



MEMORANDUM

To: Bella Warwick, Deputy Chief of Staff, Office of Governor Glenn Youngkin, 1111 E. Broad Street, Richmond, VA 23219

From: Robert M. McNab, Professor and Chair, Department of Economics and Director, Dragas Center for Economic Analysis and Policy, Old Dominion University

Date: 22 January 2024

Re: Compete to Win – Snapshot Analysis

1. The purpose of this memorandum is to provide a snapshot analysis of the proposed changes to the Commonwealth of Virginia’s tax structures as outlined in Governor Youngkin’s ‘Compete to Win’ (CTW) proposal. The proposal, in broad terms, would reduce marginal Individual Income Tax (IIT) rates, broaden the Sales and Use Tax (SUT) tax base, increase the SUT tax rate on most goods and services by 0.9%, and increase Virginia’s Earned Income Tax Credit (EITC) for lower income taxpayers with qualifying children.
2. Bottom Line Up Front: Conditional on time and resource constraints, we find evidence to suggest that the ‘Compete to Win’ proposal will reduce average tax burdens for Virginians. The proposed changes in the IIT would decrease tax burdens across most income deciles more than the proposed changes in the SUT would increase average tax burdens, so the net change in Virginia’s tax structure would likely be a reduction in average tax burdens across most deciles. We recognize that the proposed SUT changes are mildly regressive but, when adjusted for the proposed IIT and EITC changes, the overall impacts reduce average tax burdens and are progressive, especially at lower income levels.
3. Regarding taxes on individual income, the CTW proposal would reduce marginal tax rates for each of the four brackets in Virginia’s individual income tax structure.
 - a. The proposed changes to the IIT brackets are:
 - i. Bracket 1 (\$0 to \$3,000) – 2% marginal rate to 1.75% marginal rate
 - ii. Bracket 2 (\$3,000 to \$5,000) – 3% marginal rate to 2.65% marginal rate
 - iii. Bracket 3 (\$5,000 to \$17,000) – 5% marginal rate to 4.40% marginal rate
 - iv. Bracket 4 (\$17,000 and above) – 5.75% marginal rate 5.10% marginal rate

- b. The low thresholds for the brackets in Virginia's IIT system mean that many taxpayers with a tax liability incur a flat tax of \$720 and a marginal tax rate of 5.75% on taxable income more than \$17,000. For example, if taxable income is \$60,000, then the IIT liability is \$720 + 5.75% of the amount over \$17,000, which equals \$720 plus (0.0575 * \$43,000) or \$3,192.50 which is rounded to \$3,193 per the 2023 Virginia Tax rate schedule.¹
 - c. Additionally, the CTW proposal would expand Virginia's EITC from 20% to 25% of the federal EITC. We note that there is evidence to suggest that the federal EITC increases labor supply and income and reduces government transfer payments, reducing the overall cost of the federal EITC (Bastian & Jones, 2021). State EITCs may also positively influence federal EITC program participation with positive benefits on consumption and welfare (Neumark & Williams, 2020). There is a reasonable argument to be made that Virginia's EITC impacts labor supply, consumption, and federal program participation, though we caveat our argument on the need for specific research on program participants in Virginia. Following this line of reasoning, an expansion of Virginia's EITC would increase labor supply and incomes for lower-income households with qualifying children in Virginia and the net cost of the EITC expansion would be lower than expected due to positive impacts on labor supply and consumption.
4. Regarding the Sales and Use Tax, the CTW proposal would increase the state levy from 4.3% to 5.2% and broaden the base of the tax. The base would be broadened to encompass final use digital services. Groceries and personal use items would not be subject to the increased SUT levy.
- a. Since the introduction of sales taxes in the 1930s, the consumption of services relative to expenditure has increased from approximately 25% to almost 70% (Agarwal & Fox, 2021). States have lagged these changes in consumption, narrowing the base of sales taxes and increasing their business cycle elasticity. Improved enforcement of destination-based taxes has the potential to reduce tax competition resulting from tax evasion from internet-based commerce (Agrawal, 2021). Broadening the base reduces the procyclicality of the sales and use tax and, with the proposed income tax changes, the overall tax system in Virginia.
 - b. We note that the proposed changes in the CTW proposal do not reflect the removal of grocery and personal hygiene product sales in 2023. Lower-income households are more likely to consume a higher proportion of their income on grocery and personal hygiene items, thus the 2023 change reduced the regressivity of Virginia's sales tax. However, the state reduction of the sales tax on groceries and personal hygiene items increased the elasticity of the SUT to the business cycle.

