

Problems from 2023 Missouri Withholding Formulas and SBs 3 & 5 and Solution

SBs 3 & 5 tax bill has been signed into law by Governor Mike Parson since October, 2022, which reduces the top individual income tax rate from 5.2% to 4.95% (2023) and eliminates tax (free or 0) on taxable income not over \$1,000. 2023 Income Tax Withholding Formulas are made. There are three major problems.

SBs 3 & 5: www.senate.mo.gov/22info/BTS_Web/Bill.aspx?SessionType=E1&BillID=97872967

Page 7: 6 2. (1) Notwithstanding the provisions of subsection 1
 7 of section 143.011 to the contrary, for all tax years
 8 beginning on or after January 1, 2023, there shall be no tax **Problem #1:**
 9 on taxable income of less than or equal to one thousand For all or some
 10 dollars, as adjusted pursuant to subsection 5 of section residents?

There are two confused possibilities, which affect related cost, time, and tax revenue:

(1) For all residents with more processing time and cost: **if the first tax bracket (1.5%) is eliminated for all residents, it is much easy to (a) add the \$1,000 into MO standard deduction, (b) calculate taxes with smooth tax rate changes without tax rate jump from 0% to 2% (Problem #2), and (c) reduce the 8 tax brackets to 7.**
 or (2) For some residents with taxable income not over \$1,000 (the bill and A) with less processing time and cost: **their taxes are to 0 and do not need to calculate their taxes (Next Page: Line 28).**

A: https://dor.mo.gov/forms/MO-1040%20Instructions_2022.pdf (Page 26: \$111 is raised to \$1,000)

2023 Income Tax Withholding Formulas https://dor.mo.gov/forms/Withholding%20Formula_2023.pdf

Rates	Daily Payroll	Weekly Payroll	Monthly Payroll	Annual Payroll
0%	\$ 0.00 to \$ 5.00	1.5% is kept to avoid the tax rate jump from 0% to 2%.		\$ 0.00 to \$ 1,207.00
2%	5.01 to 9.00			1,207.01 to 2,414.00
2.5%	9.01 to 14.00	*Existing withholding taxes have 48 formulas (8×6).		2,414.01 to 3,621.00
3%	14.01 to 19.00	(Problem #3: too many formulas and too complex)		3,621.01 to 4,828.00
3.5%	19.01 to 23.00			4,828.01 to 6,035.00
4%	23.01 to 28.00	*Withholding Tables have 10 pages: DOR Website		6,035.01 to 7,242.00
4.5%	28.01 to 32.00	(Problem #4: too many pages and too complex)		7,242.01 to 8,449.00
4.95%	32.01 and over			8,449.01 and over

https://dor.mo.gov/forms/Withholding%20Table%20-%20ALL_2023.pdf

Existing 48 (8×6) formulas can be matched and reduced to 2 with one linear formula (fair and simple) $YTI \div C + 0.015 \times TI$ (not over \$9,000) and one existing formula $(0.0495 - D \div YTD) \times TI$ (over \$9,000) to resolve these problems. YTI=TI×F. YTI and TI are yearly and taxable income. F=filing period # (Next Page). Withholding Tables can be eliminated. Then there are 15 benefits to save and hundred million (B).

Income Tax Withholding Percentage Table

(Annual Payroll Period)	Collection
\$ 1,207.00 × 0% = \$ 0.00	1,207.00×1.5%=\$18.105
1,207.00 × 2.0 = 24.00	24.14
1,207.00 × 2.5 = 30.00	30.175
1,207.00 × 3.0 = 36.00	36.21
1,207.00 × 3.5 = 42.00	42.245
1,207.00 × 4.0 = 48.00	48.28
<u>1,207.00 × 4.5 = 54.00</u>	<u>54.315</u>
8,449.00	234.00 253.47

Tax Simplification with Two Brackets/Formulas

Tax rate at \$9,000 and Constants (C and D)
(1) Tax rate=(234+0.0495(9,000-8,449))÷9,000 =0.029 (2.9%) (2 Formulas/Brackets)
C=9,000÷(0.029-0.015)=642,857 D=9,000×(0.0495-0.029)=184.5
(2) Tax rate=(253.47+0.0495(9,000-8,449))÷9,000 =0.0312 (3.12%) (2 Formulas/Brackets)
C=9,000÷(0.0312-0.015)=555,556 D=9,000×(0.0495-0.0312)=164.7

(1) $234 + 0.0495 (YTI - 8449) = 0.0495 YTI - 184.23 = (0.0495 - 184.23 \div YTI) YTI$ (D=184.23)

(2) $253.47 + 0.0495 (YTI - 8449) = 0.0495 YTI - 164.76 = (0.0495 - 164.76 \div YTI) YTI$ (D=164.76)

For yearly taxable income \$21,150 in 2023, tax is **\$862.7 with 12 steps by MO DOR**. With our proposed formulas from (1) or (2), tax rate and tax are 4.07766% and **\$862.43** or 4.1713% and \$882.23 **with 1 step**.

