

CIFREM SEMINARS

PRODUCTIVITY DIFFERENCES AMONG OECD COUNTRIES AND US STATES, 1970- 2000: THE WORLD TECHNOLOGY FRONTIER REVISITED

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Thursday, 24 March 2011
3.00 PM – DISA seminar room
Faculty of Economics
Via Inama, 5 – Trento

We re-estimate the world technology frontier non-parametrically using a dataset covering both OECD country-level data and US state-level data on GDP per worker and the stocks of physical capital, unskilled labor, and skilled labor. Thanks to the auxiliary use of US state-level data and allowing for imperfect substitutability between skilled and unskilled labor, we are able to document the extent to which previous cross-country estimates of technical efficiency have been upward biased. This "data-driven" bias correction method is complementary to the known bootstrap techniques. Given our estimate of the frontier, we also provide a comprehensive characterization of productivity differences and the sources of economic growth in the OECD in 1970-2000. The contribution of this paper to the literature is threefold. First, the current study is able to improve upon the quality of previous cross-country growth and levels accounting studies thanks to the auxiliary use of US state-level data. Second, a further improvement is obtained thanks to the subdivision of the human capital variable into two imperfectly substitutable skill groups. Third, we carry out detailed growth and development accounting exercises, along with which we introduce a novel "appropriate technology vs. efficiency" decomposition of growth rates, able to disentangle dynamic shifts of the technology frontier from movements along it.