



**RAISING REVENUE FROM
HIGH-INCOME HOUSEHOLDS:
SHOULD STATES CONTINUE TO PLACE
THE LOWEST TAX RATES ON THOSE
WITH THE HIGHEST INCOMES?**

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EXECUTIVE SUMMARY

State and local tax systems are regressive, placing higher tax rates on low-income households than on high-income households. Responding to the collapse in tax revenue, and the resulting budget shortfalls following the “Great Recession,” a number of states used tax increases targeted at high-income households (alongside the budget cuts that were adopted by every state) to help sustain public spending on vital services, including education, public safety, and infrastructure.

These new taxes on affluent households have generated a considerable amount of debate over whether states should continue to maintain tax systems that place the least burden on the richest households. Arguments in favor of shifting that burden have been defended on grounds of ‘fairness’: high-income households, after all, reaped the lion’s share of economic growth in recent decades and have also benefitted disproportionately from large tax reductions at the federal level. A case has also been made that taxing wealthy households is the least economically damaging way for states to address their budget shortfalls, because it results in smaller reductions in consumer spending than the feasible alternatives.

In the public debate over these policies, however, a number of potential concerns are also raised. Higher taxes might cause affluent households to decrease their work effort, to decide against investing or starting a new business, to move to another state, or to shield their income from taxes through shelters. But the research reviewed in this study suggests that modest tax increases on affluent households are unlikely to make substantial changes in their work effort or entrepreneurship or make them any more likely to leave the state.

The evidence does suggest that high-income households do take tax increases into account in their decisions about the timing of income and the form in which they receive their income. For example, research on capital gains realizations strongly demonstrates that the timing of asset sales is very responsive to the enactment or anticipated enactment of tax law changes. Similarly, changes in the difference in tax rates between household and corporate income have been shown to produce shifts in the form of compensation taken by corporate executives and business owners.

A number of studies explore whether *pre-tax* income changes in response to tax policy. Pre-tax income would change if households alter their real economic behavior (changes in their actual behavior, such as working hours, rather than changes made only on paper) or if they pursue tax-avoidance strategies. The literature on this issue, the “elasticity of income” with respect to taxes, suggests that the taxable income of the most affluent households is fairly responsive to changes in tax rates, but more inclusive measures of income—which would include sheltered income—are not. This suggests that these households are pursuing tax avoidance strategies, rather than altering their real economic behavior. But this tax avoidance is limited to the very top of the income distribution: the top 0.1 percent. The vast majority of the affected households do not seem to alter their behavior in response to tax changes at all (Bakija, et al 2011). Furthermore, while state-level tax changes are found to have no impact on actual income, they do have a sizeable impact on *reported* income, suggesting that the reaction of affluent households is to pursue aggressive tax planning, not alter their real economic behavior (Bruce, Fox, and Yang, 2010.)

These anticipated reactions – changes in the timing and composition of income and other forms of tax avoidance – are not nearly as dramatic as the consequences predicted by some parties in the debate over taxes. Some, but not all, of these reactions can be expected to result in inefficiency and deadweight loss for a state’s economy. Some high-end tax increases hold the promise of being efficiency-enhancing, and the efficiency costs of some others are likely to be minimal. But the revenue to be gained by states by extending taxes on wealthy households is substantial, and these avoidance strategies have minimal impact on that bottom line. The benefits of sustaining appropriate levels of funding on K-12 and public higher education, public safety, and transportation, should be weighed against these consequences – as opposed to unsubstantiated fears that the rich will flee a state en masse or shut down their businesses.

I. INTRODUCTION

State and local tax systems are regressive, placing higher effective tax rates on low-income households than on high-income households. Responding to the collapse in tax revenue and budget shortfalls following the “Great Recession” a number of states used targeted tax increases, alongside the budget cuts that were adopted by every state, to help sustain public spending on vital services, including education, public safety, and infrastructure.

The decision to raise additional tax revenue from affluent households has generated a considerable amount of debate over whether states should continue to maintain tax systems that place the lowest burdens on the richest households. Sometimes steps to raise additional revenue from high-income households have been defended on grounds of “fairness.” High-income households, after all, reaped the lion’s share of economic growth in recent decades and have also benefited disproportionately from large tax reductions at the federal level, in addition to paying the lowest effective rates at the state and local level. The most equitable way of spreading the pain associated with large budget shortfalls, it is argued, will not rely exclusively on budget cuts that impact all households, but to also raise additional revenue through tax increases on affluent households. A case has also been made that this approach is the least economically damaging way for states to address their budget shortfalls. Tax increases on affluent households can be expected to result in smaller reductions in consumer spending than the feasible alternatives (cutting budgets, laying off public workers, or taxing low and middle-income families).

In the public debate over these policies, however, a number of potential consequences are also raised. Higher taxes might cause affluent households to react in a number of ways, including decreasing their work effort, deciding not to invest or start a new business, moving to another state, or by engaging in unproductive tax shielding activity.

This paper summarizes and reviews the available research on these potential responses to raising taxes on affluent households. The analysis tries to identify which responses can be anticipated, given the available research, and also tries to put those responses into context. Some responses are potentially more damaging to a state’s economy than others. In the cases where reactions by affluent households are anticipated, the

reactions need to be weighed against the impacts of additional cuts to education and other state service, or tax increases on other sectors of the population that are necessary if states ultimately opt to not raise additional revenue from the rich.

The research suggests that affluent households are unlikely to make substantial changes in their “real” economic behavior in response to modest tax increases. An increase in taxes on high-income households is not expected to produce economically meaningful reductions in work effort or entrepreneurship. Also, high-income households overall will not be any more likely to leave the state.

On the other hand, the evidence does suggest that high-income households are quite responsive with regard to the timing of income and the form in which they receive their income. For example, research on capital gains realizations strongly demonstrates that the timing of asset sales is very responsive to the enactment or anticipated enactment of tax law changes. Similarly, changes in the tax differential between household and corporate income have been shown to produce shifts in the form of compensation of corporate executives and business owners.

