FISCAL AND TAX POLICY

Two-Parent Families with Children:
How Effective Tax Rates Affect Work Decisions

by
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As families earn more income, they owe more tax and they are entitled to lower government payments for fiscal benefit programs. Benefit reductions act like hidden tax rates: they reduce the gains from work.

This E-Brief examines how the tax and benefit system impacts take-home pay by combining the effects of both taxes paid and fiscal benefit entitlements, to produce all-in “effective” tax rates. Because benefit programs are targeted 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 tax rates play a key role in family decisions by reducing the gains from working. In 2017, about 9 percent of employed parents contemplating earning a few extra dollars, and about 13 percent of stay-at-home parents contemplating getting a job, faced an effective tax rate higher than 50 percent.

Any further expansion of the targeted transfer system should be approached with broader analysis of the impact on parents' work decisions. Tax measures meant to encourage work participation, such as income averaging, time-limited relief of benefit clawbacks, or improved childcare expense recognition, should be explored.

The amount of income Canadian families file on their tax returns affects their finances in two ways: The more they make, the more tax they owe. And their income determines how much they receive in fiscal benefits.

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Fiscal benefits are government redistribution tools, playing an important role in the reduction of child poverty by providing income support to low-income families. For example, an Alberta family of four earning $30,000 in 2017 would receive $12,800 (the maximum amount) from the Canada Child Benefit and $1,273 from the Alberta Child Benefit. Fiscal benefits can also mitigate the regressive incidence of consumption taxes (such as the GST tax credit) or other features of the tax system that are considered to disproportionally favour those with higher incomes.

Governments, however, must balance redistributive objectives with the effects these fiscal benefits have on the public purse. Achieving balance requires targeting fiscal benefits to certain income ranges and circumstances. As families earn more income, benefit entitlements are reduced (or “clawed back”) at various phase-out rates, which reduces their overall cost and ensures that they remain targeted to the intended families. However, benefit reductions act like hidden tax rates: They reduce the effective gain from working to generate additional income. To determine the tax system’s full impact on family take-home pay, one must take into account the combined effect of both taxes paid and fiscal benefit entitlements.

This E-Brief presents estimates of effective tax rates on personal earnings for two-parent families with children.\(^1\) “Effective” tax rates are computed by adding the amount of lost fiscal benefits to income taxes and payroll taxes paid, divided by gross earnings.\(^2\) These effective rates play a key role in family work decisions by reducing the monetary reward of earned income.

The “marginal” effective tax rate (METR) conveys the loss, through additional taxes and diminished benefits, associated with an additional dollar of earnings. For a working parent, it represents the financial penalty that must be paid from any small addition to their income.

The “participation” tax rate (PTR) is the cumulative effect of all taxes, fiscal contributions, payroll deductions and loss of fiscal benefits on the entire earnings from work. For a stay-at-home parent, it represents the financial penalty that must be paid out of the total income derived from entering the workforce.

We present illustrative calculations for both these tax rates in Table 1, to help readers understand their differences and how they are calculated in this study.

Many studies have found a statistical relationship between family work hours and high marginal and participation rates – and, in particular, a negative impact on work incentives for mothers.\(^3\) Empirical studies...
Table 1: Two Scenarios for an Alberta Family of Four: Marginal Effective Tax Rate (METR) for a Second Parent Already Working, and Participation Tax Rate (PTR) for a Second Parent Getting a Job, 2017 ($)

