



## **The North Carolina Fair Tax Act:**

### **A Preliminary Analysis of the Proposal for Its Adherence to Sound Tax Principles, Potential Economic Impacts and Role in Economic Recovery**

Observations from Selected Faculty and Staff of the University of North Carolina

May 24, 2013





## The University of North Carolina

Post Office Box 2688, Chapel Hill, NC 27515-2688

THOMAS W. ROSS, President

Telephone: (919) 962-1000 Fax: (919) 843-9695

E-mail: [tomross@northcarolina.edu](mailto:tomross@northcarolina.edu)

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May 24, 2013

The Honorable Bob Rucho  
North Carolina Senate  
300 N. Salisbury Street, Room 300-A  
Raleigh, NC 27603-5925

Dear Senator Rucho:

Earlier this month, you asked that the University of North Carolina organize an expert panel to analyze the potential impact of proposed changes to North Carolina tax law, specifically the North Carolina Fair Tax Act (2013-RBx-21c, v.4).

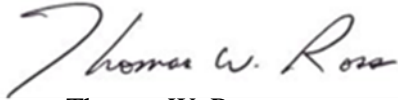
In response to the request, we assembled a small team of faculty that has worked quickly to provide four perspectives on the proposed changes. Let me underscore that their analysis of the tax plan is not exhaustive—that was not possible given the time allotted—and their findings do not represent the official opinion of the University of North Carolina. The panel makes no recommendations about the specific merits of this particular tax plan as compared to any other plan currently being discussed, nor does it attempt to predict the “wealth effects” on taxpayers who might behave differently based on the increased or decreased amounts taxpayers would have to spend. We were not asked to make judgments about the “fairness” of the draft plan or its impact on particular groups of North Carolinians. Rather, the panel offers lenses through which tax reform may be viewed in order to assist lawmakers as they attempt to assess the merits and potential drawbacks of proposed changes.

In the following pages we present the panel members’ findings. First, Dr. Ben Russo of UNC Charlotte’s Belk College of Business describes how the law intersects with some principles of sound tax policy. Second, Dr. Michael Walden of NC State University’s College of Agriculture and Life Sciences examines what we can know about the likely impacts of the proposed changes on state gross product, employment and income. Dr. Roby Sawyers of NC State’s Poole College of Management then reviews studies analyzing the short-term and long-term effects of the proposed switch to a single sales factor apportionment on tax revenue and employment. Finally, Brent Lane from UNC-Chapel Hill’s Carolina Center for Competitive Economies assesses the role of tax reform in North Carolina’s larger efforts to strengthen its economy. Review of these separate chapters, along with other feedback and contributions, has been provided by Dr. John Connaughton of UNC Charlotte’s Belk College of Business and David Brown of UNC-Chapel Hill’s School of Government. Additional review and logistical support for the effort has come from Donnie Charleston of the Institute for Emerging Issues at NC State and Leslie Boney, Vice President for International, Community, and Economic Engagement at UNC General Administration.

We appreciate the opportunity to review this tax plan. Our University system – its faculty, staff, and students – has valuable perspective and analytical abilities on a wide range of topics that can be brought to bear on many different matters of public policy issues to help inform discussion and debate.

The lead authors of the analysis would be happy to provide additional information or clarifications about their review as part of your ongoing deliberations. Please let them know if you have questions concerning this matter.

Sincerely,

A handwritten signature in dark ink, reading "Thomas W. Ross". The signature is written in a cursive style with a large, stylized initial 'T'.

Thomas W. Ross

## EXECUTIVE SUMMARY

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The North Carolina General Assembly is considering substantial changes in state tax policy. A proposal has been made to shift the mix of state tax revenues away from individual income and corporate income taxes to sales taxes. The North Carolina General Assembly asked the University of North Carolina to analyze the potential effects of the NC Fair Tax Act.<sup>1</sup> In the following papers faculty members from N.C. State University, UNC-Chapel Hill and UNC Charlotte assess the tax plan for its adherence to important principles of sound tax policy and for its impact on the state's economic growth, specifically on aggregate economic measures such as employment, total output and income. We also note that other economic factors not addressed by the new tax plan will likely play an important role in the future growth of the economy.

### WHAT THE PLAN DOES

After full implementation in 2017, the NC Fair Tax Act would reduce the highest individual marginal income tax rate to 4.5%, reduce the number of income tax brackets, eliminate deductions and credits, and add a personal tax credit. The proposal would reduce the corporate income tax rate to 6% and change the way corporate taxes are computed, from the current formula that apportions taxes based on property, payroll and sales, with a double weight on sales, to a formula that would apportion corporate tax solely based on sales by 2016. It would reduce the franchise tax rate from 0.15% to 0.135%. The proposal would also reduce the combined (state plus local) sales and use tax rate to 6.5%. The Act would broaden the combined sales tax base to many services, as well as to cover food for home consumption.

### THE PLAN AND THE PRINCIPLES OF SOUND TAX POLICY

Any tax reform proposal should be evaluated along criteria that include efficiency, equity, simplicity, revenue stability and revenue sufficiency. Dr. Benjamin Russo, professor of economics at UNC Charlotte, finds that the net effect of the changes proposed in the NC Fair Tax Act on efficiency, stability and sufficiency would be positive. The net effects on simplicity and equity are harder to gauge. The Fair Tax Act would simplify individual income taxes by replacing the deductions, exemption, and credits with a single personal tax credit. But it would require service firms that do not now collect sales tax to do so. Therefore, the net effect on simplicity is difficult to assess. The Act would tend to improve horizontal equity<sup>2</sup> by eliminating special tax treatment of some taxpayers and activities. However, estimates made by the Fiscal Research Division indicate an increase in the tax burden on lower income taxpayers in relative and absolute dollar terms. This would tend to reduce vertical equity.<sup>3</sup> As described in Dr. Russo's paper, the net effect on equity is unclear.

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<sup>1</sup> The UNC System was asked to specifically review "NC Fair Tax Act" (2013-Rbx-21c, v. 4).

<sup>2</sup> A method of collecting income tax in which those who have the same wealth, or are in the same income bracket, face the same tax rate.

<sup>3</sup> A method of collecting income tax in which the taxes paid increase with the amount of earned income.

## THE PLAN'S POTENTIAL IMPACT ON THE ECONOMY

A key component of this analysis is the quantitative assessment of the potential effects of the proposed policy. Dr. Mike Walden, Professor of Economics at NC State University, analyzed the potential effect of moving away from taxing income to taxing spending and the implications for the state's long run economic growth. Following a review of the most comprehensive academic analyses of the effect of state taxes on economic growth, he applied the reports' findings to the specific changes to the "tax mix" being proposed in North Carolina.<sup>4</sup>

The results of the analysis of tax reform vary dependent on which methodology is used. For example, focusing on the employment effects, for the decade after the full implementation of the tax-mix proposal (2017-2027), the results from the studies range from a high of 864,000 net additional jobs created in the state in 2027 to a low of 198,000 net jobs lost in 2027. Comparable ranges were found for state aggregate output (gross state output) and aggregate income. Dr. Walden indicates that a main distinction between the studies he included in his analysis was their divergent finding for the economic impacts from transitioning to a greater reliance on the sales tax. Some studies found moving from "taxing income" to "taxing spending" accelerated economic growth, while other studies found the opposite.

Dr. Roby Sawyers of NC State's Poole College of Management provides analysis of the proposal to change to a "single sales factor" apportionment formula for corporate income taxes. State government projections suggest revenue loss under this plan, though the experience of many states finds increases in revenue following such a change. IN the longer run, he concludes that such a change can have positive long-term benefits for a state, including job growth, increased individual income tax and sales tax revenue, as well as increased property tax revenue for local governments.

## THE PLAN IN THE CONTEXT OF ECONOMIC GROWTH

Brent Lane of UNC-Chapel Hill's Kenan Institute of Private Enterprise provides a basis for understanding the extent to which tax reform can achieve the goal of improving the state's economic competitiveness. In his paper, he endorses the necessity of tax reform and applauds the strategy of looking beyond programmatic efforts like simplistic economic growth strategies. But he notes that states mounting tax reform efforts have achieved widely varied results.

Given the broad range of macro-economic forces facing North Carolina, Lane cautions that tax reform can only accomplish some of the economic results policy makers are seeking. North Carolina's struggles predate the economic recession, and tax reform alone cannot assure long-term economic recovery.

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<sup>4</sup> Importantly, Dr. Walden's analysis assumed "revenue neutrality," meaning no projections of impacts of changes in state spending were included.

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# **TAX REFORM AND ITS RELATIONSHIP TO PRINCIPLES OF SOUND TAX POLICY**

**PREPARED BY:**

**Benjamin Russo, Ph.D.**

Department of Economics  
Belk College of Business  
The University of North Carolina, Charlotte

*This chapter has benefited greatly from very helpful comments and suggestions by Leslie Boney, Donnie Charleston, John Connaughton, and Michael Walden.*

## INTRODUCTION: A BRIEF OVERVIEW OF PRINCIPLES OF SOUND TAX POLICY

Tax analysts generally cite three fundamental characteristics of an economically sound tax system. These are efficiency, equity, and simplicity. However, because states must balance their budgets, state tax analysts include two additional principles that are important for a reliable state tax system. These are revenue stability and revenue sufficiency.

**Efficiency.** An efficient tax system minimizes intrusion into consumers' and producers' economic choices, thereby maximizing their economic value, and encouraging enterprise.

**Equity.** Standards for tax equity hold that taxpayers with equal real incomes face equal tax liabilities, taxpayers with higher real incomes face higher tax liabilities, and, where possible, costs and benefits of government services received by a taxpayer are equal.

**Simplicity.** A simple tax system is relatively easy for taxpayers to understand and comply with, and for government officials to administer.

**Revenue Stability.** A stable tax system minimizes the declines and expansions of tax revenue that occur as a result of short-run business cycle contractions and expansions.

