TAX PROGRESSION: INTERNATIONAL AND INTERTEMPORAL COMPARISONS USING LIS DATA

by
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Abstract

Several methods of comparing tax progression have been employed, local measures, global measures and dominance relations involving first moment distribution functions. Local measures of tax progression have the disadvantage of ignoring the significance of the income distributions for matters of comparative tax progression. Global measures of tax progression are affected by the drawback of all aggregation, viz. ignoring structural differences between the objects to be compared. Dominance relations of comparing tax progression suffer from their assumption that the same income distributions have to hold for the situations to be compared. This invalidates the dominance-relation approach for international and intertemporal comparisons of tax progression because for such comparisons the assumption of identical income distributions is typically violated.

Based on earlier work of one of the authors, this paper develops methods to compare tax progression for dominance relations under different income distributions. This is addressed as *uniform tax progression for different income distributions*. The respective approach is presented for the continuous case, and, in preparation for empirical investigations, also for the discrete case. Uniform tax progression for different income distributions can draw on several methods. We applied analyses in terms of taxes, net incomes, and differences of first moment distribution functions. For the analysis in terms of taxes and net incomes we employed both population share cumulants and income share cumulants; for differences of first moment distribution functions we applied only population share cumulants because of methodological reasons. This gave us six methods of comparing tax progression

This paper is the first one to conduct empirical comparisons of uniform tax progression. From the Luxembourg Income Study we chose those countries for which data on gross incomes, taxes, payroll taxes and net incomes are available. This pertains to 15 countries, from which we chose 13. This gave rise to 78 international comparisons, which we carried out for household data, equivalized data, direct taxes and direct taxes inclusive of payroll taxes (mainly employee share of social security contributions). This gave us 312 international comparisons for each of the six methods of comparing tax progression.

In two thirds of all cases we observed uniformly greater tax progression for international comparisons. In a bit more than one fifth of all cases we observed bifurcate tax progression, that is progression was higher for one country up to some relative cumulant value, beyond which tax progression was higher for the other country. No clear-cut findings could be reported for only ten percent of all cases. We also tested consistency among the six methods of comparing tax progression and present twelve (Germany, UK and US) out of the 312 graphs each containing six differences of first moment distributions functions. These graphs show the intensity of greater tax progression.

We also present Hasse-like diagrams of international comparisons of uniform tax progression. Moreover, we investigated intertemporal comparisons of tax progression and studied the effect of the equivalence scales on comparisons of tax progression.

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