## Tax Problem and Solution for New York

Summary: Many states have complex tax calculation systems with multi tax brackets such as NY has 8, MO has 9 , KS has 3 (up to 8 ), CA has 9 , and MN has 4 (up to 11) tax brackets during the past $\mathbf{1 0 0}$ years. There are 45-216 withholding formulas*, xx-page withholding tables and x -xx page tax tables.

One simple linear formula and one existing formula can be used to match/replace existing complex state tax systems fairly and efficiently and to save hundred millions of dollars (Table 6*).

* Research paper: www.scitcentral.com/documents/be5648da4795008d9893b752b9226c8f.pdf


## 1. Multi-bracket Personal Income Tax Systems and Simple Solution

## NY State Tax Calculation System:

8 tax brackets at $4 \%, 4.5 \%, \ldots \ldots$ and $8.82 \%$ (2020)
144 withholding formulas $(8 \times 3 \times 6)$
11-page Withholding Tables

## Long-Term Solution: 2 Formulas

(To simplify NY tax systems and save hundred millions of dollars) www.tax.ny.gov/pdf/2020/inc/it201i_2020.pdf (Page 49-57)
|Tax Rate (Top tax rate: T)
(Neutral tax revenue)

## Bill Draft for Individual Income Tax Simplification:

For all individuals, the tax shall be computed with the following formula:

1. For the yearly taxable income is:
2. Not over $\$ 180,000 \times S$
3. Over $\$ 180,000 \times S$
4. 
5. Where: C is $8,571,429$ from 180,000 to divide ( $\div$ ) the 1 -st tax rate range difference $(0.061-0.04)$ in 2020.
6. $\mathrm{D}=4,896$ from 180,000 to multiply $(x)$ the 2 -nd tax rate difference $(0.0882-0.061)$ in 2020.
7. $\mathrm{F}=$ the number of filing periods $(52,26,24,12,4,2,1$ or 364 for weekly, bi-weekly, semi-monthly,
8. monthly, quarterly, semi-annual, annual or daily filing periods).
9. $S=$ tax status (2 for Married filing jointly and qualifying widow(er) (2) and (5), 1 for Single and married
10. filing separately (1) and (3) or 1.5 for Head of household (4).
11. $\mathrm{TI}=$ taxable income.
12. Tax rate ranges $=4 \%-6.1 \%-8.82 \%$ for yearly taxable income $0-\$ 180,000 \times \mathrm{S}-$ in 2020 , which may be
13. reformed.
14. $\mathrm{YTI}=\mathrm{TI} \times \mathrm{F}=$ yearly taxable income
www.tax.ny.gov/pdf/current forms/it/it201i.pdf\#page=57 (Page 43-51)
Examples: $\quad 2020$ Tax rate and tax are:
15. $\mathrm{YTI}=\$ 96,000$ in 2020 : $(\mathrm{YTI} \div \mathrm{B} \div \mathrm{S}+0.04) \times \mathrm{TI}=(96,000 \div 2 \div 8,571,429+0.04) \times 96,000=0.0456 \times 96,000=4,377.60$
16. YTI is $\$ 1,200,000(\mathrm{~S}=1)$ : $\quad(0.0882-4,896 \times 1 \div 1,200,000) \times 1,200,000=0.08412 \times 1,200,000=100,944.00$
17. Monthly TI is $\$ 8,000(\mathrm{~S}=2)$ : $\quad(8,000 \times 12 \div 2 \div 8,571,429+0.04) \times 8,000=0.0456 \times 8,000=364.80$
18. Biweekly TI is $\$ 46,153.85:(0.0882-4,896 \times 1 \div 46,153.85 \div 26) \times 46,153.85=0.08412 \times 46,153.85=3,882.46$
** Another option is to have 2 brackets such as $4 \%-6.2 \%-8.82 \%$ for YTI not over and over $\$ 240,000 \times \mathrm{S}$.
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## 2. New York State Household Credit

NY state household credit has $\$ 75$ to $\$ 20$ for Filing status (1) Single with 7 steps, $\$ 90$ to 0 for Filing status (2), (4) and (5), and $\$ 45$ to 0 for Filing status (3) Married filing separate with 9 steps. Also each more dependent number has $\$ 8$, which is reduced from $100 \%$ to 0 when AGI from $\$ 5,000$ to $\$ 32,000$. For Single, AGI range is from $\$ 5,000$ to $\$ 28,000$. There are 137 household credit numbers. These steps have cliff problems.
www.tax.ny.gov/pdf/current_forms/it/it201i.pdf\#page=57 (Page 20)

One slope solution can be used to match related tax credit rates between $100 \%$ and 0 gradually from $7-9$ steps to 1 bracket with about $88 \%$ reduction.

