

The Power-law Exponent and the Business Cycle for Australian and Italian Income Distributions

F. Clementi⁽¹⁾, T. Di Matteo⁽²⁾, and M. Gallegati⁽³⁾

⁽¹⁾ *Department of Public Economics, University of Rome "La Sapienza", Via del Castro Laurenziano 9, 00161 Rome, Italy.*

⁽²⁾ *Applied Mathematics, Research School of Physical Sciences and Engineering, The Australian National University, 0200 Canberra, Australia.*

⁽³⁾ *Department of Economics, Università Politecnica delle Marche, Piazzale Martelli 8, 60121 Ancona, Italy.*

Corresponding author e-mail: fabio.clementi@uniroma1.it

The power-law behaviours of the Australian and Italian personal income distributions are analyzed and compared [1,2]. The values of the power-law regions and the corresponding exponents (α) are estimated in different years by using an adaptive Kolmogorov-Smirnov algorithm and a subsample bootstrap procedure. We investigate the relationship between the business cycle and the temporal behaviour of α by studying the link between the top shares of the income pie and the stock market fluctuations for both Italy and Australia in different years.

[1] T. Di Matteo, T. Aste, S. T. Hyde, Exchanges in Complex Networks: Income and Wealth Distributions, in: F. Mallamace, H. E. Stanley (Eds.), *The Physics of Complex Systems (New Advances and Perspectives)*, IOS Press, Amsterdam, 2004, pp. 435-442.

[2] F. Clementi, M. Gallegati, Power Law Tails in the Italian Personal Income Distribution, *Physica A: Statistical Mechanics and Theoretical Physics* 350 (2005) 427-438.