“Evidence on Labor Supply and Taxes, and Implications for Tax Policy” by Nada Eissa

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The chapter by Nada Eissa provides a timely evaluation of tax cuts on labor income during the Presidency of George W. Bush. The cuts were moderate in size and extended across the income distribution. Eissa calculates that legislation enacted in 2001, 2002 and 2003 lowered marginal federal income tax rates by 2.6 percentage points, on average across households, and lowered average income tax rates by 2.7 percentage points. One goal of the chapter is to gauge the likely impact of these tax cuts on labor supply.

Some of the evidence reviewed by Eissa suggests that the Bush tax cuts had a very modest effect on labor supply. According to the illustrative calculations in Table III, for example, the Bush tax cuts raised hours worked by a mere 9 hours per person (23-59 years old) per year. These calculations neglect heterogeneity among workers in tax changes and response behavior, and they do not disentangle responses on the hours and employment margins. Whether – and how much – these simplifications understate the overall response of hours worked to the Bush tax cuts is unclear. The chapter acknowledges these issues but it does not tackle them directly.

Other evidence suggests that labor supply is highly responsive to taxes for some demographic groups on some margins. Thus, Eissa writes in her conclusion that a “careful read of the evidence … suggests that labor market entry and exit is very sensitive to taxes, especially for female household heads but also for married women.” Eissa also notes that labor supply responses to taxes are not limited to the decision of how many hours to work and whether to get a job.

Micro and Macro Studies of Labor Supply Responses to Taxes

In her review of empirical evidence, Eissa focuses on studies of individual labor supply responses to tax changes. These studies typically find small elasticities of hours worked in response to tax rate changes for most demographic groups. Small elasticities multiplied by the moderate size of the Bush tax cuts yield the small overall hours effect reported in Table III.

Several recent studies find larger elasticities of hours worked with respect to country-level changes and differences in tax rates. Examples include Prescott (2004),
Davis and Henrekson (2005), Rogerson (2006) and Gordon (2007). One reason these macro studies find bigger elasticities is that they capture government spending-side responses to tax changes, responses that are usually ignored in studies of individual labor supply. Spending-side responses matter for labor supply outcomes, perhaps as much or more than the direct effects operating on the tax side.

To see the implications of spending-side responses, consider a hike in labor income tax rates that raises government revenues. It is helpful to distinguish three cases:

A. Use the extra revenues to fund government purchases of goods and services that are not substitutable with private spending. Military spending is the leading example that approximately satisfies this requirement.

B. Use the extra revenues to fund lump sum transfers to households. “Lump sum” means that the transfers are not means tested or otherwise dependent on the recipient’s behavior or circumstances.

C. Use the extra revenues to fund government safety net and social insurance programs. Leading examples include government programs for Medicaid, food stamps, unemployment insurance and disability payments.

In case A, the extra government spending has no effect on household resources or incentives, and not much is lost by ignoring spending-side responses. In this case, the tax hike affects labor supply through direct effects of tax rates on individual work incentives and through general equilibrium responses. The individual work incentives involve the substitution and income effects that are staples of micro-oriented labor supply studies. Thus, the basic approach taken by Eissa and other micro-oriented studies (CBO, 2007, for example) captures the full effect of tax rate changes on aggregate hours worked when (a) the government spending-side response approximates the conditions of case A, and (b) there are no important general equilibrium effects on labor supply.

In case B, the extra government spending reduces individual work incentives through an income effect. The lump sum transfer payments make households richer, so they work less. To a first approximation, this income effect on the spending side cancels out the income effect on the tax side. On net, we are left with a pure substitution response to the tax hike. According to Table 2 in CBO (2007), the substitution elasticity is 78% greater than the total wage elasticity that captures both income and substitution effects. Thus, using CBO assumptions, the tax hike lowers aggregate hours by 78% more in case B than in case A.

In case C, the tax hike lowers aggregate hours by an even larger amount, because the benefit side of social insurance programs discourages work activity through means testing, other eligibility requirements and phase-out provisions. The available evidence indicates that labor supply elasticities with respect to benefits for unemployment insurance, worker compensation and disability insurance are substantially higher than those found in traditional labor supply studies (Krueger and Meyer, 2002). If this pattern

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1 The figures in the top row of Eissa’s Table III imply that the pure substitution response is 59% greater than the “total” response, where the 59% figure is computed as 100(14-8.8)/8.8.
holds broadly for government transfer payments, then the effect of a tax hike on aggregate hours in case C may be more than twice as large as in case A.

Most government spending in the United States and other rich countries is for transfer payments to households. Differences among rich countries in the fraction of GDP devoted to government spending are also mainly the result of transfer payments. Likewise, transfer payments largely account for the more rapid growth of government spending relative to GDP in Western Europe than in the United States since the 1960s. These facts suggest that the data variation used in macro studies of rich-country tax responses is closer to case C than case A.

These observations lead me to three conclusions. First, spending-side responses to tax changes are an important determinant of the overall response of hours worked. Second, macro studies find bigger labor supply responses to tax changes than micro-oriented studies, partly because the macro studies capture the spending-side responses of government behavior. Third, if future tax hikes lead to bigger government, they will discourage labor supply by substantially more than suggested by micro-oriented studies.

Longer Run and Equilibrium Responses to Taxes

Traditional micro-oriented studies of labor supply behavior also understate the longer run response to tax rate changes for another set of reasons. At the individual level, an adjustment in hours worked may require a job switch, a change in child care arrangements, or other significant lifestyle changes. Such changes often involve large fixed costs and some time to bring about. As a result, the full response of hours worked to tax rate changes involves lumpy adjustments at the individual level and unfolds slowly over time in the population. Most micro-oriented studies of labor supply behavior are not well designed to capture this type of dynamic response.