A number of studies explore whether pre-tax income changes in response to tax policy. Pre-tax income would change if households alter their real economic behavior or if they pursue various tax-avoidance strategies. The literature on this issue, the “elasticity of income” with respect to taxes, suggests taxable income of affluent households is fairly responsive, but broader, more inclusive measures of income are not, suggesting that households are pursuing tax avoidance strategies without altering the real economic behavior. Even this response, though, is isolated to the very top of the income distribution – the top 0.1 percent – with the rest of the distribution not altering their behavior in response to tax changes (Bakija, et al 2011). Further, state-level tax changes are also found to have no impact on actual income, but to have a sizeable impact on reported income, suggesting that the reaction of affluent households is to pursue aggressive tax planning, not alter their “real” economic behavior (Bruce, Fox, and Yang, 2010.)

These anticipated reactions – changes in the timing and composition of income and other forms of tax avoidance – are not nearly as dramatic as the consequences predicted by some parties to the debate over

taxes, but they do imply some increase in inefficiency and deadweight loss for a state's economy. It is against these consequences that the benefits of spending on K-12 and public higher education, public safety, and transportation, should be weighed.

This study proceeds with a brief overview of the distribution of state and local tax system and the state budget situation since 2007. It then briefly reviews the fairness and the economic arguments for states raising additional tax revenue from affluent households to address budget shortfalls. It continues by discussing generally the ways in which affluent households might respond to increased taxes. The study next reviews the research evaluating a range of potential responses, including: labor supply, migration, entrepreneurship, and finally income shifting and timing changes. The study concludes by drawing general lessons from this research and assessing what lessons the research offers to state policy makers.

II. THE DISTRIBUTION OF STATE AND LOCAL TAXES, AND THE RECENT STATE BUDGET CRISIS

The distribution of state and local taxes

State and local governments finance public services primarily by raising taxes. Typically transfers from the federal government provide 16 percent of state and local revenues – though this level rose to 26 percent in 2009 largely because of state aid in the ARRA stimulus package. Most tax revenue is raised through the property, retail sales, and personal and corporate income taxes, which together account for 92 percent of all state and local taxes. The two biggest taxes are the property tax and the sales tax, which generate more than two-thirds of all state and local tax revenue. The third largest tax, the personal income tax, brings in just one fifth of all revenue, and the corporate income tax just four percent.

Because states rely most heavily on sales and property taxes, and because these taxes place higher effective rates on low and middle-income households, state and local tax systems are quite regressive.¹ The richest one percent of households pays a lower effective tax rate than the lowest-income 20 percent in all 50 states (ITEP, 2009).² On average, the lowest-income twenty

percent of households paid 10.9 percent of their income in state and local taxes, the middle twenty percent paid 9.4 percent, and the richest one percent paid 5.2 percent (ITEP, 2009, 118).

The recent budget crisis

Following the descent into the “Great Recession” in late 2007, state government tax revenues declined dramatically. Between the middle of 2008 and 2009, real tax collections declined 18 percent. This steep drop was larger than the declines experienced in any other recession since World War II (Boyd, 2011). Declining tax revenues and increasing demands on public services combined to create extremely large budget gaps. In 2010 the combined budget gap for all state governments totaled \$191 billion, or 29 percent of prior year spending (McNichol, et al, 2012). With a very slow growing economic recovery, and with state revenues lagging behind that recovery, state budget gaps have persisted. The projected budget gap for all states is \$106 billion for 2012 and \$47 billion for 2013.

In addition to relying on federal aid to the states from the 2009 ARRA (which helped close approximately one-third of the budget gaps faced by states between 2009 and 2011), the primary means of responding to budget gaps has been for states to reduce spending. More than half of the total budget gap for all states was closed through spending cuts. A number of states, however, have also pursued efforts to sustain public services by raising tax levels on affluent households.

New Jersey's well-known “half-millionaire” tax was adopted in 2004, preceding the most recent economic downturn, but several states followed that state's lead when faced with large budget shortfalls as the Great Recession set in. In 2008 Maryland adopted a temporary additional income tax bracket for households with net incomes above \$1 million. In FY2010 Connecticut, Delaware, and Wisconsin implemented permanent income tax increases that were weighted more heavily toward higher income households, while Hawaii, New York, North Carolina, and Oregon enacted similar, but temporary measures. The state of New York added a new top bracket of 8.97 percent for incomes above \$500,000, in Connecticut the top rate rose from 5 to 6.5 percent for single filers with incomes over \$500,000 and for joint filers over \$1 million, and in Oregon households incomes over \$125,000 (single) or \$250,000 (joint) will pay an additional 1.8 percent.

California enacted an across-the-board increase in personal income taxes, and Vermont, Rhode Island, and Wisconsin increased taxes on capital gains income.³ Most recently, Illinois raised personal (from 3% to 5%) and corporate (from 4.8% to 7%) income tax rates, a move which will generate \$6.5 billion in its first year, wiping out nearly half of the state's anticipated budget shortfall. Also, in late 2011 the state of New York extended for several more years its top bracket for a more limited group of high-income households, a rate of 8.82 percent on income over \$1 million for single filers and \$2 million for joint filers.⁴

III. CLOSING BUDGET SHORTFALLS BY RAISING REVENUE FROM AFFLUENT HOUSEHOLDS

Some states facing precipitous declines in revenue and large budget shortfalls have used tax increases on high-income households as a way to raise revenue and prevent further cuts in basic services. Some of the changes have generated considerable revenue, though none have been nearly large enough to close a state's budget shortfall. In addition to the simple need for revenue, other arguments have been made for why states should raise revenue in this way. One important argument is that among a variety of tough choices, raising taxes on the richest is the "fairest" approach. Another argument in favor is that raising taxes on high-income households to prevent budget cuts is the best option for states to sustain economic activity and limit job losses.

