Regressing Towards Proportionality: Personal Income Tax Reform in New Brunswick

by

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I. INTRODUCTION

The June 2008 *Discussion Paper on New Brunswick's Tax System* released by the Department of Finance outlined a proposal for tax reform based on a substantial shift from the taxation of income to the taxation of consumption. Specifically, the New Brunswick government's initial proposal included a reduction in personal and corporate income taxes, a two percentage point increase in the Harmonized Sales Tax and the introduction of a carbon tax. Following the recommendations of a Special Legislative Committee, the Minister of Finance released a 2009 Budget paper which outlined the provincial government's *Plan for Lower Taxes in New Brunswick 2009-2012.* This plan includes only the first part of the proposed tax reform, namely the reductions in personal and corporate income tax rates.

The Department of Finance provided a partial analysis of the distributional effects of the first phase of tax reform, which included the following elements. First, the analysis is confined to the personal income tax reductions only and does not explain who will benefit from the corporate income tax reductions. Second, the *Plan* includes calculations of the tax savings only for two categories of taxpayers: a single taxpayer and a one-earner family. Third, it developed a website with a *tax savings calculator* which allows individual taxpayers to estimate their tax savings from the personal income tax (PIT) reform. Finally, there is no detailed explanation of how the potential revenue loss was calculated and no analysis of the overall effects of this PIT reform on individuals and families with different income levels and different family characteristics. It is this last analytical gap that will be filled by our paper.

We start with a brief description of the main elements of the personal income tax reform and a summary of the analysis contained in the *Plan* (Section II). In Section III we discuss the methodology for estimating the total revenue effects of this reform and for allocating the changes in the tax burden among individuals and families with different levels of income. Our estimates of the distributional effects of the personal income tax reform are shown in Section IV. The final section contains some concluding comments.

Our results indicate that the reform of the personal income tax system introduced by the New Brunswick government will reduce the tax burden on the vast majority of taxpayers, with the exception of those at the very bottom of the income scale. Moreover, the gains for this tax reduction will increase with a taxpayer's income level as the decline in the effective tax rate (tax payable divided by income) rises with income. The net result of this component of the tax reform package is a reduction in the degree of progressivity of the personal income tax. Since the other sources of provincial tax revenues are either proportional or regressive, this move towards proportionality in the personal income tax will tend to increase the overall regressivity of the New Brunswick tax system.

II. ELEMENTS OF THE PROPOSED TAX REFORM

This section is divided into three parts. The first part presents the components of the personal income tax reform, both the initial proposals contained in the *Discussion Paper* and the selected option detailed in the *Plan.* The second part shows the Department of Finance's estimates of the revenue loss from the personal income tax reform. The third part analyses the partial distributional analysis contained in the *Plan.*

A. Components of the Personal Income Tax Reform

The *Discussion Paper* presented two alternatives to the current four-rate structure: (1) a single rate tax, and (2) a dual-rate tax. Both options would be implemented over a four-year period and would be fully in place by 2012.

Single-Rate Tax. Under this option the personal income tax would have a single rate of 10 percent on taxable income. Concurrently, the amount for the personal credit would increase from $8,395 to $12,000 for tax filers with taxable income below $35,000. The maximum tax benefit from this increase in the personal amount would be $1,200, an increase of $350 from the current benefit. This benefit would be clawed back at a rate of 3 percent of taxable income in excess of $35,000. This means that a taxpayer with taxable income of $75,000 would no longer benefit from this credit. The spousal amount would also increase to $12,000 from the current level of $7,129 and would also be clawed back so that the benefit from the combination of the personal and spousal amounts would be eliminated at a family income of $115,000. The clawback for the Low-Income Tax Reduction would be lowered from 5 to 3 percent.

Dual-Rate Tax. This option would compress the current four rates into two rates: 9 percent for taxable income up to $35,000 and 12 percent for taxable income above $35,000. All the existing credits would remain unchanged, but the clawback rate for the Low-Income Tax Reduction would be lowered from 5 to 3 percent.

These rate changes would be accompanied by additional financial support for families with children. First, they would include a new *non-refundable child tax credit*, phased in over four years, which "would reduce personal income tax payable by up to $400 per child and would be payable to all families, regardless of their income level." Being non-refundable, however, it would provide full benefits only to those families with enough provincial personal income tax liability to be offset by the credit. Second, they might include financial support to families as assistance for the cost of raising children. It would be based on the federal Universal Child Care Benefit and equal half of the federal benefit or $600 annually.

The *Plan* unveiled in the 2009 Budget shows that the provincial government opted for the two-rate system. This option contains several elements and will be implemented over a four-year period.

1. Personal income tax rates will be reduced gradually, starting in 2009, and by 2012 the current four-rate structure will be compressed into two rates: 9 percent for taxable income less than $37,893 and 12 percent for taxable income of $37,893 and over.

