Benefits and Values of the State LG Tax Simplification for State Governments, Businesses, and Taxpayers

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Abstract

Taxpayers, businesses, and governments prefer efficient and simple tax systems. This paper provides benefits and values by comparing existing state tax systems and their linear and gradual (LG) tax simplification for withholding tax, income tax, tax return, tax analysis, projection, fiscal note, tax evasion, tax fraud and tax reform. Many state tax systems have complex multi-page withholding tables (up to 80 pages), which can be simplified and replaced by simple formulas. A substantial number of taxpayers who used standard deductions, exemptions, and tax credits might not need to do normal tax returns with the simplified system that could help state tax administration and reduce related costs. The research finds the LG tax simplification, which can help state governments to evaluate and adopt the tax simplification and benefit governments, taxpayers, and businesses for more efficient outcomes. The values of cost saving may reach a hundred million dollars for a state that depend on tax returns, employee numbers, and the complexity of the existing tax systems.

Introduction and Literature Review

The current complexity of existing state tax systems has raised attention for taxpayers to request a process to be simplified to pay taxes. However, the tax systems continue to grow more complex because lawmakers view tax simplification as conflict with the current policy goal to raise public revenues. A simplified tax system could serve the same purpose of increasing revenues for the states. Also, it can achieve the goals of fairness, efficiency, and feasibility to benefit social tax policy for the state governments, industries, and individuals. Tax simplicity could lower costs of complying with the tax system in terms of time, process, and rationality for taxpayers, governments and companies. The simplified provisions could also aim to encourage more effective social goals of college, career, investors, and retirement cost savings, etc.

A simple tax system would generally be structured with a broad tax base with rates that are the same to cross different income levels or types of expenditure. A progressive system could be applied for the rate structure with rates rising with income, a basic exemption amount, and the choice of tax base on income, consumption, or another measure, rather than through specific provisions that treat different levels of income and consumption differently. In the 1986 Tax Reform Act, the simplification would allow tax capital gains at the same rate as ordinary income in return for reduced top tax rates. Although the 1986 reform also retained a limitation on capital losses to prevent the selective realization of losses by taxpayers with gains on their investment portfolios. Continuing this approach would reduce incentives for complex tax-planning strategies that redefine income as a capital gain. Yet a higher capital gains rate would increase incentives to decrease or wholly avoid realizations of capital gains and put new pressure on rules, such as those for like-kind exchanges, that define when a realization event has occurred.

Brady (2020) from the National Taxpayers Union Foundation has published the complexity of the U.S. tax system that created compliance burdens and equity issues. The analysis of data from the Office of Information

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and Regulatory Affairs (OIRA) indicated that, altogether, to comply with the tax code in 2019 consumed a total of 7.854 billion hours for recordkeeping, learning about the law, filling out the required forms and schedules, and submitting information to the Internal Revenue Service (IRS). With the opportunity cost of time burden and out-of-pocket cost, the total net tax compliance burdens have reached $367.3 billion high or 7.8 billion hours spent on tax code compliance in 2019. The U.S. business and individual income tax returns have major net tax compliance burdens. Although, the IRS projections for the 2020 filing season showed that the overall time compliance burden associated with the tax code has fallen for the second straight year after the passage of the historic Tax Cuts and Jobs Act.

Steuerle (2001) presented the testimony of tax simplification before the United States House of Representatives Subcommittee on Oversight Committee on Ways and Means. He emphasized tax simplification is achievable if the process reforms can be simplified more weight in the legislative process. Ryesky (2004) also commented that "changes in federal taxation, even if made in the name of tax simplification, cannot help but complicate state taxation schemes crafted in light of and geared toward the previous federal scheme." Kopczuk (2006) had stated that "the central objective of reform should be simplifying the tax system. Reasonable simplification can adequately combat tax evasion and avoidance than traditional enforcement measures and, at the same time, simplification would make standard enforcement policies more effective without increased enforcement spending." In the study of Gale (2007), he reminded of fixing the tax system and suggested: "a good tax system can raise the revenues needed to finance government spending in a manner that is as simple, equitable, stable, and conducive to economic growth as possible."

In the proposal of Magg (2011), the author recommended the simplified tax system can enhance the effectiveness of the child-related provisions and the college subsidies. Also, the less complex child-related provisions would be easier for the IRS to administer and families to understand tax codes. The proposal also included a further reforming of the child and work incentives into two distinct credits. Berger, et al. (2017) concluded that the reform or simplification options can lower compliance burdens reduction of the resource cost of taxation. These reductions can also increase the efficiency of the system and mitigate a portion of the tax increased burden and grow revenues for those who would already be benefiting from the proposed changes in tax law.

Kao and Lee (2013 and 2014) have developed a new tax system to simplify the existing U.S. progressive personal income rules. One of the advantages is to eliminate the current complex Withholding Tables by using a simpler method of calculation for the tax amounts. They also developed a linear and gradual tax system to simplify the current U.S. federal and state corporate income taxation from 6-10 tax brackets to 2-4. This tax simplification system can reduce current state individual income systems with the simplified tax rate calculations.