Fairness

Recent decades have seen a dramatic widening of the income gap between the rich and everyone else. The share of income going to the richest 1 percent of households more than doubled between 1979 and 2007, rising from 10 percent to 23.5 percent (Saez, 2010). In the years leading up to the Great Recession (2002 to 2007), the top 1 percent of households received two-thirds of all the income growth in the US economy. The concentration of resources is even greater when wealth and assets, not just income, is included (Smeeding and Thompson, 2011). In 2007, the top five percent of households controlled 37 percent of all income, but 60 percent of all net worth (Kennickel, 2009).

These trends remain as clear even after the effects of taxes and transfer programs are included. After accounting for the influences of taxes and transfers, incomes of the top 1 percent of households (adjusted for inflation) grew 275 percent between 1979 and 2007, while the broad middle class (from the 20th percentile to the 80th percentile) grew less than 40 percent (CBO, 2011). Indeed, the redistributive effect of these policies has declined over time (CBO, 2011). This is partly a result of intentional tax changes implemented under the Bush administration which delivered very large tax cuts to the highest-income families. By 2013, the value of the federal tax cut enjoyed by the top one-percent of households from the 2001 and 2003 tax cuts was \$68,000, compared to less than \$500 for the lowest-income 60 percent (CTJ, 2011). Between 1992 and 2008, the average effective federal income tax rate for the richest 400 Americans fell from 26 percent to 18 percent (IRS, 2011).

Combining dramatic increases in income with substantial reduction in federal taxes paid by affluent households, the rich in America now have greater disposable income than at any time in history. Proponents of raising taxes on the rich to fund public services suggest that these households should pay higher taxes now because they have benefitted so much from tax cuts in recent years. Because their incomes have grown so large, the standard of living of affluent households will hardly be impacted if they are required to pay more.

Saving jobs

Taxing high incomes to pay for state services may also be one of the best approaches available to states to limit the economic harm in a high-unemployment, slow-growth environment. The primary fiscal actions taken by states in the last couple of years – cutting budgets and laying off workers – has been identified as one of the most serious drags on economic growth. Analysts at Goldman Sachs estimate that state and local government austerity measures will reduce GDP growth by 0.5 percent points in 2011.⁵ Moody's Chief Economist, Mark Zandi, recently testified before the US Senate:

State and local government actions are already producing serious drags on the economy. Spending cuts and tax increases will shave an estimated 0.5 percentage point from real GDP growth this year and almost as much in 2012. The impact can be seen

clearly in the job market. State and local governments have cut close to 700,000 jobs since their employment peaked three years ago and are continuing to shed workers at a stunning rate, averaging nearly 40,000 per month. (Zandi, Senate Budget Committee Testimony, September 15, 2011)

State spending is an important source of business to the private sector establishments that sell goods and services to the public sector, and is the primary source of income for the workers employed by state and local governments. When suppliers lose business, they lay off workers in turn. When workers lose their jobs, they stop spending. State budget cuts and layoffs make the economy grow even slower. Tax increases needed to prevent these cuts do not generate economic growth, per se, but they arguably reduce it less than budget cuts.

The Congressional Budget Office (2010) has consistently concluded that infrastructure and other forms of state spending will provide a considerable boost to the economy (multipliers of 0.5 to 1.2 and 0.4 to 1.1), while income tax changes for high-income households have a minimal impact on short-term economic activity (a multiplier of just 0.1 to 0.4) (CBO, 2010, 11). Tax cuts for affluent households result in small increases in spending, and tax hikes result in only small decreases. Low and middle-income household, on the other hand, have very little savings, and any reduction in after-tax income results in an equivalent reduction in spending.

Given balanced budget constraints, there are few actions that states can take that will result in net increases in demand. Infrastructure projects, financed through bonds, are one example. Sustaining basic services by taxing high-income households is another. When faced with recession-induced budget shortfalls, raising taxes on affluent households is arguably the best option available to the states (Johnson, 2010).

Against these economic and fairness arguments for taxing high-income households, a variety of counter-arguments are often raised, most of them highlighting the ways that rich households might respond to higher taxes and the economic implications of those responses. We now turn to those arguments.

IV. BEHAVIORAL RESPONSES: “REAL” ECONOMIC ACTIVITY

There are a number of different ways that affluent households could alter their real economic behavior in response to tax policy changes. If taxes reduce the return to working or investing, affluent households could reduce their work effort, decrease their investment, start fewer businesses, or even cause them to move to a different state. Each of these options has been studied, giving rise to an extremely large literature on the behavioral responses to taxation. In the following sections we briefly address each of these responses. In the cases of labor supply, capital gains, and entrepreneurship, this brief summary relies heavily on excellent reviews of the literature (Blundell and MacCurdy, 1999; Schuetze and Bruce, 2004, and; Burman, 1999). Each of these fields of study is massive. In the case of labor supply, there have been at least three extensive literature reviews in recent decades, with the most recent being well over 100 pages, although each of them addresses more topics than just taxation. The analysis in this study also relies more generally on the work of Joel Slemrod, including his edited volume “Does Atlas Shrug?” looking at the responses of the rich to taxation at the national level.

Labor supply: work and hours of work

One way the affluent households might respond to a tax increase is by working less. Standard economic theory considers the decision of how many hours to work to be some function of the costs and benefits of working. Higher taxes on earnings lower the after-tax return, and make work less rewarding relative to non-work pursuits, typically referred to as “leisure.” In the limit this is almost certainly true, such that under a 100 percent tax rate no one would work. In the real world, though, the tax rate on top earnings is nowhere near 100 percent. Currently, the marginal rate on earnings faced by the highest-income groups in the US is 47.5 percent, including the top federal (35 percent) and state (11 percent in Oregon and Hawaii) marginal income tax rates, as well as the employee share of the Medicare portion of the FICA social insurance tax. Since the Social Security portion is capped – only applying to incomes up to \$107,000 – this does not factor into the hours of work decision of the highest income earners.⁶ The effective tax rate is, of course, far less than this, as the top marginal rate only applies to a portion of taxable income,

and taxable income is much lower than total income due to a whole host of credits and deductions.