2. This tax bracket and the non-refundable tax credits will be raised each year by 2 percent.

3. The maximum amount of the medical or disability expenses made on behalf of a dependent relative, which are eligible for a tax credit, will be doubled from $5,000 to $10,000.

4. The annual limit for the tuition rebate will be doubled from $2,000 to $4,000, and the lifetime limit will be raised from $10,000 to $20,000.

5. The Low-Income Seniors' benefit will increase by $100 in 2009 and by an additional $100 in 2010.

6. The clawback rate for the Low-Income Reduction will be reduced from 5 percent to 4 percent in 2009 and to 3 percent in 2010.

The timing of these tax changes is shown in Table 1.

Table 1. Timing of the Personal Income Tax Reform in New Brunswick.

	2008	2009	2010	2011	2012
Taxable income, $	0-34,835	0-35,706	0-36,420	0-37,149	37,892
Tax rate (%)	**10.12**	**9.65**	**9.30**	**9.10**	**9.00**
Taxable income, $	34,836-69, 672	35,707-71,414	36,421- 72,842	37,150-74,300	37,893+
Tax rate (%)	**15.48**	**14.50**	**12.50**	**12.10**	**12.00**
Taxable income, $	69,673-113,272	71,415-116,105	72,842-118,427	74,300-120,796	37,893+
Tax Rate (%)	**16.80**	**16.00**	**13.30**	**12.40**	**12.00**
Taxable income, $	113,273+	116,106+	118,428+	120,797+	37,893+
Tax Rate (%)	**17.95**	**17.00**	**14.30**	**12.70**	**12.00**
Personal Amt, $	8,395	8,605	8,777	8,953	9,132
Spousal Amt., $	7,129	7,307	7,453	7,602	7,754
Exp. – Dependent Relative: Max. $	5,000	10,000	10,000	10,000	10,000
Tuition Amt: Max					
Annual, $	2,000	4,000	4,000	4,000	4,000
Lifetime, $	10,000	20,000	20,000	20,000	20,000
Low-Income, Seniors' Bene., $	200	300	400	400	400
Low Income Tax Reduction Clawback, %	5	4	3	3	3

B. Revenue Changes

The government's estimates of the revenue loss from the shift to a two-rate personal income tax (PIT) structure are presented in Table 2. This table indicates that PIT reform would reduce provincial tax revenues by $124 millions in fiscal year 2009-10. This loss would increase to $336 million in fiscal year 2012-2013, the year when the tax reduction is fully implemented. In each of the next four years, 96 percent of the estimated revenue decline is generated by the rate reduction. The estimates in Table 2 elicit a number of comments.

First, the estimates for the initial year could be derived by using existing information on the number of taxpayers, their income, their family status and other available information relevant for determining their tax liability. For the other years, especially the last year, it is necessary to make assumptions about the change in the level of the population and of tax filers, the rate of real economic growth and of inflation, and the change in the distribution of income among tax filers. Nowhere in the Budget documents can one find details of the methodology used to derive these estimates.

Second, revenue change estimates are shown only for three of the tax changes identified in Table 1. Yet, in the text of the *Plan* there are specific values for the revenue effects of some components of tax reform not shown in Table 2. For example, the *Plan* (p. 8) estimates that in 2011-12, the decline in the clawback for the Low-Income Tax Reduction "will provide $ 13 million in tax relief to low and middle-income individuals and families annually." This amount is not shown in Table 2. Also not shown in Table 2 is the revenue change (unknown) associated with the expanded credit for medical and disability expenses on behalf of a relative.

Third, the estimates for the various years are not strictly comparable because they are expressed in current dollars and are affected by the (unknown) rate of inflation. If for example, the rate of inflation is the same as the rate used for indexing tax brackets and nonrefundable credits (2 percent per year), the revenue decline in 2012-13, expressed in 2009-10 dollars is $316.8 million.

Table 2. Provincial Government's Estimates of the Reduction in Personal Income Tax Revenues: 2009-10 to 2012-13, $Millions.

	2009-10	2010-11	2011-12	2012-13
Rate Reduction	-118	-232	-288	-323
Enhanced Tuition Rebate	-2	-2.5	-3.5	-5
Enhanced Low-Income Seniors' Benefit	-3.5	-7.4	-7.8	-8.2
Total	-123.5	-241.9	-299.3	-336.2

C. Department of Finance's Partial Distributional Analysis

As mentioned earlier, the *Plan* includes a partial distributional analysis by comparing the personal income tax payable by two selected taxpayers (a single taxpayer and a one-earner family) under the current system and under the two-rate system. The same information for other types of taxpayers can be derived by using the tax calculator developed by the Department of Finance and available on the departmental web site.