¹ Available at: <https://www.tax.virginia.gov/sites/default/files/2016-12/TAXTABLE.pdf>

5. A cursory review of the literature on individual income taxation and domestic migration suggests that income taxes influence domestic migration. Tiebout's seminal article in 1956 noted that individuals will "vote with their feet" if they are informed, mobile, face low costs with regards to employment relocation, and there are no spillovers from public services (Tiebout, 1956). Connecticut's adoption of an income tax in 1991 reduced migration to the state but did not appear to influence domestic outmigration (Afonso, 2018). Individuals are more likely to move from states with higher income tax burdens to states with lower income tax burdens (Gius, 2011). Higher marginal income tax rates significantly influence domestic outmigration flows, suggesting that higher marginal income tax rates could erode a state's tax base and population over time (Cohen et al., 2014).
6. Migration decisions by top earners seem sensitive to state taxes. The estimated long-run elasticities are 1.8 and 1.9 with respect to personal and corporate taxes, respectively (Moretti & Wilson, 2017). This means a 1.0% increase in personal taxes is associated with an almost 2.0% increase in migration rates for top income earners. Likewise, a reduction in personal taxes would increase domestic migration of higher income earners. High income workers and occupations with low geographic preferences appear to be responsive to state taxes in their location decisions (Kleven et al., 2020). If a state desires to promote innovation, research and development tax credits and direct public funding may increase innovation in the short-run, however, increasing the supply of human capital appears to be more effective in the long-run (Bloom et al., 2019). From this perspective, creating incentives to migrate to the state may retain and attract high-income earners and higher skilled professions and foster innovation overall, although we must caution the elasticities are non-linear, that is, the marginal returns to reductions in income taxes will decline at some point.
7. Regarding the literature on sales and use taxes, there is evidence that they may contribute to taxpayer migration (Hageman et al., 2021). There is also evidence to suggest that higher sales taxes on groceries increase SNAP participation rates as SNAP shields participants from paying tax on food purchases (Zhao et al., 2022). Recent evidence also suggests that the U.S. Supreme Court's 2018 *Wayfair* decision resulted in a 7.9% increase in sales tax revenues nationally, with much of this increase concentrated in states with higher compliance standards. The broadening of sales taxes to online transactions, in this analysis, however, was progressive as higher income households faced larger tax liabilities (Fox et al., 2022). From an economic development perspective, a destination basis for online sales taxes redistributes revenues from urban to more rural areas (Agrawal & Shybalkina, 2023). These papers suggest broadening the SUT base in Virginia to include final consumption digital services would be progressive as evidence from the Consumer Expenditure Survey shows that these services are income elastic.
8. We note that the distribution of these impacts will vary across the Commonwealth. In Northern Virginia, for example, the relative proportion of taxpayers with adjusted gross incomes greater than \$100,000 is higher than many other metropolitan areas in the state. We opine that the distribution of benefits from the proposed changes in the IIT are likely to benefit the counties in Northern Virginia and, to a lesser extent, Richmond, and Hampton

Roads more than less densely populated, lower-income communities elsewhere in Virginia. However, given that one of the goals of the proposed reforms is to improve Virginia's competitiveness with regards to higher income earners and to reduce outmigration of higher income, higher skilled taxpayers, goal alignment with outcomes is imperative.

9. Due to time and resource constraints, we provide only brief comments on the data and analysis provided to estimate the change in average tax burdens due to the CTW proposal. We note that the estimates are static, that is, the estimates do not capture income and substitution effects from the proposed income and sales and use tax changes. A more fulsome analysis would link a microsimulation model of Virginia taxpayers with microdata from the Consumer Expenditure Survey to measure the impact of the proposed changes on static tax burdens for Virginia taxpayers and consumers. We also note that an expansion of the SUT base will create additional administrative burdens for the Commonwealth. Businesses who consume a higher amount of digital services than their counterparts will also face a higher tax burden. Examining questions of horizontal and vertical equity for businesses is important to ascertain the overall impact of the proposed SUT changes on the competitiveness of the Commonwealth.
10. We first examine the change in tax burden for a set of hypothetical single filers with no children (Table 1). We estimate the change in average tax burden relative to income to reflect the estimated change in progressivity due to the CTW proposal. For example, for a single filer an adjusted gross income (AGI) for \$55,000, the CTW IIT proposal would reduce tax liability by approximately \$263. This represents a decline in the IIT tax burden, as defined by IIT tax relative to AGI, of 0.5%. The increase in the SUT levy by 0.9% would increase SUT tax paid by \$78 (0.1% of pre-proposal AGI) while the SUT base broadening would increase SUT tax paid by \$48 (0.1% of pre-proposal AGI). The net reduction in tax paid would be \$137, representing a static reduction of 0.2% relative to pre-proposal AGI.
11. Overall, the impacts on the hypothetical single filers are: (1) a reduction in tax burden across filers, and (2) a mild increase in the regressivity of the overall tax system. However, this analysis ignores the previous changes to the tax system in 2023. If we estimate the average tax burden prior to 2022 and post-CTW, the progressivity of the tax system would increase for the hypothetical single filers in question.
12. Turning to the question of the proposed changes on a hypothetical joint filer with 2 children, we estimate the change in average tax burden in Table 2. For a hypothetical filer with \$75,000 AGI, the CTW proposal would reduce the IIT burden by approximately 0.4% of pre-proposal AGI. The proposed changes to SUT would increase the average burden by approximately 0.2%, resulting in a net reduction in the tax burden of 0.2%. If we include the previous changes to the tax system, however, the reduction in tax burden under the CTW proposal is 0.8% of pre-2023 AGI.
13. We also can observe the impact of the proposed changes to Virginia's EITC in Table 2. The hypothetical taxpayer with \$35,000 AGI would observe an increase in the average tax burden

of 0.1%, driven by the changes in the SUT base and rate. However, the EITC would significantly reduce the aggregate tax burden for the hypothetical individual, from approximately \$1,339 (pre-2022) to \$187 (post-CTW). This would reduce the average tax burden from 3.8% of AGI to 0.5% of AGI. The post-CTW EITC would result in a more progressive IIT and SUT tax system in Virginia.