Working less because the after-tax return to work falls is also not the only way that affluent households might respond to a tax increase. Since after-tax *income* also declines, households might decide to work more hours to maintain their pre-law-change levels of consumption. It is not clear which of these two effects, referred to, respectively as the “substitution” and “income” effects, will dominate.

The degree to which households alter their labor supply in response to actually experienced tax increases is an empirical matter. The research on this question indicates that labor supply— particularly among men — is unresponsive to changes in tax rates (Hausman, 1985; Blundell and MacCurdy, 1999). As Saez, Slemrod, and Giertz (2011) suggest, “with some notable exceptions, the profession has settled on a value of this [response] close to zero for prime-age males...” While most of the studies in this voluminous literature do not focus specifically on affluent households, the few studies that do look at the rich arrive at a similar conclusion.

Moffitt and Wilhelm (2000) use one of the few panel data sets with relatively large numbers of high-income households (the 1983-89 Survey of Consumer Finances Panel) and conclude that high-income households did not alter their labor supply in response to large federal tax changes in the 1980s. Showalter and Thurston (1997) use a unique cross-sectional data set of high-income doctors and find that physicians who are employees did not alter their hours at all in response to differences in state tax laws. Self-employed physicians were found to have a small response, working 0.3 percent fewer hours in response to a one percent higher state top marginal income tax rate. Because Showalter and Thurston’s (1997) results rely on cross-sectional variation across states, however, it is difficult to know if even this small response in hours is causally related to taxes, or is due to some third factor related to both taxes and incomes (e.g. public services or amenities that are financed by taxes and also attract population and increase the labor supply).

The one group of workers in affluent households whose labor supply has been found to be quite responsive to changes in taxes on earnings is females in married couple families (Eissa, 1995). Following the large reductions in marginal tax rates in the 1986 federal tax reform (TRA86), which lowered the top marginal income

tax rate on income from 50 percent to 28 percent, the labor supply of married women in high-income families (those at the 99th percentile of the income distribution) rose substantially. Women in these families increased their total labor supply by 8 percent for each 10 percent reduction in the federal marginal tax rate. The reason for the extreme responsiveness among married women is presumed to be the fact — assuming husbands were the primary earner — that their very first dollar (and every subsequent one) of earnings was subject to the top federal tax rate. Eissa (1995) further showed that this large labor supply response was almost entirely due to an increase in the labor force participation of these women, not an increase in the hours of those already working.

It is not clear, however, that Eissa’s (1995) findings shed much light on what policy makers should expect in response to changes in existing state-level income tax rates. No state has considered changes anywhere near as large as the policy change embodied in TRA86. It seems plausible that a married woman in an affluent household might choose to not pursue paid employment if her family were only able to keep half of her earnings, but then opt for paid work if they were able to keep three-quarters of her earnings. Much less plausible is the idea that a similarly situated woman would drop out of the labor force altogether if the take-home portion of her pay fell by a percentage point or two.

Migration

Among the possible responses to tax law changes, the threat of migration has most captured the imagination of state policy makers. The idea is that because affluent households have considerable resources at their disposal, they have the ability to simply move to another state if they are faced with a tax increase. Standard economic theory suggests that households choose their location by maximizing the net present value of the lifetime “utility” over each possible location. When a state raises taxes, rich households may conclude that they are now better off in some other state and decide to move.

This simple story of migration is incomplete, however, since it ignores that fact that moving is very costly, even for the rich. Selling a home, hiring movers, and buying a new home can all be quite expensive. Leaving a familiar place filled with family, friends, business associates, and other connections made by living in a place over

many years, in addition to removing kids from known schools and placing them into unknown ones, also impose substantial burdens.

The simple migration story is also incomplete as it neglects the reality that even affluent households value the public services that are sustained through raising taxes. The rich certainly drive better cars, but they still drive them on public streets. Even if affluent families send their kids to private schools, the businesses they own likely hire workers who graduate from local schools. And, rich families – even if they live in gated communities – value the protective services of fire and police services as much as any other families.

All of these factors which connect people to places are part of the reason that relatively few people actually move across state lines. Between 2008 and 2009, only 1.6 percent of households moved to a different state.⁷ And, those who do move across state lines are predominantly the young, many moving to college or home from college, or relocating to launch a new career. Once age and education are controlled for, income has only a very weak impact on the likelihood of moving to a different state, with the likelihood actually dropping for the highest income households (Thompson, 2011). Americans do change residences relatively often, but most moves are simply to a different house in the same state. A surprisingly large number of American adults (57 percent) have never lived anywhere except the state where they were born (PEW, 2008). Two-thirds of American adults spend most of their working lives in the state where they lived as a child, and nearly half spend their careers in their childhood metropolitan region (Bartik, 2009).

Given all of these countervailing factors, it is not surprising that the research exploring the impact of tax changes on cross-state migration of high-income households has found very little response. In one recent paper, Conway and Rork (2011) use several panel data sources and study the migration response of older households to changes in state tax policies over many years. They conclude that there is no evidence suggesting the older households move to a different state because of changes in taxes. Some older households, of course, have low incomes, but they are disproportionately represented among high-income households. In previous research, Conway and Rork (2006) did focus explicitly on the wealthy, and found no evidence that state changes to their estate, inheritance

and gift (EIG) taxes had any impact on migration if older, rich households.