<table>
<thead>
<tr>
<th></th>
<th>METR Calculation</th>
<th>PTR Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Parent’s Income</td>
<td>30,000</td>
<td>30,000</td>
</tr>
<tr>
<td>Second Parent’s Income</td>
<td>29,500</td>
<td>0</td>
</tr>
<tr>
<td><strong>Initial Family Gross Income</strong></td>
<td><strong>59,500</strong></td>
<td><strong>30,000</strong></td>
</tr>
<tr>
<td>Combined Parents’ Federal Taxes and Contributions</td>
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<td>-2,333</td>
</tr>
<tr>
<td>Combined Parents’ Alberta Taxes and Contributions</td>
<td>-1,822</td>
<td>0</td>
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<tr>
<td>Canada Child Benefit</td>
<td>8,818</td>
<td>12,800</td>
</tr>
<tr>
<td>GST Tax Credit</td>
<td>0</td>
<td>861</td>
</tr>
<tr>
<td>Alberta Child Benefit</td>
<td>0</td>
<td>1,273</td>
</tr>
<tr>
<td>Alberta Family Employment Tax Credit</td>
<td>795</td>
<td>1,489</td>
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<tr>
<td>Alberta Climate-Change Rebate</td>
<td>360</td>
<td>360</td>
</tr>
<tr>
<td>Initial Family Disposable Income</td>
<td>59,569</td>
<td>44,450</td>
</tr>
<tr>
<td><strong>Extra Income Earned by Second Parent (A)</strong></td>
<td><strong>500</strong></td>
<td><strong>30,000</strong></td>
</tr>
<tr>
<td>New Family Gross Income</td>
<td>60,000</td>
<td>60,000</td>
</tr>
<tr>
<td><strong>Change in…</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combined Parents’ Federal Taxes and Contributions</td>
<td>-103</td>
<td>-5,852</td>
</tr>
<tr>
<td>Combined Parents’ Alberta Taxes and Contributions</td>
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<tr>
<td>Canada Child Benefit</td>
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</tr>
<tr>
<td>GST Tax Credit</td>
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<td>-861</td>
</tr>
<tr>
<td>Alberta Child Benefit</td>
<td>0</td>
<td>-1,273</td>
</tr>
<tr>
<td>Alberta Family Employment Tax Credit Benefits</td>
<td>-20</td>
<td>-714</td>
</tr>
<tr>
<td>Alberta Climate Change Rebate</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>New Family Disposable Income</td>
<td>59,832</td>
<td>59,832</td>
</tr>
<tr>
<td>Net Increase in Family Disposable Income (B)</td>
<td>263</td>
<td>15,382</td>
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<tr>
<td><strong>Effective Tax Rate [(A-B)/A]</strong></td>
<td><strong>47%</strong></td>
<td><strong>49%</strong></td>
</tr>
</tbody>
</table>

Source: Author’s calculations. Assumes that the two children are both under age 6.
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.

Governments need to be cautious of discouraging work among certain segments of the population, such as mothers and secondary earners in a family, because taxes and benefit programs can interact to potentially create extraordinarily high effective tax rates.

Because benefit programs pile up at the lower end of the income scale, low-income families’ METRs have generally been higher than those of higher-income families. In some cases, the lower-earning parent in a dual-earner family of four might lose more than 70 cents per extra dollar of earnings. Nationally, 9 percent of lower-earning parents in dual-income families with children face a METR above 50 percent, and 13 percent of stay-at-home parents face a PTR above 50 percent.

Effective rates at lower income levels have dropped slightly since 2015. The 2016 reform of the federal child benefit system reduced top benefit-phase-out rates for families earning between approximately $25,000 and $45,000, at the expense of slightly higher phase-out rates at higher incomes. As a consequence, METRs are now a bit flatter along the income scale in most provinces. The number of stay-at-home parents facing very high effective tax rates is also down.

Finally, other non-tax family costs, such as paid childcare, also greatly influence work decisions. In particular, childcare expense subsidization for young children has been shown to increase parental (primarily maternal) workforce participation. Because childcare expenses receive some tax recognition or subsidization in most countries, OECD work incentive indicators include a PTR measure accounting for the net cost of childcare (OECD 2017). However, PTRs reported in this study do not account for childcare costs. (That may change in future iterations.)

**METR Scenarios for a Dual-Earner Family of Four**

Consider a hypothetical two-parent family with two young children. Both parents already work and earn income. However, one parent is considering whether to work more to earn extra income. One factor to consider in this decision is how much of the extra income can be kept after deducting income taxes and the family’s reduced government fiscal benefits. In some income ranges, the family would lose more than half of each extra dollar of earnings — that is, the METR would be greater than 50 percent.