(1): $(0.0495 - 184.5 \div 21,150) \times 21,150 = 0.0407766 \times 21,150 = 862.43$ (2): Next Page

More examples (on different filling periods): Next Page

MISSOURI BILL NO. _____ Income tax simplification

Summary: One linear formula (fair and simple) and one existing formula are used to match MO tax systems efficiently with 2 brackets to replace existing 9 tax brackets, 54 (9×6) formulas, and 10-page Withholding Tables. Its 15 benefits may save hundred million dollars (B: Table 6).

B: www.scitcentral.com/documents/be5648da4795008d9893b752b9226c8f.pdf

AN ACT

To enact one new section relating to income taxation.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF MISSOURI,
AS FOLLOWS:

1. A bill relates to income taxation for calculating individual income tax rate and tax.
2. A tax is hereby imposed for every tax year on the Missouri taxable income of every
3. resident. The tax shall be determined by applying the tax rate and tax formulas
4. provided in this section, which is based upon the following tax rate and tax:
5. For tax year ~~2016~~2024 , and all tax years thereafter:
6. ~~(1) If yearly taxable income is:~~ **The tax rate and tax are:** ~~(2) Daily~~
7. ~~[Not over \$1,000.00 1.5% of yearly taxable income]~~
8. ~~Over \$1,000 but not over \$2,000 \$15 plus 2% of excess over \$1,000 (3) Weekly~~
9. ~~Over \$2,000 but not over \$3,000 \$35 plus 2.5% of excess over \$2,000 (4) Bi-Weekly~~
10. ~~Over \$3,000 but not over \$4,000 \$60 plus 3% of excess over \$3,000 (5) Semi-Monthly~~
11. ~~Over \$4,000 but not over \$5,000 \$90 plus 3.5% of excess over \$4,000 (6) Monthly~~
12. ~~Over \$5,000 but not over \$6,000 \$125 plus 4% of excess over \$5,000 (7) Quarterly~~
13. ~~Over \$6,000 but not over \$7,000 \$165 plus 4.5% of excess over \$6,000 (8) Semi-Yearly~~
14. ~~Over \$7,000 but not over \$8,000 \$210 plus 5% of excess over \$7,000]~~
15. ~~[Over \$8,000 but not over \$9,000 \$260 plus 5.5% of excess over \$8,000] 2023 Tax rate range~~
16. **(YTI÷C + B) × TI** 1.5%-3.12%
17. Over \$9,000 ~~[\$315 plus 6% of excess over \$9,000]~~
18. **(T - (D÷YTI)) × TI** 3.12%-4.95%
- 19.
20. YTI is the yearly taxable income, which is equal to TI×F. TI is taxable income. F is filing period (1, 2
21. 4, 12, 24, 26, 52 or 365 on different filing basis). B is bottom tax rate at 1.5% (to avoid a jump from
22. 0% to 2%), C is 555,556 from 9,000 to divide (÷) the 1-st tax rate range difference (0.0312-0.015). T is
23. top tax rate (various). D is 164.7 from 9,000 to multiply (×) the 2-nd tax rate range difference (0.0495-
24. 0.0312) for 2023, which is the same as existing number in the existing formula.
25. Tax rate ranges are reformed from 1.5%-3.5%-6% in 2016, to 5%-3.44%-5.9% in 2018, 1.5%-3.35%-
26. 5.4% in 2020, 1.5%-3.2522%-5.3% in 2022, 1.5%-3.12%-4.95% in 2023 or 1.5%-?-4.8% in 202x.
- 27.
28. When yearly taxable income is not over \$1,000, tax is to 0 (free) and do not need to calculate tax.

https://dor.mo.gov/forms/Withholding%20Formula_2023.pdf (2023)

https://dor.mo.gov/forms/Withholding%20Formula_2022.pdf (2022)

Examples:

Tax rate and tax are:

1. YTI is \$22,050 in 2022: $(T-D \div YTI) TI = (0.053-184.3 \div 22,050) \times 22,050 = 0.044642 \times 22,050 = 984.35$
2. Monthly TI=\$1,837.50 in 2022: $(0.053-184.3 \div (1,837.5 \times 12)) \times 1,837.5 = 0.044642 \times 1,837.5 = 82.03$
3. Yearly TI is \$21,150 in 2023: $(0.0495-164.7 \div 21,150) \times 21,150 = 0.041713 \times 21,150 = 882.23/Y$ or \$73.52/M
4. Biweekly TI is \$2,000 in 2023: $(0.0495-164.7 \div (2,000 \times 26)) \times 2,000 = 0.0463327 \times 2,000 = 92.67$