Another important study of this issue concluded that some wealthy households might move from states that raise their EIG taxes. Bakija and Slemrod (2004) use a panel of federal tax return data to study how the number of returns with EIG taxes varies with state-level EIG tax rates over time. They find that a one percentage point increase in the state's EIG tax rate is associated with roughly a two percent decline in the number of EIG returns filed from that state. The authors conclude that the welfare cost and revenue loss from any tax-induced migration are small relative to the revenue collected through EIG taxes. There is also an important question as to whether a decline in the number of federal tax filings of wealthy households is the same as migration. The truly wealthy (the top one or two percent of the wealth distribution that is actually subject to EIG taxes) frequently have homes in more than one state. Changing one's state of residence for tax filing purposes, without actually "moving," is certainly a far less costly way of responding to such a tax change, and is an option available to wealthy with homes in different states. Bakija and Slemrod (2004) conclude that their results are "consistent with the notion that wealthy elderly people change their real (or reported) state of residence to avoid high state taxes, although it could partly reflect other modes of tax avoidance as well."

A more recent study looks at the migration behavior of affluent households in New Jersey in response to the 2004 adoption of a "millionaire's tax," which raised the top income tax bracket from 6.37 to 8.97 on taxable income above \$500,000 (Young and Varner, 2011). Using a very detailed panel data set of state tax returns, Young and Varner found evidence suggesting that households with taxable incomes above \$500,000 were just as likely to leave New Jersey before the new higher rate was adopted. Most of the results reported in the study show that the elasticity of the responsive of the migration rate to the state tax rate is less than 0.1 and not statistically different from zero.

The only groups with an identifiable response to the tax change were rich households with heads age 65 and older and the subset of "super-rich" household (those in the top 0.1 percent) who also earned all of their income from investments. These very small subsets of the rich did appear to increase their migration from New Jersey following the adoption of the "millionaire's

tax.” The migration of older rich households (household heads 65 and older with an annual income in the highest 0.1 percent of the income distribution) increased, for example, by eighteen per 1,000 of these households. Since these mobile types account for very few households, less than 18 percent of all New Jersey millionaires, the overall impacts on migration are quite small. Young and Varner (2011) find that New Jersey’s millionaire tax raised nearly \$1 billion in new revenue annually for the state.⁸

Even in a state such as Connecticut, with a relatively large number of very high-income households, the implied out-migration would be quite small. Estimates using income tax return data for Connecticut suggest that a new bracket raising the marginal income tax rate by 2.6 percentage points on income above \$500,000 would generate nearly \$690 million annually. Young and Varner’s results from the New Jersey study imply that this tax increase would cause between three and six very rich (incomes over \$3 million) Connecticut households to file from a different state. The revenue loss from these six households would be \$3.4 million.

Entrepreneurship

Another concern expressed over raising taxes on high-income households is how it might influence their decisions to start businesses, save, and invest. If increased taxes reduce the after-tax returns to investing in small business ventures, high-income individuals might be less likely to take risks, and entrepreneurial activity might decline. The body of research on the impacts of taxes on entrepreneurship (reviewed by Schuetze and Bruce, 2004) is large and growing. While some studies conclude that higher taxes reduce entrepreneurship, an even greater number conclude the opposite, finding that higher taxes lead to more new small business ventures and self-employment. On balance, these studies suggest that high-income taxes have little impact on entrepreneurship.

In part the seemingly counter-intuitive findings and the parade of contradictory results are a result of the difficulty of measuring “entrepreneurial” activity and the nuanced way that taxes might influence the decision to start a new business. First the definition of “entrepreneur” used in most studies is identical to self-employed. To the extent that policy makers envision “entrepreneurs” as inventors, trail-blazers, or visionaries whose investments and risk-taking might ultimately

create hundreds – if not thousands – of new jobs, then the self-employed are a poor proxy (Schuetze and Bruce, 2004). The self-employed include realtors, lawn mowers and a whole slew of small businesses that will never create jobs for anyone other than the semi-employed “owner.” The factors that drive entrepreneurial activity might be different from those that influence the decision to become self-employed.

Higher taxes can also influence the decision to pursue entrepreneurial ventures (or become self-employed) in a variety of ways. Higher taxes do reduce the after-tax return, but if losses from entrepreneurial ventures can be used to offset income from other sources, then the tax code functions as a kind of insurance. Since small businesses lose money and fail at high rates, this insurance is valuable, and the loss offsets become more valuable as the tax rate rises. Also, since it is easier for self-employed individuals to evade taxes, increases in personal taxes are expected increase the rate of self-employment.

Even as this area of research has developed, with economists using better data and developing ways to produce clearer results that overcome these and other complicating factors, the general conclusion remains that higher taxes have minimal impact on the decision to pursue entrepreneurial ventures.

Instead of looking at the self-employed, Bartik (1989) explored the impact of tax policy on the start-up of small firms using establishment data. His results indicate that higher corporate and property taxes result in fewer new start-ups, but that personal income and sales taxes had no significant impact. Even though some taxes (corporate and property) appear to modestly hinder the small business start-ups, Bartik’s study shows that if cutting those taxes “requires a reduction in business-related public services, small business starts will be reduced.”

Bruce and Mohsin (2006) update the time-series research using detailed tax measures and a variety of different ways to identify entrepreneurs (including self-reported status as most previous studies, as well as presence of “Schedule C” or “Schedule F” income on the federal tax return). They find that some tax measures appear to influence rates of entrepreneurship, but the impact is small. For example, the federal income tax has a significant impact on two of the four definitions of entrepreneurship, but the magnitude is so small that a 50 percent reduction in the top federal

income tax rate would only produce a one-percentage point increase in entrepreneurial activity. The one tax measure to have an impact on entrepreneurship that is not miniscule is the payroll tax. Ultimately Bruce and Mohsin (2006) conclude that taxes are likely to be “ineffective tools for generating meaningful changes in entrepreneurial activity.”