Equilibrium responses to tax changes are also likely to unfold slowly over time and to involve effects not captured by micro-oriented studies. To see these points, consider the example of underground economic activity motivated by a desire to evade taxes. High tax rates on labor income encourage households to supply labor and procure goods and services in the underground economy. Tax evasion of this sort requires cooperation between at least two persons, a buyer and a seller. A key point is that it becomes easier to find a willing accomplice for off-the-books exchange in a higher tax environment. When taxes are high generally, more people seek accomplices to help evade taxes. In this respect, the underground economy is a network that becomes more attractive as more people participate. Such networks are slow to evolve and, once in place, can be difficult to eradicate.

Two conclusions follow from this brief discussion of taxes and the underground economy. First, micro-oriented studies do not capture the network effect sketched above,

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2 My discussion in this comment does not cover the full range of potentially important equilibrium labor supply responses to taxes.
because they rely on individual-specific variation to identify the effect of taxes on labor supply. For this reason, they understate the extent to which taxes lead to an expansion of the underground economy at the expense of the legal market economy. Second, because networks are slow to evolve and dissipate, taxes have a slow-working effect on the amount of labor supplied to the underground economy.

Schneider and Ente (2000) and Davis and Henrekson (2005) review evidence on taxes and the underground economy and provide references to the literature. Davis and Henrekson also stress that micro-oriented labor supply studies are unlikely to capture the full effect of taxes on substitution between market activity and home production, e.g., restaurant meals versus home-prepared meals. Lindbeck (1995) discusses other reasons for delayed responses to the economic disincentives created by high tax rates and generous social insurance programs.

**Labor Supply Responses on other Margins**

In her review of the evidence, Eissa focuses on whether to work, and how many hours to work when employed. This focus mirrors most of the literature and available evidence. Many, many studies investigate the response of employment and hours worked to taxes. Labor supply responses on other margins are harder to measure and, as a result, are much less studied. Of course, that does not mean that other response margins are small or unimportant, or that we can safely ignore them in forming judgments about tax policy.

A fundamental point is the following: the negative impact of income taxes on economic efficiency is potentially large even when hours and employment are not very responsive to taxes. What matters for efficiency under reasonable conditions is the elasticity of taxable income, as shown by Feldstein (1999). Chetty (2008) generalizes the Feldstein analysis to cover situations where part of the cost of tax evasion and tax avoidance involves a transfer of resources to other persons in the economy. The chapter by Giertz (2008) in this volume reviews what we know about the elasticity of taxable income.

The study of taxable income elasticities is attractive because of its promise to capture the full range of labor supply responses to tax changes without the need to identify and isolate every important response margin. However, the taxable income approach presents its own problems, and the literature in this area has not reached anything approaching a consensus. For this reason, among others, it is important to directly investigate other labor supply response margins such as schooling and training, occupational choice, the form of compensation, immigration and emigration, the choice between market provision and home production, and the choice between legal activities subject to personal taxes and underground activities that evade taxes.

Eissa mentions two recent studies that investigate tax effects on entrepreneurial activity. Gentry and Hubbard (2005) stress the potential for high tax rates and a
progressive tax schedule to discourage risk taking activities by acting as a tax on “success.” Because of tax progressivity, a risk-neutral investor requires a higher pretax expected return to undertake a risky project or business enterprise. The effect is to discourage risk-taking business activities. Cullen and Gordon (2007) point out that the option to incorporate weakens or reverses this effect when the corporate income tax rate is lower than the personal tax rate. In this case, the option to incorporate effectively allows the entrepreneur to choose a lower tax rate ex post in the event that the enterprise succeeds. Cullen and Gordon also analyze other channels through which the tax system affects entrepreneurship and risk taking. The overall effect of tax changes on risk taking depends very much on the details. For example, a 5-percentage point across-the-board reduction in personal tax rates discourages risk-taking activity according to their analysis, but a move to a Hall-Rabushka (1995) style flat tax with a 20% tax rate encourages it.

A progressive income tax schedule also penalizes other types of “success.” I will give one example. Like many forms of human capital investment, attending college involves an important tradeoff between income now and income later. If the extra future income attributable to college pushes the individual into a higher tax bracket, then tax progressivity reduces the after-tax rate of return to a college education. In this way, a progressive tax schedule discourages investments in a college education. The same point applies to other human capital investments that involve a tradeoff between income now and income later. I am not aware of studies that directly examine the response of college enrollment rates to tax progressivity, but many studies find that college enrollment rates are sensitive to the rate of return to education. See, for example, Fredriksson and Topel (2008), who document a close relationship between the returns to college and college enrollment rates.

Summary

The chapter by Eissa offers a useful discussion of how work hours respond to tax rates on labor income. Like most of the literature, her discussion focuses on micro-oriented studies of individual labor supply behavior. These studies are highly useful, but they neglect several aspects of the broader labor supply response to taxes.

With respect to hours worked, the full impact of a change in labor income tax rates is bigger than suggested by micro-oriented studies for several reasons. First, the micro-oriented studies typically neglect government-spending responses to tax changes and the impact of government spending on labor supply. Second, most micro-oriented studies are not well designed to capture the longer term effects of taxes on individual labor supply decisions. Third, studies of individual labor supply do not capture equilibrium responses to tax rate changes.
References