Three main factors determine the METR and how much the family will lose in taxes and benefits: the province of residence, the amount of income involved and how it is split among the earners. For illustrative simplicity, let us assume that each earner contributes half of the family income.
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. 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, the METR climbs rapidly to levels approaching or surpassing 50 percent, and stays at around this level from about $25,000 to $50,000 of family income (Figure 1).

The 2016 federal reform of the child benefit system—which integrated the Canada Child Tax Benefit, the National Child Benefit Supplement, the Universal Child Care Benefit and the Family Tax Cut to create the new Canada Child Benefit—lowered phase-out rates for the range of incomes where METRs are at their highest. In 2017 in most provinces, METRs are now a bit lower than they were in 2015 for the range of $25,000 to $50,000 in family income, although past about $100,000 they are now slightly higher. As a result, METRs are now flatter as a function of income than they were two years ago (Figure 1).

METRs generally peak at family incomes between $35,000 and $50,000. In Ontario, the family METR on extra earned income peaks at 64 percent. In Quebec, it peaks at 73 percent. In other provinces, it tends to peak just above 50 percent (Figure 1).

Participation Tax Rates Scenarios for the Non-Working Second Parent in a Family

It is often difficult for workers to choose the number of hours they work with a job. Employment is usually offered on the basis of a set number of expected hours. But in many two-parent families with young children, the second earner’s decision is whether to look for work or to remain at home as a caregiver. The greater the PTR—the proportion of total earnings lost to taxes and withdrawn benefits—the lesser the incentive to take on employment.

Let us consider, for example, a hypothetical family decision involving one of the parents of two young children (often, but not necessarily the mother), currently not employed but contemplating taking on paid work earning $30,000 a year—the median employment earnings for working mothers of young children, whether they work part time or full time. How much of this parent’s earnings would the family keep after taking into consideration additional taxes paid and benefit reductions? These sums, or the PTR, depend in part on the other parent’s income, since fiscal benefit entitlements are set according to family income, as are a few tax credits (such as the spousal credit) and other contributions (such as the Ontario Health Premium).

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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 recipients return to work.

6 Alberta is a notable exception because of its new Alberta Child Benefit, which, since mid-2016, has raised effective rates within about the same income range as they were lowered federally.

7 If we except programs such as the Ontario Health Premium and the Newfoundland Temporary Deficit Reduction Levy, which by design result in abrupt METR increases and decreases on very short spans of income. (METR rates shown in Figure 1 are calculated for each additional dollar of family income.)

8 Estimated median employment income in 2017 of mothers in two-parent families with at least one child age 6 or younger (derived from Statistics Canada’s SPSD/M v. 22.3).
**Figure 1: Marginal Effective Tax Rates for a Typical Dual-Earner Family of Four, by Province**
Assumptions: The simulated family consists of two parents and two children. Each parent earns 50 percent of the family’s income and both children are under age 6. The family’s sole income source is employment. The Ontario Health Premium is modelled, but childcare expenses and British Columbia Medical Services Plan premiums and related premium assistance are not. The METR rates shown here are calculated on each additional dollar of family income.

Source: Author’s calculations using Statistics Canada’s SPSD/M, v. 22.3; responsibility for the results and interpretation lies with the author.
Including mandatory contributions to the Quebec/Canada Pension Plan, provincial healthcare premiums and Employment Insurance premiums.
There are currently about 2.4 million two-parent families with at least one child younger than 12. Of these, a quarter have a stay-at-home parent, and of the 1.7 million others, most lower-earning parents (80 percent) are mothers.

Of working lower-earning parents, 21 percent face a METR below 30 percent. Another 70 percent face a METR between 31 and 50 percent, leaving 9 percent of working lower-earning parents facing a METR higher than 50 percent (Table 3).

Of stay-at-home parents, 30 percent face a PTR below 30 percent. Another 57 percent face a PTR between 31 and 50 percent, leaving 13 percent of non-working parents contemplating a relatively very high PTR of more than 50 percent (Table 3).