**Revenue Sufficiency.** A state tax system is sufficient if its capacity to generate revenue required to meet the state's funding objectives is impervious to long-run structural changes in the economy.

## DISCUSSION OF PRINCIPLES AND THE EFFECTS OF TAXES

### *Taxation and Economic Efficiency*

An efficient tax system minimizes intrusion into consumers' and producers' economic choices, thereby maximizing their economic value, and encouraging enterprise. By their nature, taxes impose costs that exceed the amount of revenue collected. This extra cost reduces

economic value and is an inefficiency imposed by taxes. Although it is impossible to eliminate tax-induced inefficiency, taxes can be structured in a way that tends to reduce it.

The financial costs of administering and complying with tax laws are obvious types of inefficiency. However, an important but often hidden inefficiency arises also when taxation intrudes into individual economic choices. For example, taxpayers in jurisdictions with relatively high sales tax rates have been known to travel to lower tax jurisdictions to avoid taxes.<sup>5</sup> Here, part of the economic cost of higher taxation is the value of the extra time spent in travel. That cost is hard to measure and does not appear on a balance sheet, yet is no less real to the consumer.

### *Inefficiency and the Income Tax*

Relatively high marginal income tax rates encourage tax avoidance. For example, relatively well-off taxpayers have an incentive to shelter income. This is one reason stock options have replaced substantial fractions of wage income for high earners, and why deferred income arrangements are popular. In the modern knowledge economy a substantial and growing proportion of capital is intangible. Patents and trademarks are examples. Intangible capital is easily transferred to low tax jurisdictions. Tax avoidance consumes scarce resources that could otherwise be put to productive use, so it is inefficient.

Private income is either used to purchase commodities, is saved, or is invested. Therefore, a tax on income taxes both commodity purchases and saving. Taxpayers can avoid the tax on saving by saving less. In contrast, a tax dedicated to retail sales would not tax saving,

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<sup>5</sup> J. Mikesell and C. Zorn. "Impact of the Sales Tax Rate on Its Base: Evidence from a Small Town," *Public Finance Quarterly*, 1983, 329-38.

so the retail sales tax does not discourage saving. This is a main reason many tax analysts support shifting the state tax base away from income and toward consumption. Saving is the foundation of capital formation, which, in turn, is one of the main supports of the standard of living in a modern economy. By discouraging saving and investment, the income tax tends to have a negative effect on the standard of living and economic growth. This inefficient loss in economic value may explain empirical results reported by Carroll et al. indicating that the personal income tax inhibits the growth of small firms.<sup>6</sup>

A pernicious characteristic of tax inefficiency is that it increases more than proportionately with the marginal tax rate. A one percentage point increase in a tax rate generates an increase in inefficiency that exceeds one percentage point. This has an important implication for the social benefit of state marginal income tax rates. North Carolina's corporate income tax generates inefficiency per se. The personal income tax compounds that inefficiency. However, because inefficiency increases faster than marginal tax rates, when added to the federal income tax rates on corporate and personal income, the state income taxes can generate very large amounts of inefficiency.

It follows that a decline in state marginal income tax rates can reduce tax inefficiency by relatively large amounts, even if the reductions appear to be relatively modest.

### *Inefficiency and the Sales Tax*

Consider a taxpayer who will choose between repairing a faulty product or purchasing a new one. The purchase is a taxable event. Because of the exemption of services from sales tax,

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<sup>6</sup> Carroll, R., Holtz-Eakin, D., Rider, M., Rosen, H. "Personal Income Taxes and the Growth of Small Firms," *Tax Policy and the Economy*, 2001, 121-148.

servicing the product is not. If, in this example, the taxpayer would prefer a new product, but chooses service to avoid the tax, she is worse off although the tax raises no revenue. This is a tax-induced inefficiency. The choice to avoid tax would not only impose a cost on this taxpayer, it also would contribute to the long-run trend away from manufacturing production, which has been a stalwart of North Carolina productivity in the past. In fact, empirical evidence suggests that state sales tax exemptions for most services have reinforced the trend away from spending on tangibles toward spending on services.<sup>7</sup>

Nonetheless, a sales tax can also create avoidable inefficiency. This occurs when certain categories of goods are exempted and when the tax falls on business inputs. Business inputs are a cost of production, so taxing them discourages production. A tax on all business inputs, for example a gross receipts tax, is inefficient because it creates *tax cascading*, which occurs when a commodity used in production is taxed multiple times as it is transferred between stages of production. For example, consider electricity sold to a manufacturer who sells computers to accounting firms, which in turn provide tax services to furniture manufacturers. The electricity is taxed when sold to the computer manufacturer, again because it is a cost of producing computers, again as a component in the cost of the accounting service, and again in the cost of furniture sold to a consumer. Thus the electricity and the tax itself are each taxed multiple times. In this example, if the statutory tax rate were three percent, the effective tax rate would cascade upwards to about six percent. Because the inefficiency increases faster than the tax rate, it would more than double.

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<sup>7</sup> Merriman, D., and M. Skidmore, "Did Distortionary Sales Taxation Contribute to the Growth of the Services Sector?" *National Tax Journal*, 2000, 125-142.

The last argument suggests that business inputs should be spared the sales tax. It is worth noting that North Carolina's current sales tax on business inputs collects a substantial amount of revenue.<sup>8</sup> Therefore, eliminating the part of the tax levied on inputs would reduce revenue. Nonetheless, a computer simulation of the effect of eliminating the sales tax on business inputs indicates a net increase in efficiency.<sup>9</sup>

Broadening the sales tax to food for home consumption and to services would contribute to tax efficiency to the extent that it supports a decline in marginal tax rates and reduces the bias against purchases of tangible products.<sup>10</sup> It should also be noted that a substantial amount of tax saved due to the food exemption accrues to middle and high income earners, who are not the intended beneficiaries of exempting food: this creates a relatively large revenue cost with relatively little offsetting social benefit.

### *Equity and Taxation*

Tax equity includes a benefit principle and an ability-to-pay principle. The benefit principle recommends that, to the extent possible, individuals benefitting from government services should pay fees commensurate with the benefits. In cases where taxpayers receive in-kind benefits or government transfers, the benefits or payments should be accounted for when evaluating tax equity.

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<sup>8</sup> R. Ring, "estimates that nearly forty percent of North Carolina sales tax revenue results from its sales tax on business inputs. See Ring, "Consumer's Share and Producers' Share of the General Sales Tax," *National Tax Journal*, 1999, 79-90.

<sup>9</sup> B. Russo, "An Efficiency Analysis of Proposed State and Local Sales Tax Reforms," *Southern Economic Journal*, 2005, 443-462.

<sup>10</sup> Broadening the sales tax to food for home consumption would also effect equity. This is discussed below.

The ability-to-pay principle recommends that taxpayers with equal real incomes face equal tax liabilities: This is called horizontal equity. Taxpayers with greater real incomes should face higher tax liabilities: This is called vertical equity.

North Carolina's graduated personal income tax system together with its itemized deduction feature provides a relatively large benefit to relatively high income earners. This is true because the higher the marginal income tax rate, the larger the reduction in tax liability per dollar of deduction. This is a vertical inequity that reduces income tax progressivity.<sup>11</sup> Flattening personal income tax rates and increasing the household exemption would reduce this inequity.

Horizontal equity tends to be violated by tax deductions, exemptions, credits, and special tax treatment that reduce tax liability for only select groups of taxpayers. For example, the sales tax exemption for most services tends to generate a smaller tax liability for one spending a relatively large amount on services than another spending the same amount, but mostly on tangible goods. Certain businesses and activities receive special treatment, both by the corporate income tax and the sales tax. This creates disparities between taxes owed by taxpayers with similar incomes. Elimination of special exemptions and credits tend to reduce horizontal inequity.

It has often been pointed out that retail sales taxes tend to place a higher burden on households earning relatively low annual incomes, because low income households tend to spend relatively large fractions of income on commodities. The relative burden is offset somewhat during retirement when higher income households tend to spend more than their

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<sup>11</sup> In a progressive tax system the average tax rate (ratio of tax liability to income) increases with income.

incomes.<sup>12</sup> Therefore, over entire lifetimes, sales taxes are less regressive than in any particular year. Broadening the sales tax to services also would tend to offset the relative burden on low income households because high earners tend to spend relatively large fractions of income on services, such as those provided by attorneys, lawyers, on travel, etc. In contrast, broadening the sales tax to food for home consumption would tend to increase the burden on low income taxpayers. While middle and high income earners may spend more actual dollars on food, as noted above, low income earners spend a relatively larger fraction of their incomes on food.

The Fiscal Research Division of the North Carolina General Assembly has studied the effects of proposals in the NC Fair Tax Act on the tax liabilities of taxpayers in different tax brackets. Fiscal Research estimates that after the plan is fully implemented in 2017, the total (income plus sales) tax liability of the typical taxpayer whose Adjusted Gross Income is less than \$51,000 will be higher than at present. The estimated tax liability of a typical taxpayer with income above that threshold will be lower than at present. This indicates a decline in progressivity (decline in vertical equity) in the tax system. However, the estimates do not account for the value of improvements in horizontal equity that would result from eliminating tax exemptions and credits.<sup>13</sup>

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<sup>12</sup> The excess of spending over income is financed by drawing upon previously accumulated wealth. See D. Fullerton and D. Rogers, 1996, "Lifetime Effects of Fundamental Tax Reform," *Economic Effects of Fundamental Tax Reform*, ed. Aaron and Gale (Washington: Brookings Institution).

<sup>13</sup> In order to calculate the net effect on equity, one would need estimates of the social value of the improvement in horizontal equity, as well as a way of weighting that value against the decline in vertical equity. Unfortunately, such estimates are unavailable. We are reluctant to speculate on the net equity effects because doing so could be highly inaccurate and misleading.