By itself, the information included in the *Plan,* does not tell us whether the tax reform is progressive (relatively greater benefits to lower income taxpayers) or regressive (relatively greater benefits to higher income taxpayers).

Taxes are labeled as being progressive or regressive with reference to their effective tax rates by income group, defined as the ratio of the tax burden to a taxpayer's income. A tax is said to be progressive (regressive) when the effective tax rate increases (decreases) as a taxpayer's income rises. If the effective tax rate remains constant so that each taxpaying unit bears the same tax burden as a proportion of its income, the tax is said to be proportional. By the same token, an increase in the rates of a given tax is progressive (regressive) if the change in the effective tax rates increases (decreases) as a taxpayer's income increases. Similarly, a reduction in personal income tax rates is regressive, if it provides increasingly larger reductions in the effective tax rate as a taxpayer's income rises.

The information contained in Tables A.4 and A.5 of the *Plan* allows the approximate calculation of these effective tax rates as the percent of taxable income paid in taxes. These tables show taxable income and tax paid for taxable income up to $150,000. To obtain a more general picture of the regressivity or progressivity of the personal income tax reform, we used the Department of Finance's *Tax Savings Calculator* to derive estimates for taxable income levels up to $500,000.

The results for the single taxpayer are shown in Table 3. This table provides an indication of the regressivity of the personal income tax reform in New Brunswick. As shown in the last column, the amount of the tax reduction as a proportion of taxable income (the approximate effective tax rate) rises with income. According to the government calculations shown in the *Plan,* a single taxpayer with income of $10,000 will receive no benefits from this tax reform. A single taxpayer with income of $500,00 will gain a reduction in his/her effective tax rate more than ten times the gain by a taxpayer working at minimum wages (represented by the taxpayer with income of $15,000). A very similar pattern was found for the one-earner family.

Table 3. Department of Finance's Calculation of the Change in Effective Tax Rates for a Single Taxpayer.

Taxable Income	Effective Tax Rate (%)		Change in Effective
$Thousands	2008	2012	Tax Rate (%)
10	0	0	0
15	0.43	0	-0.43
20	3.94	2.33	-1.61
25	6.04	4.14	-1.9
30	6.67	5.35	-1.32
40	8.06	6.54	-1.52
50	9.49	7.57	-1.92
60	10.49	8.31	-2.18
70	11.21	8.84	-2.37
80	11.91	9.23	-2.68
90	12.45	9.54	-2.91
100	12.84	9.79	-3.05
150	14.47	10.52	-3.95
200	15.34	10.89	-4.45
300	16.21	11.26	-4.95
400	16.64	11.44	-5.2
500	16.91	11.56	-5.35

While providing the basis for deriving some rough calculations of the degree of progressivity or regressivity of the personal income tax reform based on selected taxpayers by taxable income level, the estimates included in the *Plan* do not provide a full picture of the distributional effects of the personal income tax reform. These estimates are based on a stylized type of taxpayer with a very simple tax return: all income is in the form of wages and salaries, there are no deductions so that taxable income equals gross income, and the taxpayer can claim only three non-refundable tax credits: the basic personal credit, the Employment Insurance Credit, and the Canada Pension Plan Credit. The data published by the Canada Revenue Agency, however, show that taxable income is about 90 percent of gross income and that this ratio differs among various income groups. Moreover, tax filers claim more than the above three credits. More importantly, the use of selected taxpayers to evaluate the regressivity or progressivity of personal income tax reform does not allow to measure how the "tax savings" from the lower tax rates are distributed among the various income groups. Yet, this information is crucial in understanding the fairness of the personal income tax reform.

A full distributional analysis of the New Brunswick personal income tax reform is presented in this paper. The methodology employed is discussed in the next section.

III. METHODOLOGY

Personal income taxes are levied on the income of individuals. It has been standard practice in tax incidence studies to assume that the person who pays the tax also bears its

burden. In this paper we applied the traditional assumption of no shifting, because our analysis focuses on the short-run distributional impact of PIT reform. We acknowledge that this approach implicitly assumes that the labour supply is fixed, at least in the short run. To the extent that lower income tax rates encourage in-migration, over the longer term the labour supply would have some elasticity with respect to changes in real wages. In this case, income tax reform would be equivalent to a wage subsidy to employers, who would not have to raise wages in order to attract workers from other regions of the country. The distributional effects of the income tax cuts then would become a combination of lower taxes on businesses as well as on workers and recipients of passive income (pensions and investment income).

Under the non-shifting assumption, the person paying the tax is also the person bearing its burden. Therefore, measuring the distributional effects of PIT reform requires (a) the selection of the various family types and income ranges, (b) the selection of the income concept, and (c) the calculation of the tax payable by each family type by income range.