14. We observe similar impacts regarding a hypothetical single filer with 2 children (Table 3). The IIT and SUT proposal elements would increase the average tax burden by 0.5% of pre-CTW AGI for the taxpayer with an AGI of \$35,000. However, when the EITC is factored into the analysis, the tax liability and tax burden would decrease for this taxpayer. For the single filer households, tax burdens, relative to prior to 2023, would decrease most for households with \$40,000 AGI, followed by \$50,000 AGI. The lowest income single filers with children would see the smallest benefit from this proposal, mostly due to their low incomes before any tax reform.
15. In summary, our analysis suggests that the proposed changes in Virginia's tax structure would increase the progressivity of Virginia's tax system. We caution that the changes in tax burdens should be viewed systemically and inclusive of the previous reforms of the Sales and Use Tax that were implemented in 2023. We recognize that an increase in the SUT tax rate and widening the base of the SUT would be a regressive change to the tax structure, but we also argue that the proposed changes to the IIT and EITC would more than completely offset the increase in average tax burdens for lower income households by the proposed changes to the SUT. The proposed changes would likely have a positive impact on domestic migration. We note that a reduction in high-income domestic outflows would reduce the overall cost of the proposal as Virginia would no longer lose these tax revenues to other states.
16. We suggest that future analysis examine how the proposed changes will impact average tax burdens by age and race. Retirees are likely to consume pharmaceutical services, for example, and would be impacted by changes in the IIT and SUT. Whether or not average tax burdens are impacted by age, race, and other socio-economic characteristics are open questions that should be addressed in a more fulsome analysis of the proposed changes. The interaction of the proposed changes with federal tax policy is worthy of discussion, that is, do the proposed changes make Virginian's tax system resilient to changes in the federal tax system?
17. Our work has illustrated a gap in the capabilities of the Commonwealth to conduct independent fiscal analysis of the state's tax structure. The Boyd Center at the University of Tennessee and the Fiscal Research Center at Georgia State University, for example, produce independent, objective, and rigorous analysis of economic and fiscal conditions in their respective states. While our respective centers at Old Dominion University and George Mason University, in part, fill some of these roles, there is an opportunity for a broader discussion of establishing a similar effort in Virginia. We would welcome having this discussion to further fiscal research in the Commonwealth.

18. The views expressed in the document are those of the authors and do not represent an official viewpoint of Old Dominion University or George Mason University.

19. POC for this memorandum is Robert M. McNab, rmcnab@odu.edu, 757-683-3153 (office).

Cc: Mr. Nicholas Kent, Deputy Secretary of Education, Commonwealth of Virginia
Dr. Vinod Agarwal, Professor, Old Dominion University
Dr. Terry Clower, Professor, George Mason University
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Table 1
Hypothetical Single Filers
Change in Average Tax Burden

	\$35,000	\$50,000	\$75,000	\$100,000
IIT	-0.4%	-0.5%	-0.5%	-0.6%
SUT (0.9%)	0.2%	0.1%	0.1%	0.1%
SUT (Base)	0.1%	0.1%	0.1%	0.1%
Net	-0.1%	-0.2%	-0.3%	-0.4%
Pre-2022	5.0%	5.5%	5.6%	5.9%
Post-CTW	4.3%	4.8%	5.0%	5.3%
Net Change	-0.8%	-0.7%	-0.6%	-0.6%

Table 2
Hypothetical Joint Filer with 2 Children
Change in Average Tax Burden

	\$35,000	\$50,000	\$75,000	\$100,000
IIT	-0.2%	-0.4%	-0.4%	-0.5%
SUT (0.9%)	0.2%	0.1%	0.1%	0.1%
SUT (Base)	0.1%	0.1%	0.1%	0.1%
Net	0.1%	-0.2%	-0.2%	-0.3%
Pre-2022	3.8%	4.4%	5.1%	5.4%
Post-CTW	0.5%	3.3%	4.2%	4.7%
Net Change	-3.3%	-1.0%	-0.8%	-0.8%

Table 3
Hypothetical Single Filer with 2 Children
Change in Average Tax Burden

	\$35,000	\$40,000	\$50,000
IIT	0.2%	-0.7%	-0.5%
SUT (0.9%)	0.2%	0.2%	0.2%
SUT (Base)	0.1%	0.1%	0.1%
Net	0.5%	-0.4%	-0.2%
Pre-2022	2.6%	3.6%	5.0%
Post-CTW	2.4%	2.6%	4.3%
Net Change	-0.2%	-1.0%	-0.7%

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