Considering that costs other than taxes — such as childcare, transportation and clothing — might affect the financial decision to work, it seems reasonable to assume that PTRs above 50 percent might affect work decisions at the margin. What magnitude of workforce participation response could we expect if stay-at-home parents’ PTRs were, for example, no higher than 50 percent?

Using a conservative probability response estimate,\textsuperscript{10} I calculate that about 8,300 stay-at-home parents with children would potentially be in the paid workforce if family PTRs had been limited to no more than 50 percent. These additional workers would be adding about $290 million to employment earnings in the economy,\textsuperscript{11} leading to about $100 million of additional combined federal/provincial government revenues. However, bringing down PTRs to the 50 percent level for affected families would, theoretically, require $370 million of additional combined federal/provincial government benefits paid out — an expensive proposition.

The same calculations can be performed capping the PTR at a lower level, say 40 percent. It would cost about $1.7 billion in extra government benefit payouts to cap PTRs at 40 percent, and about 33,500 stay-at-home parents would join the workforce, adding $1.2 billion to employment earnings and leading to $390 million in additional government revenues (Table 4).

\textsuperscript{10} A participation elasticity of 0.24 is used, as estimated by Tsounta (2006) for female Canadians. This response rate ranges conservatively in the lower end of estimated married female labour supply participation elasticities in the literature.

\textsuperscript{11} Based on the average earnings of employed secondary earners with children.
All in all, bringing down PTRs could encourage thousands of stay-at-home parents to take on employment. However, the fiscal cost would far exceed the extra revenues generated by the greater labour force participation. The current number of families affected by very high PTRs is low enough so that the likely employment response to lowering them would not be sufficient in itself to generate the kind of extra fiscal revenues needed to justify their reduction (see Table 4). At the same time, caution should be applied to any incremental changes to the benefit system for fear that they may lead again to higher effective rates for families.

### Potential Policy Avenues

**Monitor the Effectiveness of Quebec’s Tax Shield**

Recognizing the work disincentive stemming from high effective tax rates, the Quebec Taxation Review Committee, chaired by Sherbrooke Prof. Luc Godbout, proposed in 2015 a new initiative known as a “tax shield.” Its intent was to offset the loss of income-tested fiscal benefits as families earn additional income. The Quebec government followed through on the recommendation, and beginning in 2016, the new Quebec tax shield has been partly compensating workers for the loss of the work premium and the tax credit for childcare expenses – but only in the first year after they take on more work. On the assumption that work decisions are mostly influenced by short-term financial considerations, the tax-shield approach may enable governments to provide relief from high effective tax rates at a low fiscal cost (because relief is only offered for one year after taking on extra work) while maintaining the same level of generosity of targeted fiscal benefits. It will be interesting to

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**Table 4: Estimated Employment Response and Net Combined Federal/Provincial Fiscal Cost of Reducing Two-Parent Families’ Participation Tax Rates Up to a Maximum Value, 2017 ($ million)**

<table>
<thead>
<tr>
<th>PTR Capped at…</th>
<th>Amount of Additional Combined Federal/Provincial Fiscal Benefit Payouts Required to Bring Down PTR</th>
<th>Number of Parents Joining the Labour Force (thousands)</th>
<th>New Employment Earnings</th>
<th>New Combined Federal/Provincial Government Revenues</th>
<th>Net Fiscal Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 percent</td>
<td>370</td>
<td>8,300</td>
<td>290</td>
<td>100</td>
<td>270</td>
</tr>
<tr>
<td>45 percent</td>
<td>830</td>
<td>17,400</td>
<td>600</td>
<td>210</td>
<td>620</td>
</tr>
<tr>
<td>40 percent</td>
<td>1,700</td>
<td>33,500</td>
<td>1,160</td>
<td>390</td>
<td>1,310</td>
</tr>
</tbody>
</table>

Source: Author’s calculations using Statistics Canada’s SPSSD/M v. 22.3 and tax elasticity of -0.24 (Tsounta 2006). Includes all two-parent families with children. PTRs for non-working parents are calculated assuming that the parent would earn the average earnings of employed secondary earners with children. The amount of required additional benefits is calculated as the excess PTR over the threshold for non-working parents times the average earnings of employed secondary earners with children. The number of parents joining the labour force is calculated by taking the estimated percent reduction in the average participation tax rate times the elasticity coefficient (0.24) times the number of working secondary earners. New employment earnings is estimated assuming that all those who joined the labour force would earn the average earnings of current employed secondary earners with children.
monitor the effectiveness of this new measure in Quebec.