For the selection of the family types, we used the concept of *census family* and identified five family types, namely, singles, single parents, one-earner families, two-earner family, and seniors. For the income concept we used *total income*, i.e., the sum of all revenue sources. Each family type was divided into 16 income groups. For each person in an income group we estimated the tax payable and then calculated both the average income and the average tax. Therefore, we ended up with 16 effective tax rates for each family type, representing the effective tax rate on the average taxpayer in each income group. We also identified five family types for each income group: singles, single parents, one-earner families, two-earner families, and seniors.

In order to measure the incidence of the personal income tax reform, we calculated the tax payable by all families in each income group for a given demographic category under the 2008 personal income tax structure and the structure that will be in place in 2012 under the full implementation of the tax reform. Dividing this amount by the number of families in each income class we obtained the effective tax rate by income class. In a similar way we calculated the effective tax rate by family type.

For this calculation we used Statistics Canada's SPSD/M, but we compared the results with the data contained in *Taxation Statistics for Individuals* published by the Canada Revenue Agency. The last year containing actual data in the SPSD/M is 2006. Instead of making arbitrary adjustments to bring the database forward to 2008, we performed the analysis for 2006. Since our distributional analysis is based on the effective tax rate (the tax paid as percent of income), the results for 2008 would differ markedly from those of 2006 only if there were large shifts in the distribution of income.

As mentioned earlier, the personal income tax reform contains several elements. To facilitate the interpretation of the results presented in the next section, it may be useful to explain the approach we used to measure the effects of each of these components.

The Change in Statutory Rates. The compressions of the rate structure from four to two statutory rates is by far the most significant change in the income tax structure. This change is phased-in over a four-year period. Therefore, to make a consistent comparison with the current personal income tax structure we must address a number of issues. First, should we do the calculations for each of the phase-in years, or confine the analysis to the final year? We chose the second option, because we are interested in comparing the incidence of the current system with the new system when fully implemented. Second, the comparison of the "tax savings" for each family type and income group should be made in real terms, i.e., adjusted for the rate inflation projected for the period from the base year to 2012. There is no need for this adjustment in the case of the effective tax rates, because both the numerator (tax payable) and the denominator (income) would be adjusted by the same factor. Third, we need to decide whether we perform the calculations by using projected data for 2012 and then making the adjustment for inflation or performing the calculations by imposing the 2012 tax structure to the base year data.

In theory, the first option should provide more accurate results, because it would take into consideration changes in the tax base due to increases in real income per taxpayer and increases in the number of taxpayers. In practice, this accuracy may not be achieved because this option requires projections of the population, employment, productivity growth and assumptions about potential changes in the income distribution. The alternative option would eliminate the need for these projections, because it would use the base year income levels and income distribution to estimate the tax payable under the two tax structures. This option addresses directly the following question: if the income distribution in 2012 were the same as in 2006, how would the personal income tax reform affect the relative tax burden borne by different family types by income group? We chose the second option because it provides a cleaner interpretation of the results, free from the influence of somewhat arbitrary assumptions about population, employment, and productivity growth, and changes in the income distribution.

It should be pointed out that in the extreme case where each taxpayer's income increases at the rate of inflation only, the two options yield the same results, as shown in Table 4. This example deals with a single taxpayer who receives income from sources not subject to Canada Pension Plan or Employment Insurance Contributions.

Table 4. Tax Payable Under the Current and New Personal Income Tax Structure: An Illustrative Example.

	2008		2012
	Current	New	New
Total Income, $	34,000	34,000	36,985
Taxable Income, $	34,000	34,000	36,985
Tax Rate (%)	10.12	9.0	9.0
Gross Tax	3,440.8	3,060.0	3,328.7
Basic Personal Amount, $	8,395	8,395	9,132
Basic Personal Credit, $	849.6	755.6	821.9
Net Tax, $	2,591.2	2,304.4	2,506.8
New Tax in 2008 Dollars	2,591.2	2,304.4	2,304.4
Effective Tax Rate (%)	7.62	6.78	6.78

Low-Income Tax Reduction (LITR). This program eliminates the provincial personal income tax payable by taxpayers with income below a specified threshold and reduces it for taxpayers with income below another threshold. For a single taxpayer, in the 2008 taxation year the lower threshold is $14,011 and the maximum amount of the tax reduction is $569. This amount is reduced by 5 percent of taxable income in excess of $14,011. Based on this clawback rate, the tax reduction vanishes at a taxable income of $25,391. The tax reform does not change the lower threshold, but it indexes it at the rate as the indexation of the tax brackets and also reduces the clawback rate to 4 percent in 2009 and to 3 percent in 2010.

The effect of this change on the amount of this special tax reduction as income increases for a single taxpayer whose income is not subject to CPP and EI contributions is shown in Table 5. As in the example shown in Table 3, if we assume that the rate of inflation is equal to the rate of indexation, we can derive the values of this reduction in constant 2008 dollars by applying different clawback rates to the 2008 structure of this program. Inspection of Table 4 leads to the following observations.