The Tax Filing Simplification Act of 2019 (Warren, et al., 2019) makes several commonsense changes to simplify the tax filing process for millions of American taxpayers and lower their costs. One of the Acts would allow eligible taxpayers with simple tax situations to choose a new return-free option, which provides a pre-prepared tax return with income tax liability or refund amount already calculated. It amended the Internal Revenue Code of 1986 to establish free online programs for tax preparation and filing service that allow taxpayers to access third-party provided tax return information. This bill requires the Internal Revenue Service (IRS) to establish and operate the programs for the online tax preparation and filing software that allows taxpayers to download third-party provided return information relating to individual income tax returns. It can permit

individuals with simplified tax situations to elect to have the IRS prepare their returns and provide technical assistance with disclosing federal income tax return information to states. Unfortunately, the Bill was not passed and inactive by December 31, 2020.

The study of TPC (2020) described that the benefit of making taxes simpler could improve compliance by reducing inadvertent nonpayment of taxes. On some occasions, people do not pay taxes because of the complexity of tax law. The problem could extend to tax evasion if they consider the unfairness of the tax rules exists. The taxpayers may consider the unfairness of the tax system that unfair benefits could occur in the taxation process. In order to reduce the discrepancies of economic activities and taxpayers' characteristics, the simplified code could reduce both taxpayers' compliance and governmental administrative costs (Kao and Lee, 2013 and 2017). Some taxpayers promote fairness, but the tax law could be simplified without compromising equity.

This paper provides benefits and values of the LG tax simplification for withholding tax, tax return, tax analysis, projection, fiscal note, and tax reform, which mean to combine and simplify existing state tax schedules, withholding tables, and withholding tax formulas for withholding tax calculations and tax table and income tax formulas for tax returns together simply. It can help many states to evaluate for adopting this simplification or not. Our purpose is for state governments, taxpayers, and businesses to reduce their related costs.

Benefits and Values of the LG Tax Simplification

1. The Existing State Personal and Corporate Tax Calculation Systems and Simplification

U.S. states have different tax systems. Some states use flat tax rates for personal or/and corporate taxes, which are very simple. Many states use multi tax brackets. Flat rates can not cover different taxable incomes reasonably. Also a flat rate cannot raise enough tax revenue or a relatively high tax rate for low and middle incomes such as IL has a flat tax rate at 4.95%. It was reformed with "Fair Tax" reform bill at 4.75%-7.99% with 6 tax brackets at www.ilga.gov/legislation/publicacts/101/PDF/101-0008.pdf (p. 36-37) to raise tax revenue. But the tax bill was not past by the election in 2020. Multi-bracket personal and corporate tax systems are complex. More tax brackets increase complexity of a tax system, which have more smooth tax rate changes for different taxable incomes. But their smoothness is still not enough with different tax rate change speeds. Table 1 shows state tax systems for individuals. Their basic information is from www.taxadmin.org/assets/docs/Research/Rates/ind_inc.pdf (web).

Table 1: Tax Rate Ranges and Tax Brackets in State Tax Systems

State	Tax Rate Range	Tax Bracket No.	State	Tax Rate Range	Tax Bracket No.
Alabama	2-5%	3	Alaska	No State Income Tax	
Arizona	2.59-4.54%	5	Arkansas	0-6.6%	12
California	1.1%-12.3%	9	Connecticut	3-6.7%	6
Delaware	2.2-6.75%	6	Georgia	1-6%	6
Hawaii	1.4-11%	12	Idaho	1.6-7.4%	7
Iowa	3.3-8.53%	9	………………………………………….		
Missouri	1.5-5.4%	9	Montana	1.0-6.9%	7
………………………………………….			South Carolina	0-7%	6

State corporate tax systems are usually simpler than personal tax systems. Some states have flat tax rates such

as MO has 4% now, which was reduced from 6.25%. A flat tax rate is very simple but it cannot cover small and large companies with different taxable incomes reasonably. A nice tax plan is to have relatively lower bottom tax rate, which can encourage more people to start businesses. Small businesses hire many employees for people, society and economic development. Then middle and large businesses are more stable and pay relatively higher tax rates. Some states have multi tax brackets for companies such as AK has 10 tax brackets with 1-9.4%, AR has 6 tax brackets with 1-6.5%, KS has 2 tax brackets with 4-7% and IA has 4 tax brackets with 5.5-9.8%.
https://files.taxfoundation.org/20201130113446/State-Corporate-Income-Tax-Rates-and-Brackets-for-2020-U.pdf

Table 2 shows MO existing personal income tax withholding percentage tax and their simplification with the two linear and gradual (LG) tax rate and tax formulas. MO has existing 10 or 9 tax brackets, different effective tax rates and 10-page Withholding Tables, which are complex. Also they are changed yearly during 2016-2027 by the tax laws, which are more complex. When existing 10/9 tax brackets are matched, simplified and reduced to 2, tax analysis, tax revenue change (fiscal note), tax projection and tax reform can be simplified. Each year has 6 income tax percentages on yearly, monthly, semi-monthly, bi-weekly, weekly, and daily bases. Existing state tax schedules, withholding tables and withholding tax formulas for withholding tax calculations and tax table and income tax formulas for tax returns can be combined together and simplified with the two simple formulas.

