

**COMPARISONS OF TAX PROGRESSION:  
THEORETICAL IMPOSSIBILITY VERSUS IMPRESSIVE EMPIRICAL RESULTS  
by Christian Seidl, University of Kiel, Germany**

Tax progression can be compared in different ways: first, local measures of tax progression compare tax progression according to properties of the tax schedules such as liability progression and residual income progression. This method suffers from a complete neglect of the income distribution. Second, global measures of tax progression are integrals of some functions of tax schedules weighted by income density and some other weights. They suffer from ambiguity. Third, uniform measures of tax progression allow tracing the whole trajectories of functions of the tax schedule taking also the income distribution into account, but suffer from the assumption of identical income distributions for all situations to be compared. This prevents answering questions such as “Is the US tax system under the US income distribution more or less progressive than the German tax system under the German income distribution?”

To cope with problems like that, Seidl proposed to replace income (having different income support in different countries with different currencies) by population or income quantiles. Whereas the first mentioned three approaches can rely on necessary and sufficient conditions for greater tax progression, Seidl could only provide sufficient conditions for greater tax progression. Based on recent work, Pogorelskiy, Seidl, and Traub could show impossibility results for conditions which are at the same time necessary and sufficient. The deeper reason for this result is not the assumption of different tax schedules, but the assumption of different income distributions. For instance, an impossibility result emerges already under the conditions of identical income support and identical currencies, provided all income distributions satisfying some regularity conditions are feasible.

This theoretical impossibility asks for empirical research. Using the data set of the Luxembourg Income Study Project, Pogorelskiy, Seidl, and Traub show for 13 countries (for which all required data are available) that in about two thirds of all cases uniformly greater tax progression holds and in about one fifth bifurcation obtains. These results are reinforced for statistically significant cases of greater tax progression. Selective qualitative and quantitative analyses will be shown for international and intertemporal comparisons of tax progression.