First, taxpayers with taxable income below the lower threshold ($14,011) will not benefit from the lower clawback rate. In fact, for these taxpayers the value of the Low-Income Tax Reduction (LITR) is reduced because the lower tax rate (9% instead of 10.12%) reduces the amount of tax payable. Since these taxpayers have a net tax liability of 0 after the LITR both under the current and the new system, the lower gross tax liability is offset by a lower LITR, and the PIT reform has no effect on them. This means that a single taxpayer working at minimum wage will gain nothing from the reform of the personal income tax.

Second, the value of the LITR is lower under the new system for a single taxpayer with taxable income in the range between $14,011 and $17,230. The lower tax rate leads to a maximum benefit of $505 at taxable income of $14,011, which is $64 lower than the maximum under the current system. Eliminating this difference through the lower clawback rate requires an additional taxable income of $3,217. For these taxpayers, the benefits of the lower tax rate are partly offset by the lower value of the LITR.

Third, the upper threshold will be higher under the new system. For the single taxpayers in our example, the new threshold will be $30,544, which is $5,153 higher than the current threshold.

Fourth, the net beneficiaries of the lower clawbak rate are those taxpayers with taxable income above this cut-off point. In our example of single taxpayers, only those with taxable income between $17,230 and $30,153 will receive a higher LITR under the new system.

Table 5. Low-Income Tax Reduction (LITR) Under the Current Formula and the New Formula: Single Taxpayer, 2008 Dollars.

Gross Income	Gross Tax $	LITR $ Current Formula	Net Tax $	Gross Tax $	LITR $ New Formula	Net Tax $
8,398	0	0		0	0	0
10,000	162	162	0	144	144	0
12,000	365	365	0	324	365	0
14,011	569	569	0	505	505	0
15,000	668	520	148	594	4	75
17,230	894	408	486	795	408	387
20,000	1,174	270	904	1,044	325	719
30,544	2,241	0	2,241	1,993	0	1,993

Note: *The source of income is not subject to CPP and EI contributions.*

Enriched Tuition Rebate and Enhanced Expense for Relatives. Measuring the distributional effects of these two measures would require some arbitrary assumptions that would make the results unreliable. Therefore, we excluded these two items from our analysis.

Increase in Low-Income Senior Benefit. This program is a transfer payment to New Brunswickers based on age and income level. Therefore, it is a component of provincial government spending and not of the tax system. Accordingly, we have not included it in our analysis.

III. RESULTS

A. Revenue

The provincial government has estimated that, when fully implemented in 2012-13, the personal income tax reform will reduce provincial revenues from this source by $323 million. We estimated that, if the full reform were applied to the level of income and its distribution in 2006, the revenue loss would amount to $228 million. The two values are very similar when they are placed in the same context.

The estimate for 2012-13 differs from the one for 2006 because of the following factors:

1. There will be more taxpayers;

2. The real income of each taxpayer will increase in accordance with the increase in labour productivity;

3. The personal income tax revenue will increase at a faster rate than the increase in real income (the income elasticity is greater than 1), because of the progressive structure of this tax; and

4. The value of the revenue loss in 2012-13 is affected by the rate of inflation between the two periods.

If we assume that (a) the number of taxfilers increases at an average annual rate of 1.5 percent, (b) labour productivity increases at the same rate, (c) the real income elasticity of personal income tax revenue is 1.4, and (d) the rate of inflation is 2 percent per year on average, our estimate of $228 million in 2006 becomes a revenue loss of $317 million in 2012-13. Since we measure the distribution of the estimated tax reduction among different families according to income and family characteristics, our results will differ from what will materialize in 2012-13 only to the extent that there are changes in the distribution of family types and the distribution of income within each family type.

B. Distribution by Income Class

Table 6 compares the shares of the personal income tax reduction for the average taxpayer in 16 selected income classes to the corresponding shares of the population, families and income. This comparison shows how the PIT reform favours heavily high income families. The first income class, which includes taxpayers in families with income up to $10,000, gain nothing from this reform because those families do not pay any provincial income tax even under the current tax system due to the combination of the tax credit for the basic personal amount and the Low Income Tax Reduction. Taxpayers in families with income between $10,000 and $20,000, will receive less tan 1 percent of the total value of the tax reduction although they represent 11 percent of the population, 18 percent of families (including one person families) and nearly 6 percent of income. In general, taxpayers in families with income below $80,000 will receive a share of the tax reduction lower than their share of income. The biggest gainers are the taxpayers in families with income above $300,000. They will receive 12 percent of the value of the tax reduction although they represent half a percent of the population, one-fifth of one percent of families and account for less than 4 percent of income. This group will gain nearly $28 million in personal income tax reduction, which is more than the tax reduction received by all the taxpayers in families with income up to $40,000. Thus, half a percent of the population, which accounts for nearly 4 percent of income, will receive higher benefits from the personal income tax reform than 40 percent of the population, which accounts for 24 percent of income.