For more information, contact us at johnlee@taxsimplecenter.net or 913-710-0957

***Notes:**

1. MO has existing 10, 9 or 8 tax brackets, 54 (9×6) formulas, Withholding Tables (10 pages), 9 or 8 different taxable income ranges (yearly), and Tax Table, which can be matched and simplified by 2 brackets and formulas with **96% reduction** (1-(2÷54)) fairly (*) **to save \$170 million** (Website A: Table 6). With this tax calculation simplification, neutral tax revenue change is obtained (~\$1 million) comparing with existing taxable incomes not over \$9,000. For taxable incomes over \$9,000, there is no tax rate and revenue difference.

https://dor.mo.gov/forms/Withholding%20Table%20-%20ALL_2022.pdf

The 10 or 9 tax brackets are at www.dor.mo.gov/forms/index.php?category=&formName=Tax+Chart (2014-2021). Their C and D values for taxable incomes of 0-\$9,000- (after 2016) are:

Year	Tax rate ranges	C	D
202x	0.015(?) - ? - 0.048	?	?
2023	0.015*-0.0312-0.0495	555,556	164.7
2022	0.015-0.032522-0.053	513,640	184.3
2021	0.014-0.03322-0.054	468,262	187
2021	0.015-0.03322-0.054	493,963	187
2020	0.015-0.0335-0.054	486,486.5	184.5
2019	0.015-0.0339-0.054	476,190.5	180.9
2018	0.015-0.0344-0.059	463,917.5	221.4
2017	0.015-0.0346-0.06	459,183.7	228.6
2016	0.015-0.035-0.06	450,000	225

* There is a tax rate jump from 0% to 2%. 1.5% or 1.25% may be used to avoid the jump. 1.5%-3.2522%-5.3% (2022) may be reduced to 1.25%-3.12%-4.95% plus tax is to 0 for taxable incomes not over \$1,000 (2023).

2. www.dor.mo.gov/forms/Withholding%20Formula_2022.pdf relates 2022 withholding tax formulas and calculations. Existing Tax Withholding Tables (10 pages) and 54 (9×6) formulas can be matched/replaced by one slope formula and one existing formula to calculate withholding taxes with Standard deductions, exemptions and tax credits and income taxes for tax returns with actual deductions, exemptions and tax credits.

Withholding or Income Tax=(Incomes±Adjustments-(Deductions+Exemptions)÷F)×Tax rate-Tax credits÷F

Total tax=Sum ((YTIa÷C+0.015) YTIa) + Sum(0.053 YTIb-D) (for 2022)

3. New SBs 3 & 5 eliminates the first tax brackets for earning not over \$1,000. It also creates a strange “jump” problem, which is similar to existing Federal Tax Percentage at 55%, 25% 15%, 5%, and 0 with “cliff” problem. When AGI is changed from \$100,000 to \$100,001 with such as federal tax \$15,000, MO federal tax deduction is from \$2,250 (15%×15,000) to \$750 (5%×15,000). **The \$1 causes \$1,500 (2,250-750) difference unfairly.**

4. For existing tax reforms, several factors of tax brackets, tax rates, taxable income ranges, tax computations and tax goal are considered at the same time, which are affected each other and complex. With this tax simplification, only 3 tax rates at bottom, middle (\$9,000) and top are adjusted to meet a tax goal. The factors are explained by our 2021 research paper (B: Page 508).

Bill Summary

This bill matches and simplifies the existing 9 tax brackets, 54 (9×6) formulas, and 10-page Withholding Tables with one simple linear formula and one existing formula resulting in 96% (1-2/54) simplification. The new method has neutral tax revenue change (~\$1 million with MO tax data). Our goal is to reduce existing 53 formulas to 1 and eliminate complex 10-page Withholding Tables. Payroll, withholding, tax return, tax analysis, reform, and projection can be simplified. A checking tool is provided to reduce calculation mistakes. For tax reforms, only 3 tax rates (at bottom, \$9,000 and top) are adjusted to simplify existing 4 factors of different tax brackets, tax rates, and taxable income ranges with many options and related arguments to meet tax revenue goals by lawmakers.