### *Simplicity and Taxation*

A simple tax system is transparent and relatively easy for tax administrators to understand and implement, and for taxpayers to comply with. Unnecessarily complicated taxes tend to cause administrator and taxpayer errors, which can reduce confidence in the system's accuracy and fairness. The uncertainty that results tends to discourage risk taking and the entrepreneurial spirit requisite for capital development and a high standard of living. Moreover, because errors occur, the Department of Revenue must monitor taxpayers closely. Monitoring is costly and promotes friction between administrators and taxpayers.

Sales tax exemptions and exclusions complicate administration and compliance. For example, retailers must distinguish between taxed and exempt products. Prepared meals are taxed, but food for home consumption is not. Modern supermarkets sell both, so they must distinguish between food products. Broadening the tax to food for home consumption would reduce complexity.

Broadening the sales tax to more services would require collection and remittance of sales tax on the part of some service firms who do not now perform these functions. Thus, some service firms who previously were not required to register with the Department of Revenue would have to, reducing simplicity.

### *Revenue Stability and Taxation*

A stable tax system minimizes the declines and expansions of tax revenue that occur as a result of short-run business cycle expansions and contractions. As revenue declines in a downturn, policymakers must make short-run adjustments to balance budgets. This often has

led to changes in tax rates and adjustments in the tax base (what is taxed). For example, in each of the past three recessions, North Carolina has resorted to increasing tax rates. These unexpected tax changes tend to create uncertainty and reinforce downturns. Short-run revenue shortfalls can lead to ad hoc changes in policy that undermine the ability of the state of North Carolina to provide a predictable stream of public services.

The state sales tax exemption of food for home consumption and the general (state and local) exemption of services magnifies short-run volatility of the sales tax base. This is true partly because durable goods, like cars and home appliances, are the most volatile type of private spending. Taxpayers tend to conserve resources during economic contractions by reducing purchases of durables. In contrast, spending on services is relatively stable. In a typical contraction spending on durables declines by about thirty-three percent more than services spending. Spending on food for home consumption is among the most stable types of private spending. Income taxes with graduated marginal tax rates also are relatively responsive to economic contractions.<sup>14</sup> The corporate income tax is particularly volatile in this way.

Broadening the sales tax base to more services and food for home consumption, and reducing reliance on the income tax in favor of the broadened sales tax, would increase the stability of North Carolina's tax revenue.

### *Tax Sufficiency*

A state tax system is sufficient if its capacity to generate revenue required to meet the state's funding objectives is impervious to long-run structural changes in the economy. In an

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<sup>14</sup> R. Dye and T. McGuire provide empirical support for these claims. See "Growth and Variability of State Individual Income and General Sales Tax," 1991, *National Tax Journal*, V. XLIV, pp. 55-66.

important sense, sufficiency is fundamental. If the capacity of the tax system to generate revenue policymakers deem necessary to meet the state's financial obligations is impaired by structural economic changes, achievement of many of the other criteria is likely to be undermined. For example, the often observed erosion in North Carolina's sales tax base has led to repeated increases in the sales tax rate.

The need for public services and the revenue required to finance them tends to grow along with the economy in the long run. Therefore, sufficiency requires a tax revenue stream that also grows along the economy's long-run upward trend. All else constant, a sufficient tax system would maintain a constant ratio of tax revenue to GDP in the long run. Mainly due to erosion in the sales tax base, North Carolina's current tax system does not satisfy this criterion. This has occurred in large part because the fraction of private spending on tangible goods has trended downward since the end of WWII, with only a few temporary interruptions. Because the sales tax is levied primarily on tangible goods, exempting most services, the long-run trend toward services is eroding the sales tax base.

Broadening the sales tax base to more services would tend to forestall further sales tax base erosion by automatically adjusting to the long-run shift from tangibles to services.

## CONCLUSION

After full implementation, the NC Fair Tax Act would reduce the individual and corporate income tax rates, the franchise tax rate, and the combined (state plus local) sales tax rate. The Act would reduce the number of income tax brackets, eliminate income tax deductions and credits, and add a personal tax credit. In the next chapter of this report Dr. Mike Walden reports his estimate that the sales tax base would expand by about 40 percent.

For the reasons described in the text above, the net effect of these changes on efficiency, stability, and sufficiency would be positive. The net effects on simplicity and equity are harder to gauge. The Fair Tax Act would simplify individual income taxes by replacing the deductions, exemptions, and credits by a single personal tax credit. However, it would require service firms that do not now collect sales tax to do so. Therefore, the net effect on simplicity is unclear at this reading. The Act would tend to improve horizontal equity by eliminating special tax treatment of some taxpayers and activities. However, estimates made by the Fiscal Research Division indicate an increase in the tax burden on lower income taxpayers in relative and absolute dollar terms. This would tend to reduce vertical equity. As described earlier in this chapter, the net effect on equity is unclear.

In general, no single type of tax is capable of simultaneously achieving all the criteria set out in the principles of sound tax policy—there are always tradeoffs. For example, by reducing taxation of income in favor of taxation of retail sales the NC Fair Tax Act will improve efficiency (by reducing taxation of saving); however, estimates made by the Fiscal Research Division indicate the tax burden on lower income taxpayers will increase. Nevertheless, there is a solution to this tradeoff dilemma: broadening tax bases and lowering marginal tax rates. Broadening tax bases can improve horizontal equity by reducing tax disparities among similarly situated taxpayers, while simultaneously providing revenue that can be used to lower rates, thereby increasing efficiency. By carefully calibrating base broadening and marginal tax rate reductions there is a potential to make changes that tend to support efficiency and equity.

Finally, noted tax economist Martin Feldstein argues that tax reform tends to be difficult to achieve because taxpayers have adjusted to the existing system.<sup>15</sup> Reform always produces hardships for some. Feldstein suggests that the transition can be eased by introducing reforms gradually, so taxpayers have time to adjust, and that reforms be presented as transparently as possible, so taxpayers can understand the economic consequences.

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<sup>15</sup> Feldstein, "On the Theory of Tax Reform," *Journal of Public Economics*, 1976, 77-104.

# **ESTIMATES OF THE ECONOMIC IMPACT OF CHANGES IN THE COMPOSITION OF NORTH CAROLINA TAXES**

**PREPARED BY:**

**Michael L. Walden, Ph.D.**

William Neal Reynolds Distinguished Professor  
North Carolina State University

The helpful comments of Dr. John Connaughton and Dr. Ben Russo, both Professors of Economics  
at the University of North Carolina-Charlotte, Leslie Boney at UNC-General Administration, and Donnie  
Charleston at the Institute of Emerging Issues, are greatly appreciated.

North Carolina's economy has been impacted by several economic "shocks" in recent decades. Two national recessions hit the state in the 2000's decade, resulting in severe job losses and economic dislocation. The reduction in trade barriers and the resultant increase in international trade – while benefitting some sectors – hastened output and employment losses in some of the state's traditional industries. Globalization and the development of technology have increased the skill demands of businesses and created challenges for low-skilled workers finding adequate-paying employment.

Among the many ideas discussed to improve the long-run economic condition of North Carolina are proposals to alter the state's tax structure. Several issues have been debated. As consumer spending has shifted to services and away from tangible products, growth in sales tax revenues has not kept pace with economic growth. This trend has led to proposals to expand the sales tax base to include more services. Also, with national and – indeed – international competition for business location seemingly more intense today, concerns have been expressed that states taxing income-earning activities at a higher level will be at a competitive disadvantage for generating economic development. Last, there is a viewpoint that simpler tax systems with more transparency and fewer complications reduce tax compliance costs and preparation time and allow resources to be better directed to income-enhancing activities.

The combination of these ideas has led to three major tax proposals. First, for any tax, combine a lower tax rate with a broader tax base (what is taxed). This system will result in less tax per dollar of tax base and therefore will – on average – reduce the influence of taxes on economic decision-making. Second, for any particular tax, make tax rates flatter – that is –

move away from “progressive” tax systems to “proportional” tax systems. Such a system reduces the likelihood of additional income-earning activities being deterred by higher tax rates. Third, shift the allocation of taxes away from taxing income and to taxing consumption (spending). While taxing consumption more might reduce economic activity today, the theory is that taxing income-earning less (and, by implication, taxing saving and investing less) will grow economic activity faster and ultimately lead to even higher levels of consumption.

There are a number of prominent economists supporting the tax principles outlined in the above paragraph. However, there are also noted economists who have questioned these proposals, resulting in a vigorous debate over the principles of tax policy.<sup>16</sup> The debate centers on the classic economic tradeoff of “efficiency versus equity.” Measures that might improve economic efficiency (growth) may – in the short run at least – be detrimental to equity. For example, moving from an income-based tax system to more of a consumption-based system, or reducing the progressivity of any tax type, may reduce the relative tax payments of higher-income taxpayers and increase the relative tax payments of lower-income taxpayers.

This report focuses on the effects of altering North Carolina’s state tax structure and mix on measures of economic growth – specifically gross state product (GSP), income to workers, and total employment. The purpose of the analysis in the paper is not to take a position on the proposed changes to North Carolina’s tax structure, but – instead – to provide information on potential consequences of the proposals for the state’s aggregate economy. This focus does

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<sup>16</sup> Harvard University economist and former chair of the President’s Council of Economic Advisers N. Gregory Mankiw has publicly supported the ideas of a broader tax base with lower rates and a shift from taxing income to taxing spending, while Princeton University economist and Nobel Prize winner Paul Krugman supports a progressive income tax system.

*not* deny the importance and relevance of the efficiency versus equity argument. Equity issues are important and hopefully are addressed in other forums. However, measures of economic growth impacts are necessary in order to conduct debates about “efficiency versus equity.”

The paper only considers the economic impact of changes in the mix of state taxes; economic impacts of any resulting changes in spending are *not* addressed – one important reason being that *where* spending changes might occur are not known, and research shows the economic impact of state spending varies between spending programs. So, implicitly, the analysis is based on “revenue-neutral” tax mix changes. Also, only *aggregate* economic impacts – for the state economy in total - are calculated. Economic impacts for individual sectors will likely vary. Lastly, evaluation of possible “wealth effects” of the tax proposals and impacts of changing the sales factor apportionment formula for the corporate income tax are not presented. Changing the deductibility status of some household or business expenditure, changing the rate at which assets are taxed, and changing the tax status of some transactions can each impact the market value of associated assets. The proposals, if adopted, would likely have positive impacts on some asset values and negative impacts on others.