Table 6. The Distribution of the Revenue Reduction by Income Class: Selected Shares (Percent).

Family Income $ Thousands	Population	Share of Families	Income	Tax Reduction
MIN-10k	3.65	6.93	0.79	0.00
10k-15k	4.40	6.89	1.83	0.06
15k-20k	7.02	11.22	3.98	0.68
20k-25k	5.68	7.91	3.66	2.06
25k-30k	6.50	7.98	4.51	2.06
30k-40k	12.74	13.52	9.65	6.73
40k-50k	11.50	10.44	9.63	6.71
50k-60k	8.46	6.86	7.77	5.33
60k-70k	8.32	6.18	8.27	6.54
70k-80k	7.48	5.60	8.65	8.09
80k-90k	5.80	4.16	7.26	7.47
90k-100k	5.38	3.72	7.23	7.73
100k-150k	9.65	6.48	17.70	20.05
150k-200k	1.83	1.14	3.99	6.94
200k-300k	1.05	0.63	3.18	7.45
300k-MAX	0.55	0.34	3.88	12.11

The relationship between the share of the tax cut and the share of income is shown in Figures 1 and 2. These figures show clearly the inequality in the distribution of the tax cut. For families in the lowest two income classes, the tax cut provides zero or close to zero benefits. In general, families with income below $80,000 receive a share of the tax cut which is lower than their share of income. By contrast, for families with income above $300,000 the share of the tax cut is more than 3 times their share of income.

Figure 1. Share of Tax Reduction Compared to the Share of Income.

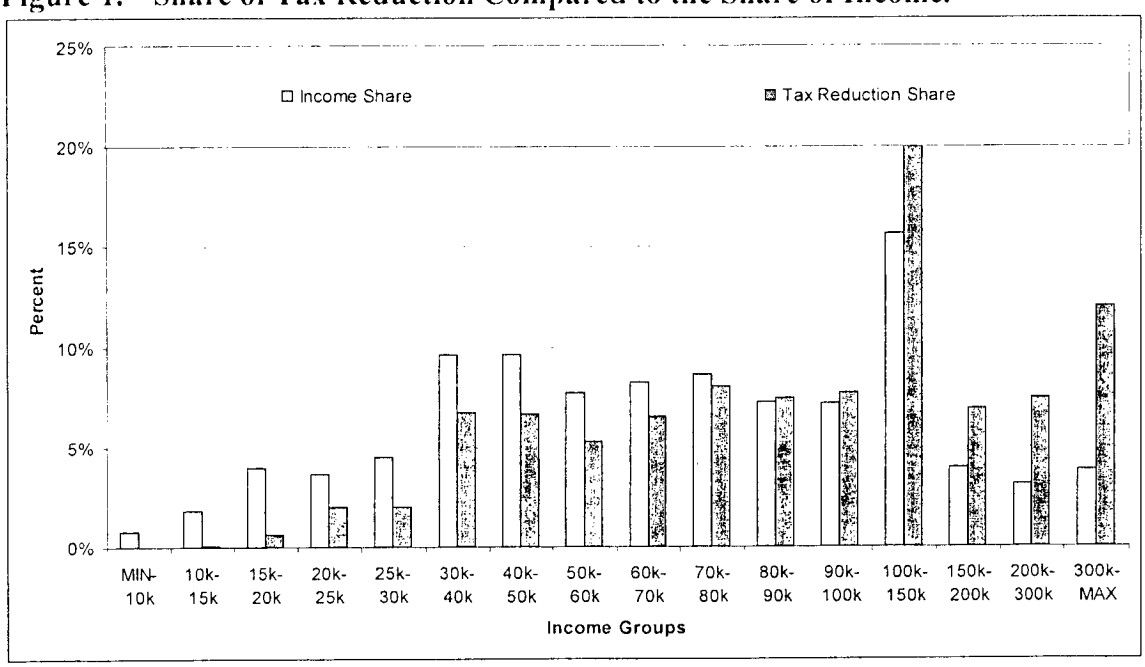
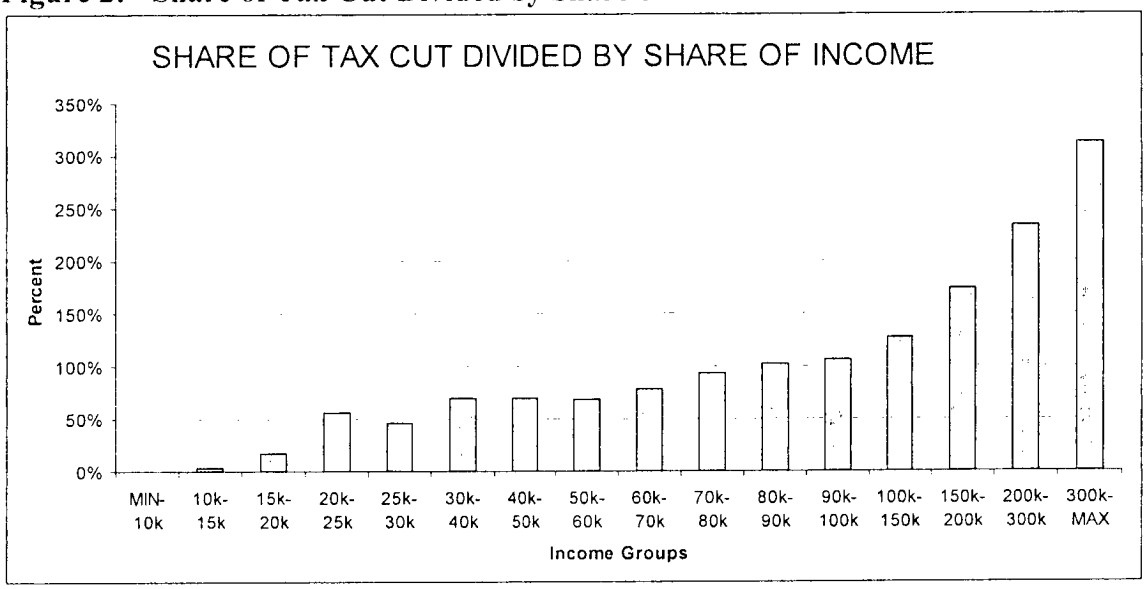


