CONTRASTING CALCULATIONS OF MARGINAL TAX RATES

Robert A. Moffitt

There are significant differences in the marginal tax rates, both before, during, and after the Great Recession, reported by Professor Mulligan and myself. My marginal tax rates in the 2008 to 2012 period, for example, are never more than 18 percent, yet Professor Mulligan’s marginal rates range from 40 to about 48 in his Figure 2. One difference is my exclusion of payroll taxes. The combined employee and employer rate just prior to the Great Recession was 15.3 percent, bringing my 2008 rates up to a maximum of 27.3, and still leaving a large gap between these figures and 40.

The main difference is, instead, that Professor Mulligan’s rates are calculated by first determining the amount of total government transfers received by an unemployed or underemployed family, and then dividing that by $3,885 per month or $46,620 annually (Mulligan, 2012). He terms this a “replacement rate” for the median worker who is comparing the value of not working at all (or not very much) compared to working full time. This is a legitimate rate to calculate, although it generally would not be termed an average tax rate rather than a marginal tax rate. But it is not representative of the average or marginal taxes at other points in the earnings distribution, and cannot be interpreted as any kind of representative, average tax rate for the low-income population or even the low-income and middle-income populations combined. More important, this choice has a major effect on Professor Mulligan’s calculations of the value of benefits received if not working, since he includes in that value the amount of income tax and payroll tax the individual would have if working full time (foregone taxes), and these amount to $9,564 annually for the median worker. A more appropriate estimate would be $1,277, the amount of

1 Few families with incomes below 150 percent of the poverty line paid positive federal or state income taxes. Medicaid would increase tax rates in the 50 percent to 100 percent or 100 percent to 150 percent poverty range, but there were no major changes in Medicaid rules during the Great Recession.
2 Professor Mulligan uses this rate in his later calculations of the impact of taxes on the economy.
3 Mulligan (2012, p. 23) calculates $482 in monthly payroll taxes, $315 in monthly income taxes (10 percent of $3,148) for a total of $797 per month, which can then be multiplied by 12.
payroll tax paid by a family of three with earnings equal to the poverty line (Tax Policy Center, 2014).

Professor Mulligan also includes mortgage forgiveness subsidies in his benefits, available if not working, on the assumption that a full-time median worker would not be eligible for those, but most disadvantaged families rent, not own; and he includes an amount for unsecured consumer loan debt on the assumption that the median full-time worker would not be forgiven as much of that debt as a nonworker would. Excluding his foregone taxes, mortgage forgiveness, and unsecured consumer loan debt from his benefit calculation brings his 2007 benefit amount down to $7,800 annually and his tax rate down from 40 percent to 17 percent.4

In addition, Professor Mulligan assigns a heavy weight to Unemployment Insurance (UI) receipt for nonworkers, but most disadvantaged workers do not quality for UI, and he assumes a high rate of multiple program participation when, in fact, such multiple program participation is quite low.5 My best estimate of the pre-Recession “replacement rate”—Professor Mulligan’s concept—for a family of three with earnings equal to the poverty line is equal to the payroll tax figure of $1,277 plus $3,257 per year, my estimate of the average sum of means-tested transfer benefits for a nonworker in 2007.6 Summing these and dividing by the 2007 poverty line for a family of three gives a tax rate of 27 percent.

Despite the fundamentally different concepts of marginal tax rates used by Professor Mulligan and my rates in my Table 1, the amount by which tax rates increased during the Great Recession is only slightly different, with his Figure 2 showing an increase of approximately 8 percentage points from 2007 to 2010 and my Table 1, showing increases from 5 percentage points to 8 percentage points from 2008 to 2010, depending on the private income range. Subtracting the 2 percent temporary reduction in the payroll tax enacted during the Recession, my estimates of increases in rates range from 3 to 6 percentage points. The percent change in the net wage—which is \( W(1 - t) \), where \( t \) is the marginal tax rate and \( W \) is the hourly wage rate—is \( -\Delta t/(1 - t) \). Taking my maximum 2008 value of \( t = 0.12 \), this implies a maximum 0.06/0.88 = 0.07. Taking the median estimated wage, elasticities for men and married women from a review of the literature (Blundell & MaCurdy, 1999, Tables 1 and 2), this implies a labor supply reduction of a little over 0.01 for men and 0.06 for married women from 2008 to 2010.7 As I noted in my Point essay, this is an upper bound estimate of the labor supply effect during a downturn and, indeed, the two extant studies of the effect of UI expansions on unemployment spells and the study of whether the Supplemental Nutrition Assistance Program caseload deviated from its normal cyclical behavior suggest that there was, in fact, no effect of the Great Recession reforms in those programs on work effort.

The average tax rates shown in Professor Mulligan’s Figure 2 for years after 2012 include estimates of the effects of the Affordable Care Act (ACA; Mulligan, 2013). Once again, these represent the ratios of health care benefits to median earnings and hence are not generalizable to the rest of the population. The two largest taxes from the ACA estimated by Professor Mulligan are the taxes induced by the phase-out of

---

4 This is $650 per month times 12 (Mulligan, 2012, Figure 3.6).
5 Mulligan does not estimate multiple program participation directly but instead assigns eligibility and participation rates to the population, which implies considerable multiple-program participation. Multiple-program participation today is very low among the nonelderly nondisabled (see, e.g., Moffitt, 2015).
6 This is the estimated 2007 intercept of the regressions behind Table 1 in my Point essay.
7 A wage elasticity for men of 0.15 and for married women of 0.90 is used. Professor Mulligan uses a Frisch elasticity of labor supply instead of a cross-sectional static elasticity. The Frisch elasticity assumes a level of intertemporal substitution that is implausible for the liquidity-constrained disadvantaged population and, in addition, there are widely divergent views in the econometric literature on its exact value.
tax subsidies on the exchanges and the loss of exchange subsidies for a part-time worker who has a subsidy who would move to a full-time job with unsubsidized employer-provided health insurance. He estimates the former to be $832 per month (2014 dollars) and the latter to be between $508 and $582 per month (Mulligan, 2013, Table 1). These are added into the benefit amounts for nonworkers and underemployed workers, but they are far larger than would be the case for a large fraction of the population. Professor Mulligan applies “weights” to scale these figures down but he still estimates that they add about 3.8 percentage points to the representative average tax rate in the United States, which is implausibly large (Mulligan, 2013, Figure 2).

Finally, no adjustment is made for the cash-equivalent value of the health care being purchased but, instead, the health benefits are treated as equivalent to cash. Using the same 50 percent discount Professor Mulligan uses for Medicaid would mean dividing his estimates of increased marginal tax rates by 2.

ROBERT MOFFITT is the Krieger-Eisenhower Professor of Economics at Johns Hopkins University, 3400 North Charles Street, Baltimore, MD 21218 (e-mail: moffitt@jhu.edu).

REFERENCES


Professor Moffitt and I both discussed incentives created by social safety-net programs in the present, recent past, and the near future, and their possible behavioral effects. Although coming from somewhat different perspectives—poverty research