Following are four sections of the report: a summary of the major state tax proposals; a review of the considerable academic literature examining the impacts of state and local taxes on state economic growth; estimates of the impacts from changing the state tax mix on state employment, aggregate state output (GSP), and income using findings from several of the studies in the previous section; and a final section offering discussion and conclusions. An appendix is included detailing the calculations of the impacts.

## THE PROPOSALS

Several bills have been introduced into the 2013 session of the North Carolina General Assembly to alter the state's tax structure. The bills focus on changing three taxes, together which account for 90% of the revenues for the General Fund: the individual income tax, business taxes (corporate income tax, franchise tax), and the sales and use tax. The proposed changes are numerous and detailed. Only the major components are summarized here, and they are based on the draft bill titled "NC Fair Tax Act." (2013-RBx-21C, v.4)

*Proposed Changes to the Individual Income Tax:* The plan would reduce the highest individual tax rate by over 40% (from 7.75% to 4.5%), reduce the number of tax brackets, eliminate current deductions and credits, and add a personal tax credit. Hence, the new individual income tax would be lower, flatter, and simpler.

*Proposed Changes to Business Taxes:* The plan would reduce the corporate income tax rate by 13% (6.9% to 6%) and also reduce the business franchise tax.

*Proposed Changes to the Sales and Use Tax:* The plan would broaden the sales tax base by adding spending on over 150 services, thereby expanding the sales tax base by approximately 50%. The state sales tax rate would rise from 4.75% to 5%, but the combined state and local sales tax rate would fall from 6.75% to 6.5%.

It is estimated these changes would alter the tax mix from sales, individual income, and businesses (corporate income tax and franchise tax) in a major way (Table 1).

**Table 1. Proposed Shifts in North Carolina State Tax Revenue Shares.**

	<u>Fiscal Year 2013/14</u>	<u>Fiscal Year 2017/18</u>
Percentage of GF revenues from: <sup>a</sup>		
Sales tax	26.7%	41.3%
Individual income tax	54.5%	40.8%
Corporate income and franchise taxes	8.6%	7.9%

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<sup>a</sup> GF = General Fund

Source: North Carolina Senate Finance Committee, "Timing Model," Draft, May 1, 2013.

### STUDIES OF THE ECONOMIC IMPACT OF STATE TAXES

The impact of a state's tax structure on state economic growth has long been a focus of academic study, with scores of articles published in peer-reviewed journals and in working papers in recent decades. However, researchers confront several challenges in attempting to develop links between tax structure and economic growth.

Perhaps the biggest challenge is recognizing that many factors other than state taxes affect the economic trends of a state. Among them are labor, land, and energy costs, the regulatory environment, the strength of unions, the educational attainment and skill levels of the workforce in the state, the physical environment (number of days of sunshine!), the

transportation network and access to markets, levels of private and public investments, the quality of educational institutions, the tax structure of neighboring states, and the economic structure of the state. The last factor simply means that – at any point in time – each state has a unique composition of sectors and industries that are impacted by factors and forces beyond the state’s control.<sup>17</sup> The studies also use different statistical techniques, different time periods to derive estimates of the impacts of state taxes on economic growth, and different measures of both economic activity and taxes. Hence, as this review will show, there is a wide variation in findings for the links between state tax structure and state economic growth.

The next section summarizes the findings by type of tax. Where possible, ranges for the quantitative impact of taxes on growth are given.

*Corporate income tax:* The literature examining the effects of different levels of the corporate income tax rate on economic activity is, perhaps, the most consistent among all tax types, but still there is significant variation in the results. Recent studies looking at international comparisons or national studies for one country over time find, for example, that a **1% point reduction** in the corporate income tax rate leads to a **0.06 % point increase** in the real (inflation –adjusted) per capita annual GDP growth rate, and a **1% decrease** in the corporate income tax rate is associated with a **0.5% increase** in real wage rates.<sup>18</sup> The studies

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<sup>17</sup> Two examples illustrate this point for North Carolina. The textile and apparel industry was long a mainstay of economic growth in the state in the early and mid-20<sup>th</sup> century. International trade agreements and the weakening of tariff protections caused the domestic industry to significantly decline in the last third of the 20<sup>th</sup> century. Similarly, the banking and financial services sector was a source of growth in the state beginning in the mid-1990s. However, the collapse of the financial sector in the 2007-2009 national recession created enormous losses for the state.

<sup>18</sup> Young, Lee and Roger H. Gordon. “Tax Structure and Economic Growth,” *Journal of Public Economics*, Vol. 89, 2005, 1027-1043; Hassett, Kevin and Agarna Mathur. *Spatial Tax Competition and Domestic Wages*. American Enterprise Institute, December 2010.

comparing economic growth across regions of a country (states in the U.S, provinces in Canada) generally find similar impacts, such as a **1% point cut** in the state corporate income tax rate being associated with a **0.1 to 0.2% point increase** in the real per capita annual GSP growth rate.<sup>19</sup> Other analyses – using different methods – are also consistent with these findings.<sup>20</sup>

There are, however, studies finding both larger and smaller economic impacts from altering the state corporate income tax rate. Chirinko and Wilson’s simulation model specifically for North Carolina resulted in a **1% point reduction** in the corporate income tax rate leading to a **0.40% increase** in GSP.<sup>21</sup> However, both work by Ojede and Yamarik and by Alm and Rogers for U.S. states found no link between state corporate income tax rates and state economic growth.<sup>22</sup>

Importantly, all these studies do attempt to “control” for the multitude of other factors impacting economic growth either between countries, in a country over time, or within subdivisions (states, provinces) of a country.

*Individual (personal) income tax:* At the national level, there have been relatively small, yet statistically significant, relationships found between the individual income tax and various measures of economic activity, with a **1% reduction** in the income tax measure associated with

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<sup>19</sup> R. Alison Felix. “Do State Corporate Income Taxes Reduce Wages?” *Federal Reserve Bank of Kansas City Economic Review*, 2<sup>nd</sup> quarter, 2009, Vol. 94, No. 2, 77-102; Ferede, Ergete and Bev Dahlby. “The Impact of Tax Cuts on Economic Growth: Evidence from the Canadian Provinces,” *National Tax Journal*, Vol. 65, No. 3, September 2012, 563-594.

<sup>20</sup> Harden, J. William and William Hoyt. “Do States Choose Their Mix of Taxes to Minimize Employment Losses?” *National Tax Journal*, Vol. 55, No. 1, March 2003, 7-26.

<sup>21</sup> Chirinko, Robert and Daniel Wilson. “State Business Taxes and Investment: State by State Simulations,” *Federal Reserve Bank of San Francisco Economic Review*, 2010, 13-28.

<sup>22</sup> Ojede, Andrew and Steven Yamarik. “Tax Policy and State Economic Growth: The Long and Short-Run of It,” *Economic Letters*, Vol. 116, 2012, 161-165; Alm, James and Janet Rogers. “Do State Fiscal Policies Affect State Economic Growth?” *Public Finance Review*, Vol. 39, No. 4, 2011, 483-526.

between a **0.1% and 0.3% increase** in economic activity.<sup>23</sup> At the state level, Poulson and Kaplan found that states with a lower average marginal income tax rate – implying less “progressivity” in the individual income tax code – had faster economic growth.<sup>24</sup> Statistically, a **1% reduction** in a state’s marginal income tax rate relative to the average marginal income tax rate for all states **increases the state’s gross state product (GSP) growth rate relative to the growth rate for all states by 0.3%.**<sup>25</sup>

But once again, all studies are not in agreement that differences in individual income taxes make a significant difference to a state’s economic growth. Specifically, research by Harden and Hoyt, by Ojede and Yamarik, and by Alm and Rogers – each using different statistical methods – did not find a link between a state’s individual income tax structure and state economic growth.<sup>26</sup> Ojede/Yamarik use data incorporating the most recent years, so their results may imply something different about state economies and the reaction of state economies to tax changes in the early 21<sup>st</sup> century.

Once again, all the studies include “control variables” for non-tax factors.

*Sales Tax:* Inconsistent results have also been found for the impact of variation in sales taxes on state economic growth. Alm/Rogers and Ferede/Dahlby find statistical support for

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<sup>23</sup> Keane, Michael P. “Labor Supply and Taxes: A Survey,” *Journal of Economic Literature*, Vol. 49, No. 4, 2011, 961-1075; Bakija, Jon, Adam Cole, and Bradley Heim. “Jobs and Income Growth of Top Earners and the Causes of Changing Income Inequality: Evidence from U.S. Tax Return Data,” U.S. Department of Treasury, November 2010; and Romer, Christina and David Romer. “The Incentive Effects of Marginal Tax Rates: Evidence from the Interwar Era,” National Bureau of Economic Research Working Paper 17860, February 2012. Keane measured the impact of tax changes through changes in after-tax wage rates, while Bakija/Cole/Heim and Romer/Romer considered how tax changes influence after-tax income.

<sup>24</sup> A “progressive” tax system is one in which tax rates rise for higher segments of taxable income.

<sup>25</sup> Poulson, Barry and Jules G. Kaplan. “State Income Taxes and Economic Growth,” *Cato Journal*, Vol. 28, No. 1, Winter 2008, 53-71.

<sup>26</sup> Harden and Hoyt, *op. cit.*; Ojede and Yamarik, *op. cit.*; Alm and Rogers, *op. cit.*

**faster economic growth in states (or provinces) with higher sales taxes.** Conversely, Ojede/Yamarik, Harden/Hoyt, and Felix found the opposite – **lower economic growth in state with higher sales taxes.** Ferede/Dahlby’s findings suggest a **1% point increase** in the sales tax rate prompts a **0.5% point increase** in the average annual growth rate of real GSP per capita, while Felix’s results translate to a **1% point reduction** in the sales tax rate being associated with a **0.1 % increase in the wage rate** – an impact smaller than for the corporate income tax rate but larger than for the individual income tax rate. Both Alm/Rogers and Ojede/Yamarik found no impact of individual income and corporate income taxes on state economic growth. “Controls” for non-tax factors were included in the studies.

