in Quebec (45 percent), followed by Alberta (37 percent) and Saskatchewan (36 percent), and lowest in British Columbia (28 percent). If Jeffrey earned between \$70,000 and \$95,000, her PTR generally would be in the 32 to 39 percent range (except in Quebec, where it would remain much higher). At these income ranges, Jeffrey would lose part of his federal Family Tax Cut credit, increasing Jennifer's PTR by about 4 percentage points. Jennifer's PTR would be the lowest if Jeffrey earned \$140,000, since fiscal benefit entitlements are completely phased out at that level, and Jeffrey's tax rate would be high enough to ensure he did not lose out on the family tax cut.

### Are High METRs and PTRs Typical for Many Canadian Families?

The illustrations above show the extent to which interactions between different federal and provincial taxes and benefit programs can lead to extraordinarily high effective tax rates. But are high METRs and PTRs typical for many Canadian families?

Figure 3 shows the distribution of METRs and PTRs for secondary earners (80 percent of whom are female) in two-parent families with at least one child younger than age 12. METRs for secondary earners are generally higher than PTRs. The majority – about 70 percent – are in the 30 to 50 percent range. About one in twelve earners has a METR greater than 50 percent.

The PTR of working secondary earners corresponds to their current average effective tax rate – employed secondary earners do not really face a PTR, since they are already participating in the workforce, although too high a tax burden might drive the decision to leave the workforce. More stay-at-home spouses are in the upper tail of the PTR distribution than employed secondary earners, although the PTR distribution looks generally the same whether the lower-income spouse works or stays at home to care for children.<sup>9</sup> About 70 percent of secondary earners have a PTR in the 25 to 45 percent range. At the upper end of the distribution, about 12 percent and 21 percent of working secondary earners and stay-at-home spouses, respectively, have a PTR greater than 45 percent.

On average, effective tax rates are relatively higher at the low end of the income scale (Figure 4). At mid- to high-income levels, average METRs for secondary earners are in the vicinity of 35 percent, and average PTRs in the vicinity of 30 percent. Average secondary earners' METRs and PTRs reach their peak – greater than 45 percent – when their spouses earn between \$20,000 and \$30,000.

Considering that, beyond taxes, other costs – such as child care, transportation and clothing – might affect the decision to work, it seems reasonable to assume that PTRs and METRs in excess of 45 percent for lower-income families might impact family work decisions at the margin. What magnitude of workforce participation response could we expect if stay-at-home parents' PTRs were no higher than 45 percent? In 2015, there were about 621,000 stay-at-home parents (either married or common law) – of whom more than 80 percent were mothers – with children younger than age 12. Of this number, about 131,000 faced a PTR in excess of 45 percent. Using a conservative probability response estimate,<sup>10</sup> we can calculate that about 7.5 percent of those, or 9,800 stay-at-home parents, potentially would be in the paid workforce if their PTR had been no more than 45 percent, adding \$323 million to employment earnings in the economy.<sup>11</sup>

## Recent Developments Might Provide Some Relief

The new federal Liberal government has committed to reform the child tax benefit system by eliminating the Family Tax Cut and the Universal Child Care Benefit, and investing the money saved in a newly integrated child benefit program. This new program would be good news for lower-income families with children, who would see the total value of their fiscal benefits increase.

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9 PTRs for stay-at-home married parents are calculated on the basis that they would engage in paid work and earn the median income of comparable working secondary earners.