Its top tax rate is 6% in 2016-2017, 5.9% in 2018 or 5.4% in 2019-2021. Bottom tax rate is 1.5%. With the LG tax simplification, C is 450,000 from 9,000 to divide (÷) the 1-st tax rate range difference (0.035-0.015) and D is 225 from 9,000 to multiply (×) the 2-nd tax rate range difference (0.06-0.035) for 2016. C and D are constants. For 2020, C is 486,486.5 from 9,000÷(0.0335-0.015) and D is 184.5 from 9,000×(0.054-0.0335). The tax formula for over $9,000 is the same without tax change. https://dor.mo.gov/forms/2016%20Tax%20Chart_2016.pdf

2016: $315 plus 6% of excess over $9,000=315+0.06(YTI-9000)=0.06 YTI-225=(0.06-(225÷YTI))×YTI
2020: $279 plus 5.4% of excess over $8,584=279+0.054(YTI-8584)=0.054YTI-184.5=(0.054-(184.5÷YTI))×YTI

Table 2: MO Existing Personal Income Tax Withholding Percentage Tax and Simplification

2016 Income Tax	....……..	2020 Income Tax		2021 Income Tax	
Taxable income	The tax is:	Taxable income	The tax is:	Taxable income	The tax is:
Not over $1,000	1.5% of TI	Not over $1,073	1.5% of TI	Not over $1,088	1.5% of TI
$1,000- $2,000	15+2%(TI-1,000)	$1,073-$2,146	16+2%(TI-1,073)	$1,088-$2,176	16+2%(TI-1,088)
$2,000-$3,000	35+2.5%(TI-2,000)	$2,146-$3,219	37+2.5%(TI-2,146)	$2,176-$3,264	38+2.5%(TI-2,176)
$3,000-$4,000	60+3%(TI-3,000)	$3,219-$4,292	64+3%(TI-3,219)	$3,264-$4,352	65+3%(TI-3,264)
$4,000-$5,000	90+3.5%(TI-4,000)	$4,292-$5,365	96+3.5%(TI-4,292)	$4,352-$5,440	98+3.5%(TI-4,352)
$5,000-$6,000	125+4%(TI-5,000)	$5,365-$6,438	134+4%(TI-5,365)	$5,440-$6,528	136+4%(TI-5,440)
$6,000-$7,000	165+4.5(TI-6,000)	$6,438-$7,511	177+4.5(TI-6,438)	$6,000-$7,616	180+4.5(TI-6,528)
$7,000-$8,000	210+5%(TI-7,000)	$7,511-$8,584	225+5%(TI-7,511)	$7,616-$8,704	229+5%(TI-7,616)
$8,000-$9,000	260+5.5%(TI-8,000)	Over $8,584	279+5.4%(TI-8,584)	Over $8,704	283+5.4%(TI-8,704)
Over $9,000	315+6%(TI-9,000)				
Simplification					
Not over $9,000	(YTI÷C+0.015)×TI	……	(YTI÷C+0.015)×TI		(YTI÷C+0.014)×TI
Over $9,000	…… Same …………...	(Top tax rate–(D÷YTI))×TI …………….…… Same …………..			

YTI=yearly taxable income, YTI=TI×F, TI=taxable income, and F is filing period (1, 2, 4, 12, 24, 26, 52 or 365 on yearly, semi-yearly, quarterly, monthly, semi-monthly, bi-weekly, weekly or daily basis). YTI=TI when F=1.

MO existing personal tax rates are still not smooth enough even with 10 or 9 tax brackets. With the linear simplification, tax rates change smoothly at a same tax rate change speed. When its bottom tax rate 1.5% is reduced slightly to 1.4%, some people with low-end taxable incomes pay less taxes slightly. Overall tax revenue may be almost neutral. For 2021, C is 468,262 from 9,000÷(0.03322-0.014) and D is 187 from 9,000×(0.054-0.03322). Their tax rate comparisons between existing tax system and the LG tax simplification are shown by Figure 1 with very minor or no difference. 1.4% may be adjusted to 1.3% or 1.5% according to tax revenue difference (fiscal note). https://dor.mo.gov/forms/Withholding%20Formula_2021.pdf

Figure 1 Comparisons of Existing (2021) and Simplification Tax Rates (Taxable Income $)
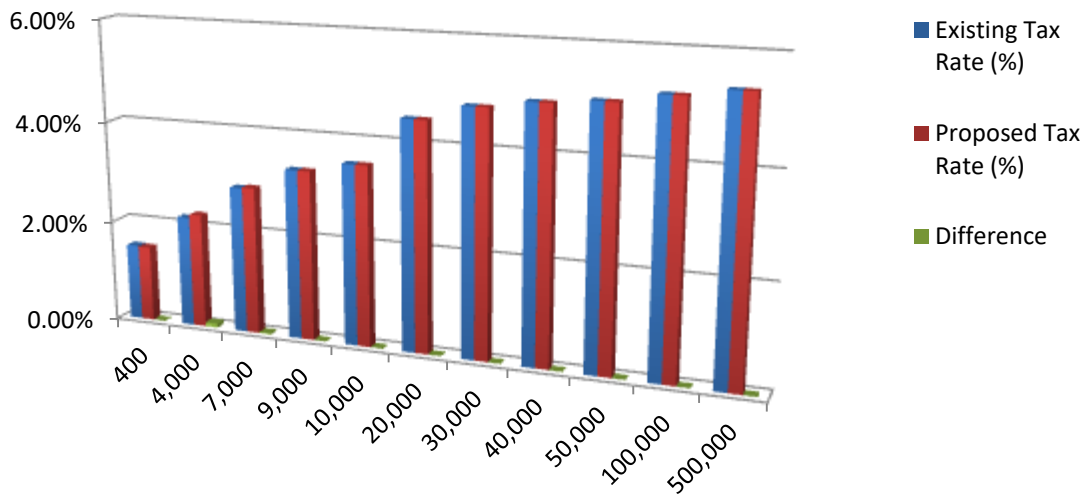
KS personal tax system has existing 3 tax brackets (up to 8 brackets during the past 80 years) and 22-page Withholding Tables. The various tax brackets can be matched and reduced to 2. The complex Withholding Tables can be eliminated and replaced with 2 formulas of (YTI÷S÷C+0.03)×TI for not over $50,000 and (0.057–(D×S÷YTI))×TI over $50,000 with 2 tax rate ranges of 3%*-4.785%-5.7% (*neutral tax revenue). The original 3.1%-5.7% can increase ~$5 million (tax revenue change) slightly from not over $50,000, which was opposed by some lawmakers. Its tax status (S) # can be 2 or 1. With the LG tax simplification, CA personal tax systems with 9/10 tax brackets can be matched and reduced to 2 or 3, existing CA 29-page Withholding Tables can be eliminated and replaced with the simple formulas and the five tax statuses (S) can be numbered with 2, 1 or 1.5.