#### CHANGING THE NORTH CAROLINA TAX MIX: ESTIMATES OF ECONOMIC IMPACTS

This section of the report presents alternative estimates of proposed changes in North Carolina’s tax structure on three key economic measures: state gross product (GSP), employment, and income. The estimates are derived from research results in five studies: Felix, Ferede/Dahlby, Harden/Hoyt, Ojede/Yamarik, and Alm/Rogers. These five studies are used for several reasons. First, they are recent, having been published within the last decade; therefore they are current with respect to the latest tax issues, statistical methodologies, and data. Second, the studies have each been published in peer-reviewed academic journals, so they received scrutiny by reviewers not associated with the study prior to its publication. Third, the analyses in the studies include individual results for the three major tax types involved in North Carolina’s proposals – the corporate income, individual income, and sales

taxes - therefore allowing investigation of impacts when the mix of tax types is changed. Fourth, the studies include “controls” for the large number of non-tax factors affecting state economic growth – meaning the results for the tax measures exclude impacts from other non-tax factors. Fifth, the studies give a range of estimates of economic impact, thereby reinforcing the point that academic research is not settled on a standard expectation of how the tax system impacts economic behavior and outcomes.

The forecasted impacts from the five studies are presented in Table 1. All impacts are calibrated for the year 2027, a decade after the tax changes would be fully implemented. All dollar values are measured in 2012 purchasing power dollars. Details of the calculations are given in the Appendix. The results should be interpreted as the economic impact of “revenue-neutral” changes in the mix of North Carolina state taxes.

The obvious conclusion is that the estimated impacts span a wide range. The estimated net job impact in 2027 ranges from a high of over 800,000 to a low of almost -200,000. Two of the studies produce positive economic impacts, two studies give negative impacts, and one study shows little impact. There are comparable ranges for the GSP and income forecasts.

These results suggest many features, components, and impacts from altering the state tax mix – in addition to those on economic growth - should be considered by decision-makers.

**Table 2. Forecasted Impacts in 2027 of the Proposed New North Carolina Tax Revenue Mix, Assuming Revenue-Neutrality** (negative values are in *italics*)

Study	Change in Gross State Product (2012 \$)	Change in Income (2012 \$)	Change in Employment
Felix	<i>-\$0.4 billion</i>	<i>-\$0.2 billion<sup>a</sup></i>	<i>-3743</i>
Ferede/Dahlby	\$96 billion	\$49 billion <sup>a</sup>	864,000
Harden/Hoyt	<i>-\$0.09 billion</i>	<i>-\$0.04 billion<sup>a</sup></i>	<i>-1047</i>
Ojede/Yamarik	<i>-\$22 billion</i>	<i>-\$17 billion<sup>b</sup></i>	<i>-198,000</i>
Alm/Rogers	\$8 billion	\$6 billion <sup>c</sup>	71,451

Source: Appendix.

<sup>a</sup> compensation; <sup>b</sup> private personal income <sup>c</sup> total personal income

## DISCUSSION AND CONCLUSIONS

It should – perhaps – not be surprising that the results from the five studies are not consistent. The studies use different measures of taxes and spending, different time periods, and different statistical methods. Also, it should be emphasized, none of the studies model all the specifics of the North Carolina proposals – which would likely be very challenging in an analysis based on comparing results for states (or provinces) over time. Finally, it should be understood the studies are attempting to calibrate the responses of individuals and businesses to economic factors. Modeling and predicting human behavior has always been challenging.

Still, the studies do provide some considerations for policy makers in the debate over tax structure and mix. The five studies are most consistent in their findings for changes in tax revenue from corporate income. Even using different measures, three of the five studies

showed more revenues from corporate income were related to less economic growth, two showed no relationship, and none of the studies indicated greater corporate income tax revenues being related to greater economic growth. However – to emphasize – these results from changing the corporate income tax would have to be combined with the results from simultaneously changing other taxes if “revenue-neutrality” and unchanged spending are to be maintained. Indeed, this is what the analysis in this paper of altering the tax mix accomplishes.

These results for the corporate income tax are in contrast to those for the individual income tax – where four of the five studies suggest no relationship between the level of the tax and economic activity in a state.

The results for the sales tax are very mixed – with two studies finding more sales tax revenues are related to more economic growth, two studies showing more sales tax revenues are associated with less economic growth, and one study suggesting the relationship depends on what other tax source is changed. Interestingly, two of the three studies with analysis including years in the 21<sup>st</sup> century conclude greater sales tax revenues lead to slower economic growth (and the third study showing the opposite effect is based on Canadian data, so there may be questions of applicability to U.S. states). One explanation may be the effect of increased on-line-buying, particularly since 2000. With on-line purchases from out-of-state sellers largely untaxed by state sales taxes, higher state sales taxes may motivate more on-line-buying, thereby reducing economic activity within states through lost economic activity at “brick and mortar” stores located in states.

Therefore, the potential adverse impact on state economic growth of higher sales taxes may be muted if the federal government approves state taxation of on-line sales from out-of-state companies. Conversely, the adverse impact may be maintained if the increased reliance on sales taxes is from expanding the base to services – which are more difficult to purchase from out-of-state companies – rather than from increasing the sales tax rate.

## APPENDIX

The Appendix gives the details for the calculations of economic impact from altering North Carolina's tax structure (from the draft of the proposed "NC Fair Tax Act") based on the five studies.

### *Felix*

The estimates based on Felix's study are from her third equation, which controls for the level of government services in the state in deriving the impact of tax changes and uses state level data from 1977 to 2005. The dependent variable is the wage rate of workers in the state. Felix's results show a 1% point decrease in the state corporate income tax rate is associated with a 0.17% increase in the wage rate, a 1% point increase in the state sales tax rate is associated with a 0.10% decrease in the wage rate, and no impact from the individual income tax rate.

The proposed percentage point change (reduction) in the North Carolina corporate income tax rate is 0.9 (6.9% to 6.0%). The total sales tax rate is scheduled to fall from 6.75% to 6.5%, a decrease of 0.25 percentage points. However, this reduction is countered by the expansion of the sales tax base, which is estimated to increase by 40%.<sup>27</sup> Therefore, the rate that incorporates the expanded base is  $6.5\% \times 1.40$ , or 9.1%, implying an increase of 2.6%

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<sup>27</sup> Revenue from the sales tax is the product of the sales tax rate and the tax base. In FY13, prior to the proposed tax changes, state sales tax revenue is \$5.49 billion and the state rate is 0.0475 (4.75%), implying a base of \$115.58 billion. In FY17, after the proposals would be fully implemented, state revenue is projected at \$9.47 billion, the state rate is 0.05 (5%), and the resulting implied base is \$187.40 (North Carolina Senate Finance Committee, *op. cit.*). However, this base is in nominal dollars, and it also reflects increased spending from population growth. Assuming an annual inflation rate of 2% and an annual population growth rate of 1.7% (the North Carolina average in the 2000s decade, from the North Carolina State Data Center), the inflation-adjusted and population-adjusted sales tax base in FY 17 is \$162.11 billion, meaning a 40% increase from FY14.

points. Applying these numbers to Felix's wage rate effects from corporate income and sales tax rates, and using an average North Carolina hourly wage rate of \$21.87,<sup>28</sup> gives an implied change in the wage rate of  $(0.9 \times 0.0017 \times \$21.87) - (2.6 \times 0.0010 \times \$21.87) = -0.02$ , or a decline of 2 cents per hour.

This decline in the average wage rate will have two broad economic effects. First, it will reduce the income earned from working a certain number of hours. But it will also motivate a decline in total work hours – along with a commensurate decline in income – if workers respond to lower wage rates by working less. Economic evidence suggests this response to changing wage rates is exactly the case, with (on average) a 1% decrease in the wage rate leading to a 0.31% decline in labor supply.<sup>29</sup>

Therefore, the change in aggregate North Carolina income resulting from the 2 cent decrease in the wage rate can be estimated by:

$$(1) (\$0.02 \times \text{yearly hours worked per worker} \times \# \text{ workers}) + (\text{proportional change in the wage rate} \times 0.31 \times \text{yearly hours worked per worker} \times \$21.87 \times \# \text{ workers}).$$

The number of yearly hours worked per worker is set at 1920<sup>30</sup>, and the estimated number of workers in 2017 is 4,278,000.<sup>31</sup> The percentage change in the wage rate is -0.09%, or -0.0009 in proportional terms. The result of the calculations is a **one-time income loss of \$214,393,346**. Furthermore, using a GSP to worker compensation ratio of 1.94 and a total

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<sup>28</sup> The wage rate is based on calculations from the latest (2011) *American Community Survey* from the U.S. Census.

<sup>29</sup> Keane, Michael. "Labor Supply and Taxes: A Survey," *Journal of Economic Literature*, Vol. 49, No. 4, December 2011, 961-1075.

<sup>30</sup> *American Community Survey*, *op. cit.*

<sup>31</sup> The employment number for 2017 is derived by applying the long-run (1990-2012) annual employment growth rate in North Carolina (1.19%) to the 2012 employment number of 4,032,300 (U.S. Bureau of Labor Statistics).

state employment to \$1 million of GSP ratio of 9, the **one-time loss in GSP is \$415,923,080 and the one-time loss in employment is 3743 jobs.**<sup>32</sup>

*Ferede/Dahlby*

The calculations based on Ferede/Dahlby's study using Canadian provincial data for 1977-2006 is from their second equation, using fixed effects and including provincial government expenditure data. Their results show a 1% point reduction in the corporate income tax rate leads to a 0.163% point increase in the annual real GDP (GSP for North Carolina) growth rate per capita, and a 1% point increase in the sales tax rate results in a 0.587% point increase in the annual real GDP growth rate per capita. They found no statistically significant impact on the annual real GDP growth rate from changing the individual income tax rate. Hence, with the proposal in North Carolina to reduce the corporate income tax rate and increase the effective sales tax rate, using Ferede/Dahlby's results will lead to an increase in state economic activity.