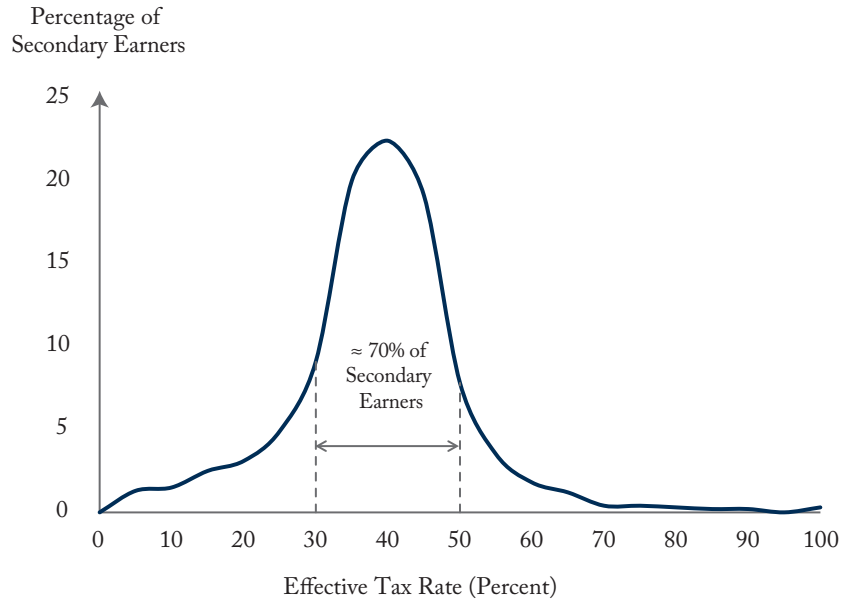
10 We used here a participation elasticity of 0.24 as estimated by Tsounta (2006) for Canadian females. This response rate ranges conservatively in the lower end of estimated married female labour supply participation elasticities in the literature.

11 Calculated at the average earnings of employed secondary earners with children.



Figure 3: Frequency Distribution of Secondary Earner's PTR and METR in Families with at Least One Child under Age 12, Canada, 2015

Marginal Effective Tax Rates (METRs)

