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Labor supply, deadweight loss and tax reform act of 1986: A nonparametric evaluation using panel data ☆

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Abstract

Tax Reform Act of 1986 (TRA 1986) has provided an invaluable source of variation in tax rates to study the effects of tax reforms on labor supply in the US. Most existing studies exploiting variation generated by TRA 1986 have used cross-sectional variation in tax rates or assumed a linear labor supply function or have not couched their analysis in a nonlinear budget set framework. This paper uses the drastic variation in the budget set induced by TRA 1986 as a source of identification and combines two novel approaches to estimate behavioral effects of tax reforms. I first use nonparametric estimation methods with nonlinear budget sets [Blomquist, Sören, Newey, W., 2002. Nonparametric estimation with nonlinear budget sets. Econometrica 70 (6), 2455–2480] to estimate a labor supply function, using waves of PSID just before and after TRA 1986. Nonparametric method developed in Hausman and Newey [Hausman, J., Whitney Newey, 1995. Nonparametric measurement of exact consumer's surplus and deadweight loss. Econometrica 63, 1145–76] is then applied to estimate the deadweight loss from TRA 1986. The nonparametric estimate of the compensated wage elasticity is 0.22. I find that TRA 1986 had a small but positive effect on labor supply of men of about 2% at the sample mean. TRA 1986 was associated with robust reduction in

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deadweight loss from the pre-TRA 1986 level and this reduction is positively correlated with income and wages.

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1. Introduction

About 20 years after one of the most comprehensive tax reforms in US history, there is once again talk of simplifying the income tax code.[1] At the heart of the argument for transitioning to a simpler tax structure, is a new realization that taxes can have a negative influence on labor supply and that high income tax rates can have adverse consequences for the economy (Prescott, 2004). Any serious evaluation of a prospective tax reform proposal must draw its lessons from the Tax Reform Act of 1986 (TRA 1986).

TRA 1986 has provided invaluable source of variation in tax rates to identify the impact of taxes on various aspects of economic behavior, which has been used by several researchers to study the impact of taxes on labor supply (Hausman and Poterba, 1987; Bosworth and Burtless, 1992; Eissa, 1995, 1996; Mariger, 1995; Moffitt and Wilhelm, 2000; Ziliak and Kniesner, 1999, 2005). Existing papers have presented some very compelling evidence on effects of TRA 1986 on labor supply. But the results are not conclusive and there is still significant scope of improvement in measuring its effects. Even though there is a widely held belief that male labor supply is inelastic, Hausman and Poterba (1987) and Ziliak and Kniesner (1999) found that the deadweight loss effects may not be insignificant.

Just like any other progressive tax system, TRA 1986 created kinks in the individuals' budget sets. Several advances have occurred in estimating the effect of taxes on labor supply when the budget set is nonlinear. Until recently Maximum Likelihood (ML) approach of Burtless and Hausman (1978) has been the most popular method to deal with kinks in the budget set. Blomquist and Newey (2002) and Hausman and Newey (1995) have proposed nonparametric methods to estimate labor supply response and deadweight loss from taxes which relax two of the most common assumptions employed in estimation of labor supply responses with nonlinear budget sets: linearity of the labor supply function and probability distribution of the stochastic error term.

This paper makes three contributions to the existing literature on the impact of TRA 1986 on labor supply. First, I update the existing US male labor supply literature by applying some significant advances in nonparametric estimation of labor supply functions incorporating nonlinear budget sets (Blomquist and Newey, 2002). This is the first paper to apply this method to study the labor supply behavior of US men. Second, the paper exploits the substantial budget set variation generated by TRA 1986 as a source of identification and uses panel data from the PSID to estimate the effects of tax reforms in a nonparametric framework. Third, this is the first paper to apply nonparametric methods developed in Hausman and Newey (1995) to estimate deadweight loss from TRA 1986. The estimates and new specification tests carried out in this paper will help researchers and policy makers better understand the likely impact of prospective tax reforms on labor market behavior.

Findings indicate that using the variation generated by TRA 1986 in the complete budget set of the individual – rather than just the marginal tax rates – is important for estimation of wage and income elasticities and deadweight loss from taxes. I find evidence of downward bias in elasticity estimates if

[1] President Bush has created a Tax Reform Commission to examine tax code simplification.