Numerically calibrating the implications of Ferede/Dahlby's study for the North Carolina economy is done using this equation:

$$(2) \text{ (-\% point change in corporate income tax rate} \times 0.163) + (\% \text{ point change in effective sales tax rate} \times 0.587) = \text{change in real GSP growth rate per capita in percentage points.}$$

Applying the corporate income tax rate change of -0.9% points and the sales tax rate

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<sup>32</sup> The GSP to worker compensation ratio is for 2010, the latest year available, and is from the U.S. Bureau of Economic Analysis. The employment to GSP ratio is for 2011 (latest year available for both series) and is from the U.S. Bureau of Labor Statistics and the U.S. Bureau of Economic Analysis.

change accounting for the expanded base of 2.6% points leads to a significant 1.67% point increase in the annual real GSP growth rate per capita. Using a projected real GSP per capita in 2017 of \$48,982 (2012\$), the additional tax-change-induced growth would imply an additional \$8823 (2012\$) of real GSP per capita in North Carolina in 2027.<sup>33</sup> Multiplying by the state's projected population in 2017 gives \$92 billion of additional real GSP in 2027 due to the faster economic growth from the proposed tax changes. Accounting for faster economic growth related to projected population growth between 2017 and 2027 adds another \$4 billion for a **total estimated additional GSP in 2027 of \$96 billion.**<sup>34</sup> Using the rate of 9 jobs per \$1 million of real GSP and an income to GSP ratio of 0.515<sup>35</sup> gives an estimated **additional 864,000 jobs and \$49 billion of income (compensation) in the state in 2027.**

#### *Harden/Hoyt*

Harden/Hoyt looked directly at the impact of different state tax mixes on employment growth using state data spanning 1977 to 1994. Based on their empirical results, they calculated how shifts in the tax mix (that is, shifts in the percentage of state revenue from each tax type) affected employment growth.

Harden/Hoyt found that every 1% shift in state revenue from the corporate income tax to the sales tax would increase the annual growth rate in employment by 0.32%. Every 1%

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<sup>33</sup> Real GSP per capita in 2017 is derived by applying the long-run (1997-2011) average annual real GSP growth rate to actual North Carolina GSP in 2012 (2012\$) to project real GSP in 2017 (2012\$; data are from the U.S. Bureau of Economic Analysis). Dividing the estimated 2017 real GSP value by North Carolina's projected population in 2017 (North Carolina State Data Center) gives the projected real GSP per capita value in 2017.

<sup>34</sup> The additional \$5 billion of GSP is derived by applying the previously estimated additional real GSP per capita to the decadal mid-point average of projected state population growth from 2017-2027 (North Carolina State Data Center).

<sup>35</sup> This is the inverse of the GSP to income ratio of 1.94.

shift in state revenues from the corporate income tax to the individual income tax would increase the annual growth rate in employment by 0.28%. Every 1% shift in state revenues from the individual income tax to the sales tax would *decrease* the annual growth rate in employment by 0.03%.

The proposed shifts in the tax mix for North Carolina were presented in Table 1, and these shifts can be applied to the Harden/Hoyt findings. Two “mix” shifts are proposed, from business taxes to the sales tax, and from the individual income tax to the sales tax<sup>36</sup>. Hence, only the Harden/Hoyt equations for these two shifts are used.

The shift from business taxes to sales taxes is from 8.6% of General Fund revenues to 7.9% of General Fund revenues, equal to a 0.7% shift in the share of General Fund revenues. The shift from the individual income tax to the sales tax is from 54.5% of General Fund revenues to 40.8% of General Fund revenues, equivalent to a 13.7% shift in the share of General Fund revenues. The estimated change in the annual employment growth rate (in %) is:

$$(3) (0.7 \times 0.32) - (13.7 \times 0.03) = -0.187\%.$$

Using the long-run average annual employment growth rate for North Carolina of 1.19%,

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<sup>36</sup> By including the change in the franchise tax share with the corporate income tax share, it is implicitly assumed both taxes have the same type of impact on employment growth.

the calculation implies the annual employment growth rate falls from 1.19% to 1.1878%.<sup>37</sup> Using the forecasted 2017 total state employment of 4,278,000<sup>38</sup>, the estimated difference in jobs in 2027, using the annual growth rate, would be:

$$\text{jobs with faster growth: } 4,278,000 \times (1.0119)^{10} = 4,815,227$$

$$\text{jobs with slower growth: } 4,278,000 \times (1.011878)^{10} = 4,814,180,$$

**for a loss of 1047 jobs.**

To derive estimated additional income, 1047 is multiplied by an average annual salary of \$42,008,<sup>39</sup> and to obtain estimated additional GSP, additional income is multiplied by the GSP/income ratio of 1.94.<sup>40</sup> These results are:

$$-1047 \times \$42,008 = \text{\$43,982,376 in lower income (compensation) in 2027,}$$

$$\$1,494,528,000 \times 1.94 = \text{\$87,325,809 in lower GSP in 2027.}$$

Given the always present problem of measurement error, the Harden/Hoyt results can be interpreted as suggesting no long-run economic impact from the tax mix shift.

### *Ojede/Yamarik*

Ojede/Yamarik used data for states over the period 1968-2008. They used the annual growth rate in real private personal income (net of transfers) and measured taxes as a ratio to

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<sup>37</sup> See footnote 16 for the source of the state's long-run annual average employment growth rate. The calculation is  $(1 - 0.00187) \times 1.19\%$

<sup>38</sup> See footnote 16.

<sup>39</sup> For North Carolina, from the *American Community Survey, 2011*.

<sup>40</sup> See footnotes 16 and 17.

personal income. Among corporate income, individual income, and sales taxes, they found a statistically significant relationship only for the sales tax, and the relationship was negative with growth. Specifically, Ojede/Yamarik's results (using their first equation) suggest an increase of 1% in the (sales tax/personal income) ratio *reduces* the annual growth rate of real private personal income by 0.4%.

Ojede/Yamarik's findings will result in a decline in economic activity for states shifting their tax mix to the sales tax. The following equation implements Ojede/Yamarik's results.

(4)  $((\text{salespr2017}/\text{salespr2013}) - 1) \times 100 \times 0.4 = \text{percentage reduction in annual growth rate, where:}$

$\text{salespr2017}$  = sales tax revenue as a proportion of NC personal income in 2017, and

$\text{salespr2013}$  = sales tax revenue as a proportion of NC personal income in 2013.

Incorporating the tax proposals,  $\text{salespr2017}$  is estimated at 0.02, and  $\text{salespr2013}$  is estimated at 0.014, a 42.9% increase.<sup>41</sup> Multiplying by 0.4 gives a predicted 17.2% reduction in the annual real growth rate of private personal income. The average annual real growth rate in North Carolina private personal income is 2.2%.<sup>42</sup> A reduction of 17.2% reduces the rate to 1.82%. Using \$329 billion as the estimated private personal income of North Carolina in

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<sup>41</sup> The numerators for  $\text{salespr2013}$  and  $\text{salespr2017}$  are from the North Carolina Senate Finance Committee, *op. cit.* Projections for North Carolina personal income (nominal) in 2013 and 2017 are derived by applying the average annual personal income growth rate from 1990 to 2012 to the actual 2012 level (U.S. Bureau of Economic Analysis).

<sup>42</sup> Based on 1990-2011 data.

2017<sup>43</sup>, the difference in total private personal income in the state in 2027 using the two alternative growth rates is:

$$\$379 \text{ billion} \times (1.022)^{10} = \$471 \text{ billion}$$

$$\$379 \text{ billion} \times (1.0182)^{10} = \$454 \text{ billion},$$

implying a **loss of \$17 billion (2012\$) in private personal income in 2027**. Applying a factor of 1.28 for the ratio of GSP to private personal income<sup>44</sup> and a rate of 9 jobs per \$1 million of GSP gives the complementary impacts of:

(5) \$17 billion x 1.28 = **\$22 billion loss of GSP in 2027**, and

(6) 22,000 (millions) x 9 = **198,000 job loss in 2027**.

### *Alm/Rogers*

The Alm/Rogers study is unique for the number of explanatory variables it includes – over 130 – in examining differences in real per capita personal income growth rates for states over the period 1947 to 1997. Alm/Rogers found two statistically significant results of importance to North Carolina’s tax proposals. Increases in both real individual income tax revenue per capita and in real sales tax revenue per capita are associated with increases in the real per capita personal income growth rate. Their results imply that every 1% increase in North Carolina’s individual income tax revenue per capita leads to a little more than one-tenth of a percentage point (0.0115) increase in the real per capita personal income annual growth

<sup>43</sup> Derived by applying the average 2.2% real average annual growth rate in private personal income in North Carolina to the 2011 (actual) base and projecting to 2017, all in 2012\$.

<sup>44</sup> From U.S. Bureau of Economic Analysis data.

rate, and every 1% increase in North Carolina's sales tax revenue per capita results in a little less than one-tenth of a percentage point (0.009) increase in the real per capita personal income annual growth rate. With the state's long-run annual per capita real personal income growth rate at 0.9%, this means it would increase to 0.1015 for a 1% increase in individual income tax revenue per capita, and it would increase to 0.099 for a 1% increase in sales tax revenue per capita.<sup>45</sup>

The North Carolina proposals for changing North Carolina's tax mix imply a 50% increase in real sales tax revenues per capita and a 28% decrease in real individual income tax revenues per capita between 2013 and 2017.<sup>46</sup> The net change in North Carolina's real per capita personal income growth rate would then be:

$$(7) 50 \times 0.009 - 28 \times 0.0115 = 0.13\%.$$

Thus, based on the Alm/Rogers analysis, North Carolina's long-run real per capita personal income growth rate would rise from 0.9% to 1.03%.