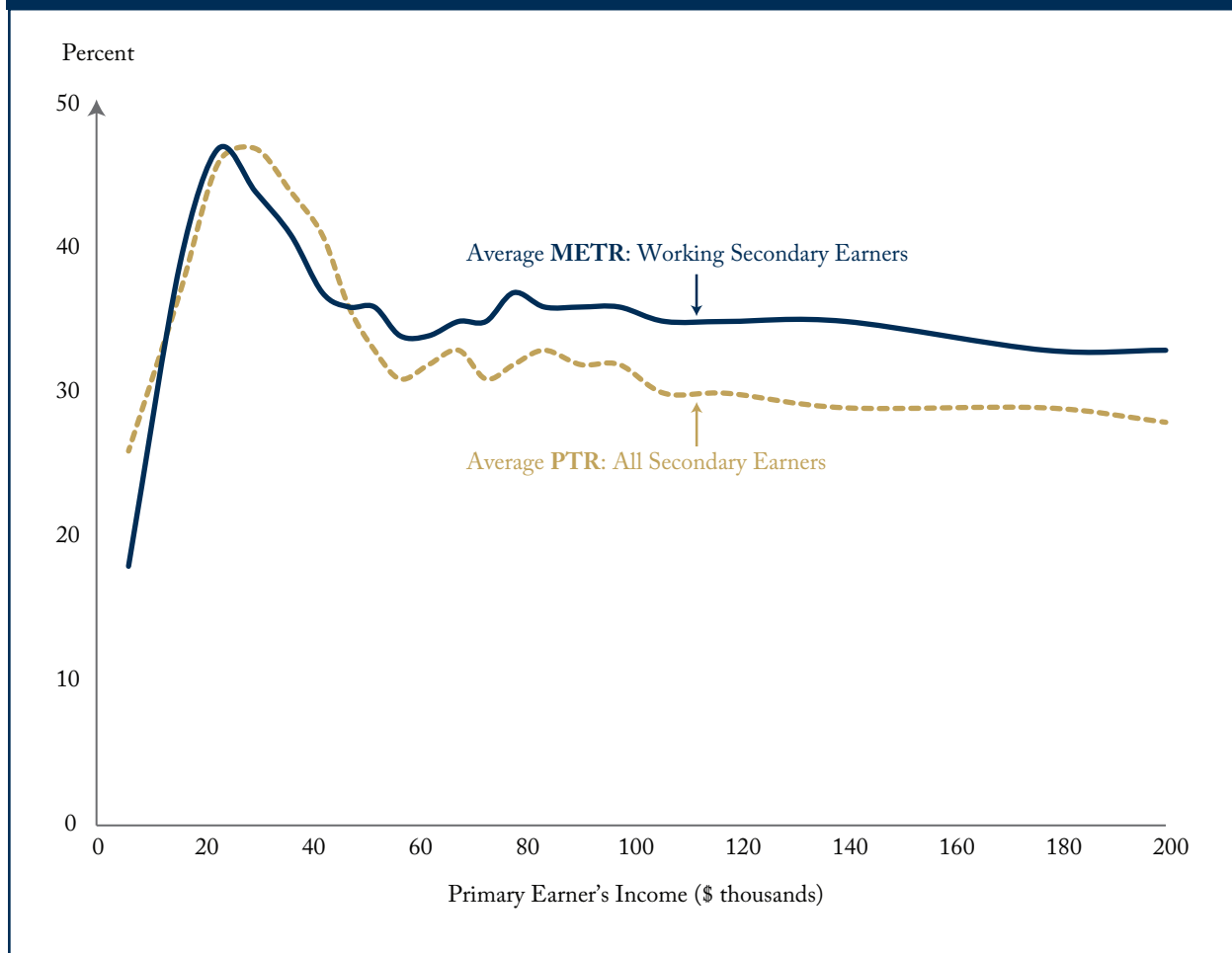


Participation Tax Rates (PTRs)



Source: Author's calculations using Statistics Canada's SPSD/M, v. 22.0.1.

**Figure 4: Secondary Earner's Average PTR and METR in Families with at Least One Child under Age 12, by the Earnings Level of the Primary Earning Spouse, Canada, 2015**



Source: Author's calculations using Statistics Canada's SPSPD/M, v. 22.0.1.

The reform also promises to reduce benefit clawback rates at the lower end of family income. If implemented, the reform could reduce family effective tax rates at their highest level<sup>12</sup> – that is, between about \$25,000 and \$45,000 of family income – at the expense of slightly higher rates afterwards. At the provincial level, governments are taking different approaches, with varying consequences on METRs. Starting in mid-2016, the new Alberta Child Benefit announced in that province's latest budget will raise effective rates in Alberta within about the same income range. In its most recent budget, the Quebec government, recognizing the work disincentive stemming

12 Implicit marginal rates would be reduced by 5 to 17 percentage points, depending on the number of children; see Godbout, St-Cerny, and Genest-Grégoire (2015) for a stylized computation.

from high effective tax rates,<sup>13</sup> introduced a new measure known as a “tax shield” that, starting in 2016, will partially protect workers who earn additional income by offsetting some of the loss of certain provincial income-tested fiscal benefits.<sup>14</sup> This is an interesting new approach because it will compensate families for lost fiscal benefits for the first year only after they take on more work, on the assumption that work decisions are mostly influenced by short-term financial considerations. In general, lower benefit clawback rates either mean lower base benefits or much larger overall program costs. The tax-shield approach will enable the Quebec government to provide relief from high effective tax rates at a lower fiscal cost while maintaining the generosity of targeted base benefits. It will be interesting to monitor the effectiveness of this new measure.

## Conclusion

Federal and provincial policymakers should pay special attention to effective tax rates when they consider changes to the tax and transfer system. Clearly, geared-to-income fiscal benefit programs provide valuable financial assistance to families with children. However, these benefits might come at the expense of high family METRs and PTRs for secondary earners in two-parent families, especially at lower income levels.

Any further expansion of the targeted transfer system – through larger low-income supplements or creating new, targeted family benefits, for example – should be approached with caution. Instead, relief measures, such as Quebec’s newly created “tax shield,” should be explored by other high-METR jurisdictions such as Ontario. As well, universal needs-based programs available in the community could offer alternatives that support, rather than suppress, workforce participation. A broader analysis of the tax and benefit system is needed before new targeted income support programs are implemented.

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13 On the recommendation of the *Commission d'examen sur la fiscalité québécoise*, chaired by Luc Godbout.

14 The tax shield will offset part of the first-year loss of the work premium tax credit and the child care expenses tax credit, two refundable credits originally designed specifically to incentivize work. In the first year, the tax shield might lower METRs by as much as 11 percentage points (Quebec 2015).

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