Website links:

A. www.taxsimplecenter.net/uploads/8/3/3/9/83395216/wtaxproblem_solutionmo18.pdf

B. www.scitcentral.com/documents/5c459df89d622e02616322ed790aa36e.pdf

C. https://taxsimplecenter.net/uploads/8/3/3/9/83395216/wstate_seniortaxreturn6.pdf

Missouri Tax Problems and Solutions with One Slope Formula

Summary: One simple slope formula can be used to resolve MO income tax, MO Federal Tax Percentage (cliff), property tax credit, social security tax, and corporate tax problems. Existing income tax calculation system with 9 tax brackets, 54 withholding formulas (9×6) and 10-page Withholding Tables can be matched and simplified with **15 benefits to save \$170 million for MO** (A: Table 6).

<https://taxsimplecenter.net/statetaxsimplification.html>

1. Multi-bracket Income Tax Systems and Simplification

MO Tax Calculation System:

9 tax brackets at 1.5%, 5.4% (5.3%, 5.2% or 5.1%)

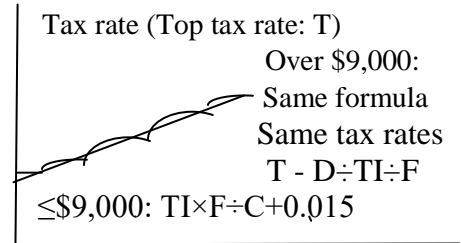
54 withholding formulas (9×6)

10-page Withholding Tables

(\$1 million gain w/1.5% or ~0 w/1.4%)

Long-Term Solution: Two formulas (Neutral tax revenue)

(One simple slope formula and one existing formula)

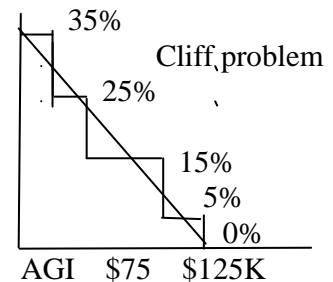


If the yearly taxable income (TI×F) is:	The tax rate and tax are:	2022 Tax rate range
Not over \$9,000.....	$(TI \times F \div C + 0.015) \times TI$	1.5%-3.2522%
Over \$9,000.....	$(T - (D \div TI \div F)) \times TI$	3.2522%-5.3%

C=513,640=9,000÷(0.032522-0.015). D=184.3=9,000×(0.053-0.032522) in 2022. F=filing period # (52, 26, 24, 12, 4, 2, 1 or 364). Tax rate ranges: 1.5%-3.2522% for yearly taxable income not over \$9,000 and 3.2522%-5.3% for over \$9,000 in 2022 (1.5%-3.322%-5.4% in 2021, or 1.5%-3.5%-6% in 2016). T=top tax rate=0.053 in 2022 (5.4% in 2021,, or 6.0% in 2016). TI=taxable income. TI×F=yearly TI.

2. MO Federal Tax Percentage Cliff Problem

Existing Federal Tax Percentage (FTP) has 5 step rates at 35%, 25%, 15%, 5%, and 0. When AGI is changed from \$100,000 to \$100,001 with federal tax such as \$15,000, MO federal tax deduction is from \$2,250 (15%×15,000) to \$750 (5%×15,000). **The \$1 causes \$1,500 difference unfairly.**



Solution: One Slope Formula (Neutral tax revenue)

$$(1 - AGI \div 125,000) \times 0.35$$

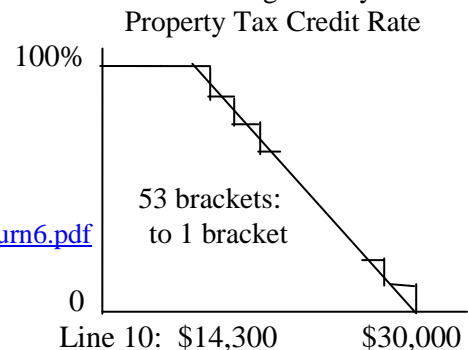
Federal tax percentage shall be reduced gradually from 35% for the adjustable gross income (AGI) to 0% at or more than \$125,000 with one slope formula of $(1 - AGI \div 125,000) \times 0.35$.

3. Property Tax Credit Rate (53 brackets are reduced to 1)

MO Property Tax Credit Chart shows its reduction from 100% (or L13) to 0 when Line 10 is from 0 to \$30,000. One slope solution can be used to match related tax credit rates between 100% and 0 gradually from 53 brackets to 1 with 98% reduction.

MO Property Tax Credit Rate

Line 10	0-14,000	14,000-30,000	Over 30,000
Credit rate	1	$1 - (L10 - 14,000) \div 16,000$ Or $(30,000 - L10) \div 16,000$	0



4. Seniors' Tax Return Simplification:

https://taxsimplecenter.net/uploads/8/3/3/9/83395216/wstate_seniortaxreturn6.pdf

5. MO Social Security Benefit Simplification:

https://taxsimplecenter.net/uploads/8/3/3/9/83395216/wtaxproblem_solutionmo18.pdf

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