North Carolina's per capita personal income in 2012 was \$37,049. Using the existing long-run real annual per capita growth rate of 0.9%, in 2027 the state's real (2012\$) per capita personal income would be \$42,378. Using a 0.9% annual growth rate from 2012 to 2017 and then the higher annual growth rate of 1.03%, from 2017 to 2027, per capita personal income in 2027 (2012\$) would be \$42,927, an increase of \$549 per capita. North Carolina's population in

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<sup>45</sup> The long-run real annual personal income growth rate per capita for North Carolina is based on 1990-2012 data (U.S. Bureau of Economic Analysis).

<sup>46</sup> Calculated using data from the North Carolina Senate Finance Committee, *op. cit.*, the North Carolina State Data Center for population and population forecasts, and using a 2% annual inflation rate between 2013 and 2017.

2027 is projected to be 11,387,152.<sup>47</sup> Applying the \$549 increase to 2027's projected population **gives additional personal income in 2027 of \$6,251,546,400.** Using the GSP to personal income ratio of 1.27 and 9 jobs per \$1 million of GSP **gives \$7,939,464,000 additional GSP and 71,451 additional jobs in 2027.**<sup>48</sup>

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<sup>47</sup> North Carolina State Data Center.

<sup>48</sup> The GSP to personal income ratio is from the U.S. Bureau of Economic Analysis.

# **THE EFFECTS OF A SINGLE SALES FACTOR APPORTIONMENT FORMULA ON NORTH CAROLINA CORPORATE INCOME TAX REVENUE AND THE ECONOMY**

PREPARED BY:

**Roby Sawyers, Ph.D.**  
Professor, Department of Accounting  
Poole College of Management  
North Carolina State University

Most large corporations conduct business in more than one state and are subject to corporate income tax in more than one state. Accordingly, it is necessary to divide or apportion the total income of the company to the various states in which it operates. Most states use a variation of a three-factor formula based on the amount of sales, property and payroll in the state compared to total sales, property and payroll.

Under current law, corporations that do business in North Carolina generally use a three-factor apportionment formula (property, payroll and sales with a double-weight on the sales factor) to apportion business income and determine the amount of income subject to tax in the state. Under this approach, a multistate business would determine the amount of its income subject to tax in North Carolina by calculating the ratio of property, payroll and sales in North Carolina to the property, payroll and sales nationwide. If a corporation has 100% of its property located in North Carolina, 100% of its payroll located in North Carolina but makes only 80% of its sales in North Carolina, under the current formula, North Carolina would tax 90% of the corporation's apportionable business income. Note that the sales factor is weighted twice in the following calculation:  $[(100\% + 100\% + (80\% \times 2)) / 4 = 90\%]$ .

The North Carolina Fair Tax Act (2013-RBx-21C, v.4) would modify the current three-factor formula by increasing the weight placed on the sales factor culminating in single-sales factor apportionment beginning in 2016. In the previous example, the company with 100% of its property and payroll in the state but only 80% of its sales would apportion 80% of its income to North Carolina rather than the 90% using a double-weighted sales factor apportionment formula.

#### APPORTIONMENT FACTORS AND WEIGHTS

Historically, the most common apportionment formula used by states has been a three-factor equally weighted formula that considers the ratio of in-state property, payroll and sales to overall property, payroll and sales. However, at present only 12 states use an equally weighted three-factor test

while 14 states utilize a three-factor formula with sales double-weighted, and another 14 states utilize a one-factor sales formula.<sup>49</sup> Since the late 1990s, the definite trend has been for states to increase the weight on the sales factor.

Other states use different weighting schemes (triple weighting sales, for example) or allow companies to choose among formulas. Several states require different formulas for specific industries including airlines, financial institutions, telecommunication companies, railroad and trucking companies, etc.<sup>50</sup>

#### POTENTIAL BEHAVIORAL EFFECTS OF MOVING TO SINGLE SALES FACTOR APPORTIONMENT

Why would a state double-weight sales or use sales as the only apportionment factor? An increase in the weight on sales and the simultaneous reduction of the weights on payroll and property reduces the production costs for in-state companies relative to companies in states with higher weights on property and payroll.<sup>51</sup> Generally, taxes paid by in-state companies that export to other states and small in-state companies with little presence in other states will decrease<sup>52</sup> while taxes paid by companies with little physical presence that sell into a state from an out-of-state location will increase. For example, a South Carolina company with 90% of its property and payroll but only 50% of its sales in South Carolina and 10% of its property and payroll and 50% of its sales in North Carolina would apportion 30% of its income to North Carolina under a double-weighted sales formula  $[(10\% + 10\% + (50\% \times 2)) / 4 = 30\%]$  while 50% would be apportioned to North Carolina under a sales-only

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<sup>49</sup> In the southeast, South Carolina and Georgia use single sales factor apportionment, Virginia has recently adopted single sales factor apportionment for certain businesses (see Footnote 2) and Tennessee and Florida use a three factor formula with sales double weighted.

<sup>50</sup> For example, Virginia has recently adopted a phase-in of single sales factor apportionment for qualified manufacturers and retailers.

<sup>51</sup> E. Dubin, "Changes in State Corporate Income Tax Apportionment Formulas and Changes in State Corporate Income Tax Bases," 2010 (Winter), Multistate Tax Commission.

<sup>52</sup> However, single factor apportionment creates no advantages for a small company if the state has a throwback rule. While North Carolina does not technically have a throwback rule, it requires a company that makes sales into a state where it is not required to file a tax return to include those sales as North Carolina sales.

apportionment formula. It should be noted that a North Carolina company that does not sell across state boundaries would not be affected by the change in apportionment as 100% of the company's income is subject to North Carolina tax regardless of the apportionment method used. However, a purely in-state company would see its tax liability decrease under the NC Fair Tax Act as a result of reductions in the corporate income tax rate.

In addition, single sales factor apportionment may serve as an incentive for a North Carolina company to increase its presence in North Carolina or for an out-of-state company to relocate operations into the state (at least from a state that includes property and payroll in its formula) since its property and payroll will not be included in the apportionment formula thereby decreasing the amount of income subject to tax in the state.<sup>53</sup>

#### REVENUE AND ECONOMIC EFFECTS OF MOVING TO SINGLE-SALES FACTOR APPORTIONMENT

In the short run, increasing the weight of the sales factor is expected to reduce corporate tax revenue. This is consistent with the Legislative Fiscal Note prepared by the Fiscal Research Division of the North Carolina General Assembly for Senate Bill 677 which estimates the fiscal impact to exceed \$150 million in annual lost tax revenue by the time single sales factor apportionment is fully phased in (2016). However, even this expectation is not uniformly held and evidence suggests that the expected short-term effect is more complicated. Studying 18 states that increased the weight of the sales tax factor between 2001 and 2008, Dubin (2010) finds that 13 experienced greater corporate income tax capacity in the short term. For the most part, these states could be characterized as market states (which generally import

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<sup>53</sup> R. Simafranca, 1995, "The Double-Weighted Sales Formula – A Plague on Interstate Commerce," *Tax Notes Today*, December 4, p. 1263.

more goods and services) rather than production states (which generally import more goods and services).<sup>54</sup>

In addition, some academic studies have found that adopting a higher sales factor weight can have positive long-term economic benefits for a state. In the long run, it is expected that increased economic activity from the shift to single sales factor apportionment will result in job growth and ultimately higher individual income tax revenue and sales tax revenue. Using data from 1978 to 1994, Goolsbee and Maydew (2000) found that “for the average state, reducing the payroll weight from one-third to one-quarter [which increases the weight on sales from one quarter to one half] increases manufacturing employment around 1.1%.”<sup>55</sup> In a separate study conducted for the Public Policy Institute of New York State, the same authors estimated that switching to a single sales factor would have a long-run impact of increasing manufacturing jobs in New York by 3.5% and non-manufacturing jobs by 1.3%.<sup>56</sup> Around the same time, Edmiston (2002) found that “when imposed independently, single-factor sales policies may have substantially positive economic development impacts in the very long run, but that the magnitude of these effects varies considerably across regions.”<sup>57</sup> In a more recent

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<sup>54</sup> E. Dubin, “Changes in State Corporate Tax Apportionment Formulas and Changes in State Corporate Income Tax Bases,” (2010), *Multistate Tax Commission Review*, Volume XXI, No. 1, Winter.

<sup>55</sup> A. Goolsbee and E. Maydew, “Coveting thy neighbor’s manufacturing” the dilemma of state income apportionment,” 2000, *Journal of Public Economics*, Volume 75, pa. 125-143.

<sup>56</sup> A. Goolsbee and E. Maydew, “The Economic Impact of Single Factor Sales Apportionment for the State of New York,” January 2001, The Public Policy Institute of New York State, Inc.

<sup>57</sup> K. Edmiston, “Strategic Apportionment of the State Corporate Income Tax: An Applied General Equilibrium Analysis,” 2002, *National Tax Journal*, Vol. LV, No. 2, June.

study prepared for the Wisconsin Department of Revenue, Bernthal et al. (2012) predicted a 1.22% increase in manufacturing jobs when moving the sales weight from one-third to 100%.<sup>58</sup>

However, in certain circumstances, shifting to single sales factor apportionment could have a negative effect on job growth. For example, Mazerov (2001) points out that a company with little physical presence (a small sales office for example) but significant sales in a state might elect to close the sales office and do business remotely in order to avoid creating tax liability in the state.<sup>59</sup>

Adopting single sales factor apportionment may also affect other taxes collected in the state. For example, to the extent the policy encourages the movement of property into the state, higher property tax revenues may result, benefiting local governments in North Carolina.<sup>60</sup>

## CONCLUSION

Fourteen states now use a single sales factor apportionment formula for their corporate income taxes. The North Carolina Fair Tax Act would replace this state's current double-weighting of sales with single sales factor apportionment. This would tend to reduce tax liabilities of firms with substantial property and employment in North Carolina, and increase taxes on out-of-state firms with substantial sales in North Carolina. While this change will likely reduce corporate tax revenue in the short run,

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<sup>58</sup> J. Bernthal, D. Gavril, K. Shumacher, S. Spencer and K. Sydor, 2012, "Single Sales-Factor Corporate Income Tax Apportionment: Evaluating the Impact in Wisconsin."