The most recent studies in this literature use state-level panel data, to exploit both cross-sectional as well as over-time policy variation, but continue to find weak and mixed impacts of taxes. Georgellis and Wall (2006) study the impact of changes in the combined (federal plus state) maximum personal income tax rate over the 1990s, and find that tax increases starting from low levels lead to fewer sole proprietors, but that tax increases starting from high levels lead to more sole proprietors. They graphically depict this response as “U-shaped” with rates of sole-proprietorship starting to rise along with taxes at the mid-point of the tax distribution.

Georgellis and Wall interpret these findings to mean that at some point the incentives for evasion (which lead to more sole proprietors) overcome negative effects of decreasing the reward for effort (which leads to fewer sole proprietors). To the extent that other factors that influence entrepreneurship are also changing (at the state level) along with taxes, though, other explanations could account for this relationship. Georgellis and Wall (2006) identify New England as one region that has relatively large numbers of sole-proprietors, saw relatively large increases in rates of sole-proprietorship across the 1990s, and also saw relatively large increases in top tax rates over the same period. Other factors, such as increased investment in education and university-driven research, which were changing during the 1990s, have been shown to influence entrepreneurship. These factors have been studied exhaustively elsewhere, but are not controlled for in the Georgellis and Wall study, and could account for these findings.⁹

Bruce and Deskins (2010) also use state-level panel data, but they use more detailed tax measures, a longer time period (1989 to 2002) and an arguably superior measure of entrepreneurial activity, and conclude “state tax policies generally do not appear to have quantitatively important effects on entrepreneurial activity.” Their detailed findings include some evidence that higher top personal income tax rates and the presence of state EIG taxes might slightly depress entrepreneurship; in the case of EIG taxes, coefficients on most specifications

are not significant and some are positive, and for the PIT top rates half of the coefficients are insignificant and some are positive. In all cases, though, the effects are small. Bruce and Deskins (2010) also find, however, some evidence that increased progressivity in the personal income tax and more aggressive corporate income tax structures –including combined reporting–slightly increase entrepreneurship. This finding, though, is in contrast to Gentry and Hubbard (2000), who find that progressive income tax rates depress entrepreneurship. Like much of the research preceding it, the findings of Bruce and Deskins (2010) indicate that the impacts of taxes on entrepreneurship are mixed and small, leading to the lesson that “tax policy changes will probably not have the effects on small business activity that policy makers might believe.”

Ultimately this body of research gives little reason to think that state tax policy changes will have much impact on the decision to pursue an entrepreneurial venture, and this same lesson should apply to state efforts to “tax the rich.” Some of the studies finding a negative impact of taxes show that it is payroll or property taxes that reduce entrepreneurship, since these taxes impose costs to small businesses whether or not they are actually turning a profit. In the case of Maryland or New Jersey, “taxing the rich” meant adopting new brackets for incomes above \$1,000,000 or \$500,000. Most small businesses do not make anywhere near \$500,000 annually in net income. And those that do make that much have the option of incorporating and being taxed under the corporate tax rules.

Capital gains taxes and investment

Another way that affluent households could respond to increased taxes – capital gains taxes in particular – is to decrease their investment in stocks and other assets. The tax treatment of capital gains is not strictly limited to high-income households, but it happens to be a type of income that is highly concentrated at the top of the distribution. The top three percent of households realize 88 percent of all capital gains income.¹⁰

Raising the tax on capital gains income, will lower the return to owning some types of assets, and could decrease investment. The economic implications for states, however, depend on how sensitive investment is to capital gains taxes, and how important in-state investors are to local firms. If investors decrease their stock holding or direct ownership of companies following a

capital gains tax hike, and businesses rely on financing from in-state investors, then a state's economy could grow more slowly.

The impact of capital gains taxes on investment behavior is one that has been researched heavily. A debate on the economics of capital gains taxes in the 1980s and 1990s inspired a considerable body of research, which ultimately found that these taxes have little impact on long-term investment behavior.¹¹ The debate was essentially resolved by a series of studies that were able to successfully distinguish long-term and short-term reactions to the tax. In this research, Leonard Burman, Alan Auerbach and some of their co-authors demonstrated that while transitory response of capital gains (changing timing of realizations) to taxes is indeed quite large, the permanent response (actual reductions in investment) is quite small (Burman and Randolph, 1994; Auerbach, 1988). Burman and Randolph (1994) used a detailed panel data set of taxpayers, and in all of the specifications the transitory response was economically large, highly significant, and always had the expected sign, but the permanent was always extremely small, just as likely to be positive as negative, and never statistically significant.

Since investors' willingness to hold assets is unaffected by capital gains taxes, there is little reason to think those taxes impact the broader economy. Accordingly, the research focusing directly on the economic growth impacts of capital gains taxes has found there is not a meaningful relationship. The CBO (1998) reviewed several leading models developed to project the economic growth response to cuts in the federal capital gains tax, and found that reducing the federal capital gains tax by five percentage points would have "only a modest effect" on Gross Domestic Product. The models that did not rely on "extreme or unwarranted assumptions" yielded only "small increases in GDP – well below 0.1 percent after ten years." The largest impact was 0.03 percent, and one of the models projected that a capital gains tax cut would reduce economic growth. Kravitz and Burman (2005) note that the over the last 50 years changes in capital gains tax rates are uncorrelated with real GDP growth. Burman (1999) conducts a variety of time series regressions, and shows that even after allowing the tax rate to have a lagged effect, there is still no relationship between capital gains taxes and economic growth.

Surveying the debate over capital gains, economists at the Brookings Institution (Aaron et al, 1999) determined that tax cut advocates' claims about economic growth were "false." Not only do investors not alter their long-term behavior, but there are host of other important details concerning capital gains that suggest tax cuts will have only a minimal impact on growth. As Aaron et al (1999) note, "Capital gains already receive highly preferential treatment under the income tax: they are taxed on a deferred basis, they are not taxed at all if held until death, and they face lower rates than apply to other income if and when they are taxed." Currently long-term capital gains income is taxed at 15 percent for households in the top three federal tax brackets and zero for those in the bottom two. In addition, eight of the states with income taxes also provide special treatment (ITEP, 2011).