Figure 2: Share of Tax Cut Divided by Share of Income.



The changes in tax payable and in effective tax rates (tax payable as percent of income) are shown in Table 7. It is evident from this table that, in dollar values, the benefits of the tax reform increase with income. Families with income up to $15,000, which include those working at minimum wage or less, will receive hardly any benefits from this tax reform. Only families with income above $70,000 will receive more than the average gain of $638 per family. Families with income above $300,000 (which averages at about $560,000 per family) will gain 36 times the provincial average gain per family.

Whether this tax reform is progressive or regressive, however, depends not on the absolute amount of the gain but on this gain as a proportion of income. This information is shown in the last three columns of Table 7. Inspection of these three columns leads to two fundamental conclusions:

1. The personal income tax reform is a regressive measure, because it will reduce the effective rate by increasing degrees as income increases. On average, the personal income tax reduction will lower the effective tax rate by 1.31 percentage points. Families with income lower than about $85,000 will receive below-average reductions in the effective tax rates. Families in the top income level (average income of about $560,000) will enjoy a reduction more three than times the provincial average.

2. The regressive pattern of this tax reform will flatten substantially the pattern of effective tax rates, moving the personal income tax towards proportionality. Under the current structure, the effective tax rate increases by 12.7 percentage points, starting from a zero rate for families with income up to $10,000. Under the new system, the increase in effective tax rates falls by one third to 8.6 percent. Moreover, most of this increase occurs in the income range between 0 and $80,000. From $80,000 to $560,000, this increase is only 2.29 percentage points. Under the new system, in the income range between 0 and $80,000, the effective tax rate increases on average by 0.78 percentage points for each additional $10,000 of income. For income above $80,000, the increase is only 0.05 for

each additional $10,000. Under the new system, the personal income tax in New Brunswick becomes effectively proportional for families with income above $100,000 a year.

Table 7. Change in Tax Payable and in Effective Tax Rates by Income Class.

Family Income Thousands	Tax Reduction	Effective Tax Rate (%)		Difference
		Current System	New System	
MIN-10k	0	0.00	0.00	0.00
10k-15k	6	0.11	0.06	-0.05
15k-20k	39	0.59	0.36	-0.23
20k-25k	165	2.52	1.79	-0.73
25k-30k	165	2.86	2.26	-0.60
30k-40k	318	4.13	3.22	-0.92
40k-50k	411	5.35	4.43	-0.92
50k-60k	496	6.08	5.17	-0.90
60k-70k	676	6.65	5.61	-1.04
70k-80k	924	7.52	6.29	-1.23
80k-90k	1147	7.82	6.47	-1.35
90k-100k	1327	8.00	6.60	-1.40
100k-150k	1975	8.85	7.18	-1.68
150k-200k	3887	10.29	8.00	-2.29
200k-300k	7548	11.29	8.22	-3.08
300k-MAX	22949	12.68	8.58	-4.10
Average	638	6.63	5.32	-1.31

C. Distribution by Family Type

This section presents the results for the distribution of the tax reduction by type of family where each of the five family types that make up the New Brunswick population is represented by the average family. In this case, the differences in the value of the tax reduction among family types is affected both by the respective income levels, the distribution of income within each family, and the special provisions in the personal income tax system that apply selectively to different family types, such as the age amount for taxfilers 65 years of age and over.