<sup>59</sup> M. Mazerov, "The Single Sales Factor Formula for State Corporate Taxes: A Boon to Economic Development or a Costly Giveaway?," 2001, Center on Budget and Policy Priorities.

<sup>60</sup> S. Gupta, J. Moore, J. Gramlich and M.A. Hoffman, "Empirical Evidence on the Revenue Effects of State Corporate Income Tax Policies," 2009, *National Tax Journal*, Vol. LXII, No. 2 (June), p. 243.

empirical evidence has shown that moving to sales only apportionment could lead to higher employment in the state and possibly increase revenue in the long run.

# **THE RELEVANCE OF TAX REFORM TO ECONOMIC GROWTH**

**PREPARED BY:**

**Brent Lane, M.B.A.**

Executive Director, Carolina Center for Competitive Economies  
Kenan Institute of Private Enterprise  
The University of North Carolina - Chapel Hill

North Carolina's leaders face difficult and complex decisions over a broad range of issues that affect the economic well-being of our citizens. Tax reform in particular has emerged as a policy priority for those who perceive it as an opportunity to improve the state's economic competitiveness. In their respective analyses, my colleagues have described the probable ranges of economic outcomes and their mechanisms of proposed changes included in *The North Carolina Fair Tax Act*. It is also useful that such expected outcomes of the proposed tax reform be viewed in the context of the state's economic needs to achieve an informed understanding of the necessity of tax reform and of its significance as an economic growth strategy.

The assessments of my colleagues suggest that proposed tax reforms included in *The North Carolina Fair Tax Act* may yield economic benefits that will increase job growth in the state, but not to a certainty. In his paper, "Estimates of the Economic Impact of Changes in the Composition of North Carolina Taxes," our colleague, Dr. Michael L. Walden, a William Neal Reynolds Distinguished Professor in the Department of Agricultural and Resource Economics at North Carolina State University, reviewed recent academic literature from five studies addressing the effects of state taxes on state economic growth. His assessment of those findings when applied to proposed tax reforms, yielded estimates for additional job creation that ranged from a high of 864,000 net additional jobs in 2027 to a low of 198,000 net jobs lost. His conclusion that desired job creation gains of proposed tax reforms were uncertain, while not an insurmountable obstacle to reform, does necessitate careful oversight of intended and unintended outcomes enabling corrective actions are needed in the implementation of any reforms.

Specific elements of the proposed tax reform may offer more certain economic benefits. In his paper "The Effects of a Single Sales Factor Apportionment Formula on North Carolina Corporate Income Tax Revenue and the Economy," Dr. Roby B. Sawyers, Professor of Accounting at North Carolina State

University's Poole College of Management assessed the likely effects of changing the way North Carolina calculates the basis for corporate taxation, especially for companies with income generated or received in multiple states. As Professor Sawyer explained, most large corporations conduct business in more than one state and are therefore subject to corporate income tax in more than one state. In such instances it is necessary to divide or apportion the total income of the company to the various states in which it operates.

Under current law, corporations that do business in North Carolina generally use a three-factor apportionment formula (property, payroll and sales with a double-weight on the sales factor) to apportion business income and determine the amount of income subject to tax in the state. The proposed *North Carolina Fair Tax Act* would replace this state's current double-weighting of sales with single sales factor apportionment.

Fourteen other states now use such a single sales factor apportionment formula for their corporate income taxes. Dr. Sawyer's assessment concluded that implementing single sales factor apportionment in North Carolina would tend to reduce tax liabilities of firms with substantial property and employment in the state, while increasing taxes on out-of-state firms with substantial in-state sales. While this change will likely reduce corporate tax revenue in the short run, empirical evidence has shown that moving to sales only apportionment could lead to higher employment in the state and possibly increase revenue in the long run.

While these evaluations indicate it would be difficult to forecast with precision and/or accuracy most economic effects of the *North Carolina Fair Tax Act* tax reforms, it is possible, and constructive, to describe the mechanisms by which fundamentally sound tax reforms can produce economic benefits. In his paper "Tax Reform and Its Relationships to the Principles of Sound Tax Policy," Dr. Benjamin Russo, Professor of Economics at the Belk College of Business of the University of North Carolina at Charlotte,

described three fundamental characteristics – efficiency, equity, and simplicity - of a reformed tax system that could enhance economic outcomes.

Dr. Russo explained that an *efficient* tax system maximizes economic value and encourages enterprise by minimizing distorting effects on consumer and producer economic choices. He cited examples of effective reforms including reductions in compliance costs, reduction of high marginal tax rates that induce wasteful tax avoidance behaviors, and addressing taxes that discourage savings and capital formation. Dr. Russo described how achieving *equity* in tax policies ensures that taxpayers with equal real incomes face equal tax liabilities. He also cited examples of how violations of equity, such as selective deductions, exemptions, credits and special tax treatments, create disparities. His principle of *simplicity* emphasizes the value of transparency in facilitating understanding, implementation and compliance. This quality contributes to the economy by minimizing uncertainty that tends to exacerbate risk and discourages entrepreneurship. He described how existing exemptions in North Carolina’s sales taxes introduced complexity and associated costs, while acknowledging that though broadening the sales tax would reduce complexity it would also impose new collection burdens.

Dr. Russo concluded that there can be no optimal tax structure achieving all three principles. Trade-offs are inevitable as policy makers seek to achieve oft-times competing economic and social objectives. Greater reliance on sale taxes risks equity imbalances for the sake of increasing efficiency. But he saw the potential achieving both efficiency and equity through a careful calibration of base broadening and marginal rate reductions.

Whether through the proposed *North Carolina Fair Tax Act* or through other proposals under consideration in the current tax reform effort, the General Assembly is recognizing the need to look beyond specific programmatic efforts – such economic development “incentives” to targeted firms - to address systemic policy areas that affect growth by businesses of every form in the broader economy.

Such an approach is insightful as the scale of the North Carolina economy inevitably renders more simplistic economic growth strategies insufficient.

It has long been easy for North Carolinians and non-citizens alike to underestimate the size and scope of the state's economy. For decades North Carolina had the paradoxical distinction of simultaneously being the nation's most rural population and its most industrialized. North Carolina's image as the "small town state" was appropriate, as its traditional industries of textiles, tobacco and furniture sustained a relatively dispersed population.

Such breadth of distribution masks the true size of the state economy. During the past decade, when for the first time North Carolina's population tilted from majority rural to majority urban, the state's economy surpassed those of Georgia, Michigan and Massachusetts. By 2011 North Carolina's estimated gross state product (GSP) exceeded \$400 billion, making it the 10<sup>th</sup> largest in the country. In fact, if it were a separate country, North Carolina's economy would be the 28<sup>th</sup> largest in the World Bank's 2012 ranking of national economies.

With such scale comes complexity. North Carolina is home to more than 200,000 employer businesses and many more small businesses in a variety of legal forms. So while the state has invested heavily in economic development programs, direct assistance is possible to only a few thousand firms and high profile economic incentives go to just a few dozen companies annually. As a result even the greatest economic development success through these projects has only small direct effects on the larger economy.

By some highly visible measures the state has succeeded economically. Few states rival North Carolina's track record in the recruitment and location of new industry. The state has been ranked #1 for "Best Business Climate" 12 out of the past 13 years by industry leader "Site Selection" magazine. In

2012, when North Carolina was once again at the top of that ranking, the NC Department of Commerce's "Annual Sales Report" cited 146 projects announcements accounting for 16,487 new jobs.

It is important to recognize that in the nation's 10<sup>th</sup> largest state economy, such "announcements" constitute only a fraction of the new jobs required each year by North Carolina's rapidly growing workforce. Despite its well-publicized economic successes, for the past 5 years North Carolina has had one of the highest unemployment rates in the US because job growth in the state has failed to keep up with workforce growth. In January 2013 North Carolina's labor force totaled nearly 4.8 million. Of that number only 4.3 million people were employed, leaving almost a half million unemployed North Carolinians actively seeking jobs.

This situation is not simply attributable to a slow recovery from the 2008 recession. Job growth has lagged behind workforce growth in the state for nearly two decades, even during period of relative prosperity nationally. Since the beginning of the current economic recovery in 2009, the state's workforce has grown by an average of 56,000 annually, but jobs have grown by only an average of 36,000 per year. So even as employment in the state in 2012 has finally recovered to pre-recession levels, adding a net 15,000 jobs since 2008, its workforce grew by more than 240,000 over the same period.

With North Carolina's population projected to grow by more than 1 million between 2010 and 2020, the state will need to add 700,000 new jobs over the next 7 years to reduce unemployment to a goal of 5.5%. Adding 100,000 new jobs annually would require doubling the job creation rate North Carolina has achieved since 2000. Reliance on economic development efforts, however successful, has proven inadequate to the task. Proposed tax reforms such as those in *North Carolina Fair Tax Act* are intended to positively influence broad-based employment growth throughout North Carolina's business

community in a less intrusive, more efficient manner than targeted incentives and special exemptions in the current North Carolina tax code.

The failure of numerous past reform efforts may have imbued tax reform with exaggerated import among legislators in its potential to positively affect economic growth. Evaluations suggests that while proposed reforms have the potential to contribute positively to future economic growth, the effects are not certain and cannot be quantified with confidence. Therefore tax reform should be seen not as a panacea to North Carolina's economic ills, but as one of several fundamental policy concerns that affect every employer, employee and citizen. In that context, tax reform is a necessary, significant, but insufficient means to address our state's economic growth challenges.