Corporate income tax simplification is also important. Table 3 shows AK existing corporate income tax system and its simplification. Existing 10 tax brackets can be matched and reduced to 2 with 80% reduction. Tax rates for taxable incomes not over $90,000 from the two methods are very comparable with minor or no difference, which are shown by our reference (Kao and Lee (2014)). Formula for over $90,000 is the same. The two LG tax rate and tax formulas are used simply comparing with the existing 10×period formulas. Then AK corporate tax calculations can be simplified. The tax rate range checks can be used to check and reduce tax rate and tax calculation mistakes. The two brackets and formulas can simplify tax calculation, analysis, projection, and reform simplifications. Many state corporate tax systems have 2-6 tax brackets.

States have 0-12 tax brackets for personal tax systems and 0-10 tax brackets for corporate tax systems. One

existing issue is about their withholding tables such as AR has 80-page Withholding Tables with 12 tax brackets, IL has 18-page Withholding Tables with 1 tax bracket, KS has 22-page Withholding Tables with 3 tax brackets, and MO has 10-page Withholding Tables with 9/10 tax brackets. These withholding tables are complex. The 2 simple LG formulas can be used to eliminate and replace these complex withholding tables for many states.

Table 3: AK Corporate Income Tax and Simplification

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Taxable income is:	The tax is:	Simplification		
		Taxable income	The tax rate and tax	Tax rate range
Not over $10,000	0.01 of TI	Not over $90,000	(YTI÷2,250,000+0.01)×TI	0.01-0.05
$10,000- $20,000	100+0.02(TI-10,000)	Over $90,000	(0.094–3,960÷YTI))×TI	0.05-0.094
$20,000-$30,000	300+0.03 (TI-20,000)			
$30,000-$40,000	600+0.04 (TI-30,000)			
$40,000-$50,000	1,000+0.05 (TI-40,000)			
$50,000-$60,000	1,500+0.06 (TI-50,000)	* 90,000÷(0.05-0.01)=2,250,000 and 90,000×(0.094-0.05)=3,960		
$60,000-$70,000	2,100+0.07 (TI-60,000)	YTI = TI×F (YTI=TI when F=1)		
$70,000-$80,000	2,800+0.08 (TI-70,000)	Tax rate change speed (for not over $90,000) is a constant (fair)		
$80,000-$90,000	3,600+0.09 (TI-80,000)	(1/2,250,000) from the prior various speeds (unfair)		
Over $90,000	4,500 +0.094 (TI-90,000)	= 0.094 TI – 3,960 = (0.094–(3,960÷TI))×TI		

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2. Withholding Table and Tax, Income Tax, Tax Table, Tax Return, Evasion, Fraud and Simplification

Withholding tax and income tax are obtained from related formulas or tables. Marginal tax rates relate to the existing tax brackets. For example if a MO person's yearly taxable income is $22,450, monthly taxable income $1,870.83 or biweekly taxable income $863.46 in 2021, his or her withholding tax calculation involves the 9 tax brackets. There are about 12 steps to calculate its withholding or income tax of $1,025.28 yearly or $85 monthly, which are shown at https://dor.mo.gov/forms/Withholding%20Formula_2021.pdf by MO Department of Revenue. When the person files tax return, income tax is calculated to adjust related withholding tax (estimation). People are often confused with the difference between marginal tax rates and effective tax rates. Marginal tax rates relate to tax brackets. Effective tax rates are actual tax rates, which are calculated from taxes divided by taxable incomes. In the above case, $1,025.28 is divided by $22,450 to have tax rate 4.567%. When the simplified formula in Table 2 is used, tax rates are calculated with different periods such as monthly, yearly or biweekly.

(0.054 - 187÷(TI×F))×TI=(0.054 – 187÷(1,870.83×12))×1,870.83=0.04567×1,870.83= $85.44   (monthly)

(0.054 - 187÷(TI×F))×TI=(0.054 – 187÷(22,450×1))×22,450=0.04567×22,450= $1,025.30   (yearly)

(0.054 - 187÷(TI×F))×TI=(0.054 – 187÷(863.46×26))×863.46=0.04567×863.46= $39.43   (biweekly)

The all above three calculations have the same tax rate 4.567% on monthly, yearly and biweekly bases. Then withholding taxes are calculated simply by multiplying tax rates and taxable incomes. Existing tax systems have marginal tax rates and involve tax format with more calculation steps, which do not involve effective tax rates directly. The LG formula involves effective tax rate and tax calculations at the same time. Using this proposed formula, the taxable income $22,450 would have a withholding tax rate of 4.567% and tax of $1,025.30, with one simple formula (0.054-(187÷(TI×F))×TI. There is only one step with the simple formula, which is much simpler than the current 12-step process. The income tax rate and tax of 4.567% and $1,025 respectively are the same between the two methods. However, they differ in the number of steps (12 vs 1).