More than half of capital gains producing assets – including retirement accounts and residential real estate – are already effectively exempt from the tax (Hungerford, 2010). Venture capital funds – an important source of investment financing – are subject to the tax but the vast majority of investors (90 percent in 2003) in those funds are not subject to the tax, including pension funds, college endowments, and insurance companies (Hungerford, 2010.) Because it does not impact investment raised through debt, returns paid through dividends, or the large share of capital gains that already go untaxed, a tax cut would have only a small impact on the "cost of capital," resulting in little increase in saving or investing. In 2002, the CBO (2002) estimated that cutting the federal capital gains tax by 30 percent (from the then rate of 28 percent) would reduce the cost of capital by less than one percent.

State level tax cuts are expected to have an even smaller impact on economic activity, since to succeed they need to encourage investment *within the state*. A tax cut would not lower the costs of investing in the state, but merely to investors who happen to reside in the state, whether their investments are in another state or another country. Reviewing research on investors' responses to state-level capital gains taxes, economist Leonard Burman (1999) showed that the "research found the measured response to differences in state tax rates – the permanent effect – to be small and not statistically different from zero."

V. TIMING AND COMPOSITION SHIFTS AND THE “ELASTICITY OF TAXABLE INCOME”

The list of fears voiced by policy makers cover some of the ways that rich households might respond to higher taxes – they might migrate, work less, save less, or start fewer businesses. These responses are the ones that would potentially have the largest negative impacts on a state’s economy, and they are the most “visible” means of responding, but they are also the most costly ones for tax payers to actually pursue. There are other ways that rich households can also respond that are not as costly.

In his hierarchy of behavioral responses to taxes, pre-eminent public finance economist Joel Slemrod ranks timing changes as the first and most likely response to tax changes, composition shifting as second, and changes in “real” economic behavior last and least likely (Slemrod, 2001; Slemrod and Yitzhaki, 2002). The fundamental reason that households would alter their behavior in response to tax changes, after all, would be to obtain the highest level of well-being (“utility”) following the change in the tax. For this reason, households can be expected to use the easiest, least costly and least disruptive means of responding to taxes – if in fact they respond at all. If households can simply alter the timing of a taxed activity and largely avoid the impact of a tax change, they can be expected to do so. If they can alter the way their income is categorized for tax purposes and avoid the tax, they can be expected to do so.

Slemrod’s hierarchy of behavioral responses to tax changes is both a general result of how utility-maximizing individuals and households are expected to respond, but is also the product of researchers grappling with the findings from studies of the “real” behavioral responses for many years. Household don’t seem to alter their actual hours of work, their geographic location, but they have been shown to dramatically shift when they sell an asset in advance of an impending capital gains tax increase. This same timing dynamic has been documented by Goolsbee (2000), who showed that among high-income corporate executives, there was a surge in the exercising of stock options in 1992 in advance of the pending increases in the top marginal tax rates in President Clinton’s OBRA93. Executives without stock options – even very high-income

executives – exhibited no measurable change in income around the time of the tax law.

The second tier in Slemrod’s hierarchy is “composition shifts,” whereby executives, business owners, or investors alter their compensation and investments toward more tax-favored form of income and assets. For example, if the tax difference between earnings and capital gains rises, corporate executives can shift the balance of their pay between salary and stock options. Similarly, owners of small businesses can choose to incorporate if the personal income tax rate rises relative to the corporate income tax rate. Slemrod and Gordon’s (1998) analysis indicates that shifting between corporate and personal taxable incomes in response to tax differentials is substantial.

Other studies find that the way households allocate their savings across different assets types is relatively sensitive to the tax treatment (Bovenberg, 1989; Burman et al., 1990). Scholz (1994) analyzes asset portfolios and how they were altered in response to TRA86. Following the law change, high-income households modified their portfolios, to some extent, reflecting changes in tax treatment of different assets and debt classes. This basic finding is supported by most of the studies on this topic reviewed by Poterba (2002), although the magnitude of the response is not a settled question. Some recent careful empirical analysis indicates that the magnitude of the response is not large. Using detailed Canadian tax data, Alan et al (2010) find that “among more affluent households and at the means of the data, a 10 percentage point increase in marginal tax rates increases the portfolio share of taxed-favored assets by 1.7 percentage points, and decreases portfolio share of moderately taxed assets by 1.3 percentage points. These are small effects.”

The “elasticity of taxable income”

What these two “top tiers” of Slemrod’s hierarchy have in common is that while they alter taxable income – for a time at least – they don’t alter long-term “actual” incomes (measured over-time and before deductions and credits). Changes in “real” behavior such as work effort or investment do impact a household’s actual income, but timing and composition shifts simply affect taxable income, or the time-period during which income is subject to a tax. Increasingly, research on the “Elasticity of Taxable Income” (ETI) demonstrates that the behavioral responses to taxes that actually occur to any substan-

tial degree are ones that affect taxable income, but not “actual” income. (This section relies heavily on the recent extensive review of the ETI literature by Saez, Slemrod, and Giertz (2011).)

Research on ETI measures how income changes in response to taxes. Because most possible behavioral responses to taxes also impact income, in some sense ETI is a comprehensive combined measure of the impacts of taxes. If a person reduced her hours of work in response to a tax increase, for example, then her income also changes. This approach to analyzing taxes is possibly preferable to measuring labor supply, for example, because of its comprehensiveness, but also because it may be easier to measure than changes in labor supply. Initially, this approach, pioneered by Feldstein (1995) suggested very large impacts of tax changes.