NY State Household Credit (HC)

| AGI | $0-5,000$ | $5,000-32,000$ | Over 32,000 |
| :--- | :---: | :---: | :---: |
| Credit | $100 \%$ | $(1-0)(H C)$ | 0 |

$\mathrm{HC}=(45 \times \mathrm{S} 1+(\mathrm{N}-1) \times 8 \times \mathrm{S} 1) \times(1-(\mathrm{AGI}-5,000) \div 27,000)$
$\mathrm{S} 1=1$ for Status (3) Married filing separate, 2 for (2), (4) and (5) or 1.67 for Status (1) Single.

Household Credit Rate

$\mathrm{N}=$ Dependent number $1,2,3,4,5,6,7$ or over 7 (See Note 3) for all Statuses except Status (1) Single: $\mathrm{N}=1$.

## 3. NY City Tax Calculation System:

4 tax brackets at $3.078 \%, 3.762 \%, 3.819 \%$ and $3.876 \%$ (2021)
72 withholding formulas $(4 \times 3 \times 6)$
21-page Withholding Tables
www.tax.ny.gov/pdf/current forms/it/it201i.pdf\#page=57 (Page 59-67)
Long-Term Solution: 2 formulas
(* To simplify NYC tax systems and save millions of dollars)


## Bill Draft for Individual Income Tax Simplification:

For all individuals, the tax shall be computed with the following formula:

1. For the yearly taxable income is: The tax rate and tax are
2. Not over $\$ 50,000 \times$ S5
(YTI $\div \mathrm{C} \div \mathrm{S} 5+0.03) \times \mathrm{TI}$
2021 Tax rate range:
3. Over $\$ 50,000 \times S 5$
$(0.03876-(\mathrm{D} \times \mathrm{S} 5 \div \mathrm{YTI})) \times \mathrm{TI}$ $3 \%-3.626 \%$
3.626\%-3.876\%
4. Where: $\mathrm{C}=7,987,220$ from 50,000 to divide $(\div)$ the 1 -st tax rate range difference $(0.03626-0.03)$ in 2021.
5. $\quad \mathrm{D}=125$ from 50,000 to multiply $(\times)$ the 2-nd tax rate difference $(0.03876-0.03626)$ in 2021.
6. $\mathrm{F}=$ the number of filing periods $(52,26,24,12,4,2,1$ or 364 for weekly, bi-weekly, semi-monthly,
7. monthly, quarterly, semi-annual, annual or daily filing periods).
8. $\quad$ S5 = NY City tax status (1.8 for Married filing jointly and qualifying widow(er) (2) and (5), 1 for Single
9. and married filing separately (1) and (3) or 1.2 for Head of household (4).
10. $\mathrm{TI}=$ taxable income.
11. Tax rate ranges $=3 \%-3.626 \%-3.876 \%$ for yearly taxable income not over and over $\$ 50,000 \times \mathrm{S}$ in 2021.
12. $\mathrm{YTI}=\mathrm{TI} \times \mathrm{F}=$ yearly taxable income

Examples:
2021 Tax rate and tax:

3. Monthly TI= $\$ 8,000(\mathrm{~S} 5=2)$ in $2021: \quad(8,000 \times 12 \div 1.8 \div 7,987,220+0.03) \times 8,000=0.036677 \times 8,000=293.42$
4. Biweekly $\mathrm{TI}=\$ 3,000(\mathrm{~S} 5=1)$ in 2021: $\quad(0.03876-125 \times 1 \div 3,000 \div 26) \times 3,000=0.037157 \times 3,000=111.47$

## 4. Simplification for NY State Additional Tax with NY AGI of more than $\mathbf{\$ 1 0 7 , 6 5 0}$

(Simple formulas are used to replace the correct tax computation worksheet for different filing statuses) www.tax.ny.gov/pdf/current_forms/it/it201i.pdf\#page=57 (Page 52-57)

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