Another existing way to obtain withholding taxes is from Withholding Tables. Many states have multi-page Withholding Tables, which are shown in Table 4. Our goal is to eliminate these complex tables because our LG simple formulas involve both tax rate and tax calculations with different filing periods at the same time. Existing tax systems involve tax calculations only. When 2 or 3 simple formulas are set with Spreadsheet, Excel or software, tax rate, tax, withholding tax and payroll calculations can be calculated repeatedly for companies to do withholding taxes, payrolls and related reports. The basic math knowledge is very common to accounting clerks.

Table 4: Existing Personal Tax System and Simplification (Partial)

			Existing System			Simplification
State	Bracket#	Status#	Formula#	Withholding Tables	Tax Table	
AR	12	1	12×Periods	80 pages	5 pages	2 brackets/formulas
CA	9	5/3	27×Periods	29 pages	5 pages	2 or 3 brackets/formulas
HI	9	5/3	27×Periods	32 pages	12 pages	2 or 3 brackets/formulas
IA	9	1	9×Periods	13 pages	5 pages	2 or 3 brackets/formulas
KS	3-8	2	6×Periods	22 pages	8 pages	2 brackets/formulas
MN	4	4	16×Periods	18 pages	6 pages	2 brackets/formulas
MO	9 or 10	1	9 or 10×Periods	10 pages	1 page	2 brackets/formulas
NE	4	4	16×Periods	20 pages	3 pages	2 brackets/formulas
WI	4	3	12×Periods	26 pages	6 pages	2 brackets/formulas

With existing state tax systems, withholding taxes are usually estimated at first and then are adjusted with accurate taxable incomes by tax returns. Results from existing withholding tables, withholding formulas, tax tables and tax formulas have slight differences, which can be replaced by 2 or 3 simple LG tax rate and tax formulas. Also accurate withholding and income taxes can be calculated or adjusted by the simple formulas when accurate tax information is provided. For withholding taxes, standard deductions, exemptions and tax credits are used. For KS, standard deduction is $7,500 for Married filing jointly and standard exemption is $2,250/person. Most taxpayers use standard deductions and exemptions and tax credits. They may use withholding reports to modify tax returns simply (Table 5: C and E) and do not need to do normal tax returns. Income taxes may be calculated with simple pre-prepared formulas. State tax return forms may also be simplified in half or one page.

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

This formula can be used to calculate withholding or income taxes with tax rate. Existing tax systems are in tax format and not in tax rate format. Adjustable gross income (AGI) is incomes±adjustments. Taxable income is AGI-(deductions+exemptions)÷F. Tax is taxable income×tax rate-tax credits÷F. Filing period (F) is 1, 2, 4, 12, 24, 26, 52 or 365 on yearly, semi-yearly, quarterly, monthly, semi-monthly, bi-weekly, weekly or daily basis.

Many states usually use tax tables for people to use simply. Tax table or its formula can be used as one option. When tax tables are long with such as more than 4 pages, these tables may be simplified such as KS has 8-page Tax Table to cover $100,000 for Married filing jointly and other individuals. The 8 pages may be reduced to 4 pages to cover $100,000 for Married filing jointly and $50,000 for other individuals. After the LG tax simplification is used for a period of time and most people prefer to use the simple formula to replace tax tables, then tax tables may be further simplified or minimized gradually.

Table 5: Personal Withholding Report (A, B and D) and Modification (C and E)
From: ABC Company, 456 B Street, San Francisco, CA 94118
To: John M. Smith, 123 A Street, San Francisco, CA 94118

A	B	C	D	E	
John M. Smith	Federal tax data	Modification	State tax data/CA	Modification	1
Social security income	$103,545.67	same	$103,545.67	Same	2
Wage/income to tax return	$99,745.77	$99,745.77	$99,745.77	$99,745.77	3
Other income/interest……	0	$3,234.56	0	$3,234.56	4
Adjustments/IRA……	0	$3,000	0	$3,000	5
Adjusted gross income	$99,745.77	$99,980.33	$99,745.77	$99,980.33	6
Tax status (S) number	2	2	2	2	7
Standard/Itemized deductions	$12,400x2	$29,200.13	$4,537x2	$9,074	8
Standard exemptions					9
Taxable income (TI)	$74,945.77	$70,780.20	$90,671.77	$90,906.33	10
Income tax rate formula	TI÷1,234,568÷S+0.1	Same	TI÷1,661,130÷S+0.011	Same	11
Income tax rate	0.13035	0.12867	0.03829	0.03836	12
Tax rate check range? Pass	0.1-0.181	Yes	0.011-0.0712	Yes	13
Income tax	$9,769.41	$9,107.00	$3,472.02	$3,487.42	14
Non-refundable tax credits	0		0		15
Tax balance (if <0, enter 0)	$9,769.41	$9,107.00	$3,472.02	$3,487.42	16
Standard tax credits			114x4	456	17
Child tax credit	$1,000x2	$2,000	$353x2	$706	18
Other refundable tax credits	0	0	0	0	19
Other taxes	0	0	0	0	20
Donations to government	0	$300	0	$200	21
Tax withheld (W-2/1099)	$7,769.41		$2,310.02		22
Tax refund (last year)*		$10.50		0	23
Tax payment(+)/Refund(-)		-$372.91		$215.40	24
Bank information for:	Routing #	Accounting#	Accounting name	Bank phone#	25
(tax refund: >$200/100)	3456789012	6789012345	Sara J. Smith	123455678	26
Live w/you: Child#1 SS#	Child#1 Name	Child#2 SS#	Child #2 Name		37
672101234	Jennifer J. Smith	789012345	Adam K. Smith		38
Worker Social security #	Spouse Name	Spouse SS #	Child#3 SS #	Child #3 Name	39
123456789	Sara J. Smith	567210123			30
Payroll	Social security tax	Medicare	401 K Retirement	Employer ID #	31
$81,745.10	$6,419.83	$1,501.41	$3,799.90	3456789	32