The shares of the tax reduction by family type are compared to the respective shares of the population, families, and income in Table 8. This table shows that the five family types may be divided into two groups. The first group includes the family types for which the share of the tax reduction is less than their share of income and comprises singles, single parents and seniors. The second group, which is made up of one-earner and two-earner couples, receives a share of the tax reduction which exceeds their share of income.

In the comparison between these two groups we have, at one extreme, single parents whose share of the tax reduction is roughly half of their share of income, and at the other

extreme, two-earner families whose share of the tax reduction is 14 percent higher than their share of income. This family type, which accounts for 54 percent of the population and 35 percent of families, receives two-thirds of the total reduction in the personal income tax.

Table 8. The Distribution of the Revenue Reduction by Type of Family: Selected Shares.

Family Type	Population	Share (%) Families	Income	Tax Reduction
Singles	12.58	26.03	13.39	11.62
Single Parent	7.61	6.11	4.00	2.08
One-Earner Couples	9.96	9.01	8.24	9.04
Two-Earner Couples	53.84	35.30	58.26	66.47
Seniors	16.00	23.56	16.12	10.79

Table 9 shows another aspect of the distribution of the tax reduction by family type. The first column presents the revenue reduction per family for each family type. Consistent with the results presented above, the first column of Table 9 shows that three family types (singles, single parents and seniors) receive below-average tax reductions and the remaining two types (one-earner and two-earner couples) enjoy above-average gains. Comparing the two polar cases, the gain by a two-earner family on average is 89 percent higher than the national average and 5.5 times the average gain for a single parent family.

The last three columns show the effective tax rates by family type before and after the reform and their difference. The last column shows that on average the personal income tax reform will reduce the effective tax rate by 1.3 percentage points or nearly 20 percent. Again, the decline in the effective tax rate is below-average for single, single parent and senior families, and above average for one and two-earner families. The reduction in the effective tax rate for two-earner families on average is 2.2 times the reduction for the single parent families.

Table 9. Change in Tax Payable and in Effective Tax Rates by Family Type.

Family Type	Tax Reduction	Effective Tax Rate (%)		Difference
		Current System	New System	
Singles	285	6.17	5.03	-1.14
Single Parents	217	3.28	2.59	-0.68
One-Earner Couples	641	6.08	4.64	-1.44
Two-Earner Couples	1203	7.61	6.11	-1.50
Seniors	293	4.57	3.69	-0.88
Average	638	6.63	5.32	-1.31

IV. CONCLUSIONS

This paper provided a detailed analysis of the distributional effects of the personal income tax reform introduced by the government of New Brunswick in the 2009 Budget. The results indicate that this reform is regressive because it reduces the effective rate by

increasing degrees as income increases. Families in the top income level (average income of about $560,000) will enjoy a reduction more than three times the provincial average. The regressive pattern of this tax reform will flatten substantially the pattern of effective tax rates, moving the personal income tax towards proportionality. Under this reform, the personal income tax in New Brunswick becomes effectively proportional for families with income above $100,000 a year.

While this paper focused on the distributional effects of the personal income tax reform, the New Brunswick government has stressed its effects on output and economic growth. As pointed out in a Budget document entitled *The Plan for Lower Taxes in New Brunswick: 2009-2012:*

"Lower personal income taxes will allow New Brunswick taxpayers to keep more of their money and will help attract higher paying jobs and highly skilled workers to New Brunswick, helping grow the population, grow the economy and create more jobs (p. 16)."

The extent to which this tax reduction may be able to stimulate job creation and economic growth is not known and the provincial government has not made available any studies that explain in detail how its tax reform will generate those economic effects. There are certain things, however, that we know even in the absence of such studies.

1. Since the government of New Brunswick was in a deficit position even before the introduction of its income tax reform, this tax reform was financed with borrowed funds.

2. Even if wishful thinking became reality and the provincial economy expanded in response to lower personal and corporate income tax rates, there would be no additional funds for the provincial government, because the resulting increase in own-source revenues would be offset by lower equalization payments.

3. Whether or not the personal income tax cuts will stimulate economic growth, this tax reform involves borrowing money to provide tax cuts that offer the greatest benefits to the wealthy.

4. Unless there are increases in other taxes, the current and projected future budget deficits will have to be eliminated through reductions in provincial government spending.

5. Personal income tax reform will lead to widening income disparities among families in New Brunswick. The increase in income disparities will be greater, the stronger the effect of these tax cuts on employment and economic growth.

6. Whether the widening income disparities will also lead to greater disparities in living standards will depend on which income groups will be affected most by the spending cuts needed to restore fiscal balance.

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