As this field has developed, though, researchers have increasingly been able to differentiate between changes in taxable income as opposed to “actual” income. Taxable income turns out to be quite responsive to changes in taxes, while “actual” income is much less responsive. One important study in this field (Gruber and Saez, 2002) looked at a panel data set of tax filings, and found that taxable income of relatively affluent households (those with incomes above \$100,000) rose 5.7 percent for every 10 percent decline in the marginal tax rate during the 1980s. Income before deductions, however, only rose 1.7 percent, and the coefficient was not significantly different from zero. No change was found among those with lower income levels. Indeed, this pattern is exactly what you would expect to see under Slemrod’s hierarchy.

The most recent studies indicate that any income responses to taxes are even more highly concentrated at the very top of the income distribution. Bakija, Cole, and Heim (2010) construct a panel data set of income tax returns from 1979 to 2005 that is large enough to reliably measure responses at the very top of the income distribution. Over the bottom 90 percent of the income distribution, there was no identifiable response in gross income to the after-tax share of income (one minus the effective tax rate, including federal and state income taxes and social insurance taxes). Households in the top 10 percent of the distribution, but not including the top 0.1 percent, exhibited no permanent changes in gross income, but the findings suggested evidence of timing changes in response to tax policy. Among those households in the top 0.1 of the income

distribution, the findings were mixed. Gross income responses ranged from large and significant (elasticity of 0.7) to small and statistically insignificant (elasticity of 0.1), depending on the specification used and how trends toward greater income inequality over this period are accounted for (Bakija, Cole, and Heim, 2010, Tables 12 and 14). The larger of these responses would imply that a 10 percent decline in the after-tax share of income (1 minus the tax share of income) reduces gross income by seven percent.

State-level analysis also gives little reason to think that state-level taxes have much impact on gross income. Gruber and Saez (2002) include some tests for state level taxes in their paper, but do not obtain any statistically significant results. Bruce, Fox, and Yang (2010) develop a state-level panel of tax base measures covering 18 years. Their findings indicate that changes in state income tax rates do not impact the broadest measure of tax base, but do affect more narrow measures. They interpret these results as being consistent with taxpayers responding “to a tax rate increase by engaging in tax planning in order to move some of their taxable income into lower-tax-rate states (for example, by owning a vacation home in a low-tax-rate state and receiving capital income in that state).” These forms of tax avoidance, though, do not require actually moving or altering “real” economic activity.

VI. PUTTING BEHAVIORAL RESPONSES INTO CONTEXT

The evidence available in the research literature suggests that the worst fears of the policy debates over raising additional revenue from high-income households to sustain spending on public services are unlikely to materialize. The rich will not go on strike. They will not cease working, stop investing, or even move, but they likely will find ways to shift the timing and composition of their income in order to avoid paying taxes.

The immediate result of this likely outcome is that revenue collections will fall below projected levels from static models that do not take tax avoidance into account. Tax revenue will certainly rise, as the elasticity of taxable income falls well below one, and is actually very low for many high-income groups. And, to the extent that timing shifts are the approach used to avoid taxes, actual collections re-converge with static projections over time if the tax changes are permanent.

While the economic impact on a state's economy is less dramatic than changes in "real" economic behavior, these responses will have some impact. By increasing the wedge between the "market-determined" best use of resources and highest after-tax return on resources, higher taxes on rich households will certainly generate some inefficiency and deadweight loss. Paying accountants and tax attorneys to find ways to avoid paying taxes helps the affluent household, but is waste from society's perspective. If the tax system causes resources to be directed away from their most productive uses, then society can expect output to decline over the long-term.

This avoidance behavior, however, already exists and is primarily driven by federal taxes, which are much higher for affluent households than state income taxes. It is not clear that modest marginal tax rate increases on affluent households will result in a large increase in tax avoidance. A temporary tax increase – even a of a few percentage points in a new millionaires tax bracket – will impose little life-time cost on affluent households and will result in little additional avoidance. Temporary changes, though, will tend to result in greater use of some forms of time-shifting (capital gains realizations), and may drive anticipated revenues from a tax increase even lower than anticipated.

But against these considerations of the size of potential waste from increases in tax avoidance of rich households, policy makers need to weigh the real and current costs associated with underinvesting in basic services that matter to people and the region's economic growth. Faced with several years of budget shortfalls, and more to come yet, state and local governments have cuts the budget of K-12 education, universities, and public safety. These basic services play a fundamental role in promoting economic growth, by training the future workforce, and making neighborhoods and businesses safe.

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NOTES

1. Sales taxes are regressive since low and middle income households spend more of their total incomes than do affluent households, and thus pay the tax on a larger share of their income. Property taxes are regressive because housing is much larger share of assets and spending among lower and middle-income households than affluent ones.

2. Only in the District of Columbia do the poorest households pay a lower effective rate, but even in D.C. the richest one percent pays a lower tax rate than all other income groups except the bottom 20 percent.

3. NASBO, "Fiscal Survey of the States," Fall 2009, Table A-11.

4. In FY 2010 and FY 2011 eleven states raised corporate income taxes.

5. <http://econproph.com/2011/09/19/stimulus-requires-more-than-taking-your-foot-off-the-brakes/>.

6. Social insurance taxes would theoretically influence the decision to whether or not to work at all.

7. US Census Bureau, 2010.

8. Young and Varner (2011) estimate the revenue gain by calculating tax revenues on the 2006 sample of rich taxpayers first using 2004 and then 2006 tax rules. They conservatively exclude the income tax loss resulting from 70 fewer millionaires living in the state, although the coefficient on that migration result is not statistically significant.

9. An incomplete list of relevant studies on the impact of university-based research and innovation and entrepreneurship includes: Stuart and Sorenson, 2003; Sorenson and Audia, 2000; Zucker et al, 1998; Woodward et al, 2006; Feldman and Florida, 1994; Hall et al, 2003; Audretsch and Feldman, 1996; Audretsch et al, 2005, and; Abel and Deitz, 2009.

10. PERI analysis of IRS tax statistics for 2008.

11. Much of this debate and the related research are reviewed in *The Labyrinth of Capital Gains Tax Policy: A Guide of the Perplexed* (Burman, 1999).

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