Tax evasion and fraud cost millions of dollars to state governments. Existing W-2 forms provide limited information. Employers and employees use different tax systems for withholding taxes (W-2) and income taxes (tax returns). Another reason is related timing problem. When receiving tax returns, state governments have no detail tax information as a reference to compare and verify these tax returns and send tax refunds within such as one month. These reasons give delinquents a chance for possible tax evasion and fraud. When detail reports (similar to Table 5 to replace W-2) are given from employers to individuals and federal and state governments, they can be used as references to verify tax returns, reduce tax evasion and fraud, and help tax compliance.

3. Tax Rate Change Speed, Checking Tool, Tax Status and Simplification

Many states have existing tax rate changes in non-smooth format, which mean at different tax rate change speeds. Such as MO has 9 tax brackets for not over $9,000, tax rate change speeds are 0 for not over $1,000, $d1/TI^2$ for taxable incomes $1,000-$2,000, ……, and $d8/TI^2$ for $8,000-$9,000 in 2016. Their tax rate change

speeds always change when taxable incomes change from $1,000 to $9,000 (8 tax brackets). Some people, who should pay more slightly, pay less. Other people, who should pay less slightly, pay more. After the 9 tax brackets are matched/simplified/reduced to 1 for not over $9,000, one tax rate and tax formula (YTI÷C+0.015)×TI is used to replace the existing 54 formulas (9×6). Its tax rate change speed is at a same fair constant 1/C. When taxable incomes change between 0-$9,000, tax rate change speed is not changed, which is fair and simple. Many other states have the similar problem. Linear tax rates for not over $9,000 (a middle taxable income) is the most simple and fair. For over $9,000 (a middle taxable income), their tax formula is the same without change.

The existing formulas are in tax calculation format. The LG tax simplification is in tax rate and tax format, in which tax rates can be checked with some narrow ranges as a checking tool. For example, KS tax rate ranges of 0.03-0.04875-0.057 for taxable incomes not over and over $50,000 can be used as a checking tool to check and reduce tax rate and tax calculation mistakes. If a calculated tax rate is out of its range, its result is wrong and needs recalculation to within its narrow tax rate range.

Many states have different tax statuses such as AZ has 2 statuses, CA has 5, HI has 5, IA has 1, KS has 2, MO has 1, MN has 4 and WI has 3 tax statuses. Simple numbers can be used such as 2 for Married filing jointly, 1 for Single, 1 for Married filing separately or 1.5 for Head of Household, which can be adjusted according to actual situations for a state. Tax status numbers (S) can be also used for standard deduction simplification ($×S).

4. Tax Analysis, Tax Revenue Difference (Fiscal Note) and Projection

When tax brackets are reduced and withholding tables are eliminated, tax analysis, tax revenue difference (fiscal note), tax reform and projection can be simplified. For example, MO total tax calculations can be simplified from its existing formula (1) to formula (2), which simplifies tax analysis, tax revenue difference, tax reform and projection. For over $9,000, there is no tax change because of using the same formula.

2016 Formula (1): Total Tax=0.015SumYTI1+Sum(A1+0.02(YTI2-1,000))+Sum(A2+0.025(YTI3-2,000)) +Sum(A3+0.03(YTI4-3,000))+Sum(A4+0.035(YTI5-4,000))+Sum(A5+0.04(YTI6-,000))+Sum(A6+0.045(YTI7-6,000))+ Sum(A7+0.05(YTI8-7,000))+Sum(A8+0.055(YTI9-8,000))+Sum(A9+0.06(YTIb-9,000))

2020 Formula (1): Total Tax=0.015SumYTI1+Sum(A1+0.02(YTI2-1,073))+Sum(A2+0.025(YTI3-2,146))+ Sum (A3+0.03(YTI4-3,219))+Sum(A4+0.035(YTI5-4,292))+Sum(A5+0.04(YTI6-5,365))+Sum(A6+0.045(YTI7 -6,438))+Sum(A7+0.05(YTI8-7,511))+Sum(A8+0.054(YTI9-8,584)

A1 (such as 15 in 2016 or 16 in 2020 from Table 2), ..…A8 (8 or 7 constants) and YTI1,….YTI9 (9 or 8 groups) can be combined and simplified into C and YTIa (1 group) for 2016 or 2020. Also a general format can cover all years. For over $9,000, tax formula either with or without a middle taxable income ($9,000) is used to calculate total tax or tax revenue.