**Income Averaging**

The new economy has facilitated the development of labour arrangements in which workers become less attached to a single employer and move around more freely between projects and contracts. With these new structures comes increased potential for fluctuating incomes — a period of low earnings followed by a year of higher earning, or vice versa. Because extra income can be exposed to much higher effective tax rates, a worker with fluctuating income may end up paying more tax (and losing more income-tested government benefits) than another worker with a flat income profile but earning the same amount over a period of years. Wen and Gordon (2017) find that Canada’s “fluctuation tax penalty” is most severe for individuals who earn lower incomes or are self-employed. One way to lessen the impact of fluctuating incomes on tax liability is to allow workers to average their income over many years, so that any single large earning year would not lead to a disproportionate loss of fiscal benefits and higher tax payments. This kind of income averaging would play a function similar to Quebec’s tax shield, insulating workers against the loss of government income-tested benefits resulting from taking on extra work — and protecting them from being disproportionately affected by the steep increase in METRs at lower income levels seen in Figure 1.

**Subsidizing Child Care**

Finally, on top of taxes paid and fiscal benefits lost, the parents of young children are significantly affected in work decisions by the cost of childcare incurred to take on employment. For most parents, childcare costs are like taxes in that they reduce the financial incentive to work. One interesting avenue for augmenting labour-force participation among two-parent families would be to revisit the tax deduction for childcare expenses.

In the current system, childcare expenses (CCE) must be deducted on the tax return of the lower-earning spouse, and claims cannot exceed the lowest of either (a) two-thirds of the spouse’s income or (b) a maximum claim per child. As a result, up to one-third of families cannot fully deduct their CCE because of the two-thirds-of-income limit (mostly among those at lower income levels) or the maximum claim limits (mostly among those at higher income levels) (Laurin and Milligan 2017).

Laurin and Milligan propose a federal refundable credit for childcare costs with very generous rates for lower-earning families — designed along the lines of the Quebec childcare expenses credit — diminishing up the income scale to higher-earning families, who would still reap some benefit. This would be a massive change for low earners who are limited in their ability to fully take advantage of the deduction. With a credit, they could get most of their CCE refunded. Because the work decisions of parents, especially mothers, have been shown to be particularly sensitive to changes in childcare costs, a more generous tax treatment along the lines proposed by Laurin and Milligan would likely encourage about 15 to 22 percent of stay-at-home mothers to join the workforce and stay employed over the long term, based on their estimate. The authors also estimate that the

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12 The proposed refundable credit is income tested to reduce its fiscal cost, which means that it would somewhat increase METRs on family income. The negative effect on work incentives, however, would likely be more than offset by a significant positive work incentive effect due to a decrease in PTRs inclusive of net childcare expenses.
extra net government revenues associated with the additional induced employment earnings would greatly reduce the fiscal costs for governments in the long run, making this initiative relatively cheap to implement.

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 can come with high family METRs and PTRs for the second working parent in two-parent families, especially at lower income levels.

Any further expansion of the targeted transfer system — through larger low-income supplements or the creation of new targeted family benefits, for example — should be approached with broader analysis of the impact on parents’ work decisions. Relief measures meant to encourage work participation, such as Quebec’s newly created tax shield, should be explored by other high-METR jurisdictions, such as Ontario. Income-averaging provisions for highly fluctuating incomes could also be explored, as well as greater tax relief for childcare expenses — a key factor in family paid work decisions.
References