2016 Formula (2): Total tax=0.015SumYTIa+Sum(YTIa×YTIa)÷C + Sum(A9+0.06(YTIb-9,000))
2020 Formula (2): Total tax=0.015SumYTIa+Sum(YTIa×YTIa)÷C + Sum(0.054 YTIb-D)

For all-year Formula (2): Total tax=0.015SumYTIa+Sum(YTIa×YTIa)÷C+Sum (Top tax rate×YTIb-D)

Tax revenue difference (fiscal note)=Formula (2) - Formula (1)

2021 Formula (2): Total tax=0.014SumYTIa+Sum(YTI×YTI)÷C + Sum(0.054 YTIb-D)

For corporate tax analysis and projection, similar formula (1) and formula (2) can be obtained. Formula (1) is simplified to Formula (2). From Table 3, AK corporate formulas are:

Formula (1): Total Tax=0.01SumYTI1+Sum(100+0.02(YTI2-10,000))+Sum(300+0.03(YTI3-20,000))+Sum(600+0.04(YTI4-30,000))+Sum(1,000+0.05(YTI5-40,000))+Sum(1,500+0.06(YTI-50,000))+Sum(2,100+0.07(YTI7-60,000))+Sum(2,800+0.08(YTI8-70,000))+Sum(3,600+0.09(YTI9-80,000))+Sum(4,500+0.094(YTIb-90,000))

Formula (2): Total tax=0.01SumYTIa+Sum(YTIa×YTIa)÷2,250,000+Sum(0.094 YTIb-3,960)

5. Tax Reform, Factor and Simplification

For a tax reform, there are several factors such as tax bracket number, tax rate, taxable incomes range, and tax goal, which are affected each other and complex. With existing marginal tax rate systems, more tax brackets mean more smooth tax rates, complex, more cost and more tax revenue or less tax brackets mean rough tax rate changes, simple, less cost and less tax revenue relatively. Multi tax brackets increase complexity of tax reforms.

With the LG tax simplification, lawmakers can use 2 brackets to consider only 3 tax rates at top, bottom and middle for a tax reform with a tax goal. Then lawmakers do not need to consider the above four factors at the same time. Many states have different situations about a middle taxable income such as $9,000 for MO, $50,000 for KS, $60,000 for IA, $100,000 and $500,000 for CA, and $120,000 for MN, IL and AZ. A common and simple middle taxable income is suggested at such as $120,000/year ($10,000/month) or $60,000/year ($5,000/month). Bottom tax rates are usually not changed. Top tax rates are often changed. From Table 2, MO tax system is reformed at the middle taxable income $9,000 from 3.44% in 2018 to 3.39% in 2019 and the top tax rates are reformed from 5.9% in 2018 to 5.4% in 2019. Bottom tax rates are the same at 1.5%. Total tax formulas are:

2018: Total tax=0.015SumYTIa+Sum(YTIa×YTIa)÷463,917.5+Sum(0.059 YTIb – 221.4)
2019: Total tax=0.015SumYTIa+Sum(YTIa×YTIa)÷476,190.5+Sum(0.054 YTIb – 180.9)

If their yearly taxable incomes for not over and over $9,000 (YTIa and YTIb) and tax credits are close or the same in 2018 and 2019, then their total tax revenue difference (fiscal note) is calculated from the above two formulas:

Total tax difference= -Sum(YTIa×YTIa)÷17,160,965 + Sum(40.5 - 0.005 YTIb)

6. Other Simplification Applications

Besides income tax simplification, there are other applications with the linear method for such as property tax credit, social security cliff problem, federal deduction percentage, seniors' tax return simplification, and Earned Income Tax Credit (EITC) for many states. When 2 rates are set, effective (linear) rates between the 2 rate points with a straight line is simple with a fair constant change speed. Existing flat and curve or step rates with less or more tax brackets are unfair and complex with various rate change speeds. Some examples are as follows:

Example 1: MO Property Tax Credit has 53-step reductions between $14,000 and $30,000 (L13), which can be matched and reduced to 1 (98% reduction) with the simplified formula of L13 (1-(L10-14,000) ÷16,000).

Example 2: KS has social security (SS) tax cliff problem for SS benefit rate is 100% when AGI is not over $75,000 and then the rate jumps to 0 after $75,000. For AGI $75,000 and Social Security $25,000, KS state tax

rate is about 5.2%. When two persons' AGIs are lower and higher than $75,000 by few dollar differences, their Social Security tax difference is about $1,300 (25,000×5.2%), which is unfair. One simple linear rate formula of 1-AGI÷75,000 can be used fairly to simplify its rates from 100% to 0 gradually with one bracket.

Example 3: Existing MO Federal Tax Percentage (MO-1040) has 5 brackets and step rates from 35% to 25%, 15%, 5% and 0%. For such as $1 AGI difference from $100,000 to $100,001 with Federal tax $15,000, $1,500 deduction difference may be caused from $2,250 (15%×15,000) to $750 (5%×15,000), which is unfair. When one simple linear formula of 0.35(1-(AGI÷125,000)) is used with 0.35-0, the above unfair problem can be resolved.

7. Value and Cost of the LG Tax Simplification

The above benefits shall have their cost saving values to reduce related costs. For example, MO companies can use the 2 simple LG formulas to replace the existing 12-step process or 10-page Withholding Tables. If the simplification can help to reduce processing cost at $1 for companies and $0.2 for Department of Revenue on each 26 biweekly periods per employee, then its cost saving value may be 87.4 million from 1.2x26x2.8 million. MO has about 2.8 million employees. The $1.2 covers about 8 areas such as (1) designing Withholding Tables, (2) publication, (3) tax numbers with certain Allowances, (4) using calculation formulas for high taxable incomes and Allowances, (5) checking mistakes and recalculations, (6) filings, (7) software, and (8) data analysis. Table 6 shows related benefits and value estimations with direct and non-direct values for MO, which may need to be evaluated by Department of Revenue. Many other states have similar situations.

Table 6: Benefits and Cost Saving Values of the Simplification for a state (MO)

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#	Benefits	Value
1.	Existing 10/9 MO tax brackets are matched and reduced to 2 comparably.	Less time/More simple
2.	Lawmakers can adjust 3 (top/bottom/middle) tax rates for tax reforms and projections.	Less time/hustle
3.	Same tax revenue for over $9,000 and very slight change for not over $9,000. Goal:	<$1 million
4.	Withholding Tables (10 pages) are eliminated and replaced by 2 or 3 simple formulas. If (1+0.2)/person/period (1.2×26×2.8 million):	$87.4 million
5.	Tax table or its formula (1 option) is used. If ((1+0.5)×3.3 million):	$4.9 million
6.	Combining two existing sub tax systems (4&5) together without time delay (13 M) for:	Real & quick tax
7.	One non-refundable and one refundable tax credit formulas. If (2×3.3 million):	$6.6 million
8.	Simple tax returns with standard deductions/credits. If ((15+5)×50%×3.3 million):	$33 million
9.	Half-page (postcard) tax return form may be used (50%). If ((10+4)×50%×3.3 million):	$23 million
10.	Tax Status (S) # is 1 for Singles or Married filing separately, 2 for Married filing jointly or 1.5 for Head of Household. Standard Deductions are $xxx*S. If ((1+0.5)×3.3 million):	$4.9 million
11.	A checking tool of two tax rate ranges are provided to check and reduce tax rate and tax calculation mistakes. If ((2+1)×3.3 million):	$9.9 million
12.	Tax fraud is inspected and reduced by comparing tax returns and tax withholding reports.	Less crime
13.	Tax refunds with $100 or less are delayed to next-year refunds.	Less time/cost
14.	Department of Revenue may process less normal tax returns during busy tax season and have more time to inspect more tax returns and evasions for possible more taxes.	More tax
15.	The LG tax simplification can be used to simplify tax calculation, payroll, tax analysis and projection with 2 brackets instead of existing 10/9 brackets.	Less time/costs

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The direct total saving value may be $170 million for MO. Also indirect benefits of less time, hustle, mistake, crime, and less cost have certain values. To MO Department of Revenue, saved value may be $40 million. Many other states may have similar benefits. Cost saving values depend on tax return and employee numbers and

complexity of existing tax systems, which may be from millions to hundred millions of dollars for a state.

For a tax reform or change, there is related cost involved such as MO Personal Income Tax Withholding Percentage system is changed from 2016 to 2020 (Table 2). Tax brackets are reduced from 10 to 9 and their taxable income ranges are changed, which affect 10-page Withholding Tables. When KS existing 3 personal tax brackets are simplified to 2 and existing 6 formulas are reduced to 2, KS Division and Budget estimated $61,110 (2018) or $68,991 (2020) to implement the tax simplification and to modify the automated tax system, which are at www. kslegislature.org/li_2018/b2017_18/measures/documents/fisc_note_hb2788_00_0000.pdf (HB 2788) and www.kslegislature.org/li_2020/b2019_20/measures/documents/fisc_note_hb2278_00_0000.pdf (HB 2278). Slight tax revenue (about $5 million/year) can be gained by keeping 3.1%-5.7%. Values and costs need to be evaluated by departments of revenue.

Conclusion

In summary, the LG tax simplification could reduce the processing costs and increase revenues for the states. It can promote the tax goal of fairness, efficiency, and feasibility to benefit social tax policy for state governments, businesses, and individuals. A reasonable simplification can adequately reduce tax evasion and fraud than traditional enforcement measures. The simplification would make standard enforcement policies more effective without increased enforcement spending. The complexity of the U.S. tax system created compliance burdens and equity issues. However, the tax reform or simplification options can lower compliance burdens reduction of the resource cost of taxation. These reductions can also increase the efficiency of the tax system and mitigate a portion of the tax increased burden and grow revenues for those who would already be benefiting from the proposed changes in tax law.

The proposed benefits and values in this paper are to match and reduce existing multi-tax brackets (3-12) to 2 and to simplify withholding tax, tax return, tax analysis, fiscal note, projection, tax evasion, tax fraud, and tax reform by the LG tax simplification for many states. The existing tax format is converted to the tax rate and tax format, which can be used to eliminate existing multi-page withholding tables. Many state tax systems have multi-page (up to 80 pages) withholding tables. With the LG tax simplified formulas, accurate results can be obtained when accurate tax information is provided, and tax calculation, analysis, reform, and projection can be simplified. Taxpayers with standard deductions and tax credits do not need to do the normal tax returns with the simplification. The benefits have related values as estimated in the study. Cost-saving values depend on tax returns, employee numbers, and the complexity of existing tax systems, which may reach a hundred million dollars for a state. This paper can help states to evaluate and adopt the LG tax simplified formulas to benefit governments, businesses, and taxpayers by reducing their related costs.

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