

Measuring the economic sustainability of Italian farms using FADN data

ADELE COPPOLA^{1*}, MARIO AMATO², DOMENICO VISTOCCO², FABIO VERNEAU²

¹*School of Agricultural, Forestry, Food and Environmental Sciences (SAFE),
University of Basilicata, Potenza, Italy*

²*Department of Political Sciences, University of Naples Federico II, Napoli, Italy*

*Corresponding author: adele.coppola@unibas.it

Citation: Coppola A., Amato M., Vistocco D., Verneau F. (2022): Measuring the economic sustainability of Italian farms using FADN data. *Agric. Econ. – Czech*, 68: 327–337.

The authors are fully responsible for both the content and the formal aspects of the electronic supplementary material. No editorial adjustments were made.

Electronic supplementary material

Supplementary Material S1

ANALYTICAL INDICATORS' DESCRIPTION

i) The efficiency indicator (*EI*) has been estimated by data envelopment analysis (DEA). The Farm Accountancy Data Network (FADN) indicators used in the analysis are (codes refer to FADN definitions):

Output variable. Total output (SE131) net of total subsidies excluding on investments (SE605).

Input variables. Total utilised area (SE025), total labour input expressed in annual work units (SE010), total intermediate consumption (SE275), fixed assets value excluding land, that is machinery (SE455) + breeding live-stock (SE460).

ii) The factors profitability indicator (*FPI*) measures the ability of the farm to remunerate the entrepreneur's production factors at their opportunity cost. The methodology to calculate the indicator was developed by National Institute of Agricultural Economics [today Council of Research and Economics (CREA)] within the framework of the Italian FADN:

$$FPI = \frac{\text{Farm net income (SE420)}}{RNI}$$

where: RNI – reference net income is the sum of total reference remunerations (*TRR*) of farmer's labour, capital, and land (*TRR_lab*, *TRR_cap*, *TRR_land*) and:

– *TRR_lab* = annual family work hours (SE016) × reference hourly agricultural wage

– *TRR_cap* = value of working capital [farm capital (SE510) – land (SE446) – buildings (SE450)] × reference interest rate

– *TRR_land* = [land (SE446) + buildings (SE450)] × average land rent

Reference unit values are taken by Coppola et al. (2020).

iii) The indicator of the farm's income capacity [comparable income indicator (*CII*)] is given by:

$$CII = \frac{\text{Farm net income (SE420)}}{\text{Average income in the economy}}$$

The average income was obtained by Eurostat and refer to an Italian family with two children. Different average incomes were considered according to the family working units. When the family working units were lower than 1.33, the comparable income referred to a one-earner couple; when the family working units were equal or higher than 1.33, the comparable income referred to a two-earners couple with an increasing weight of earnings of the second member (33, 66, 100%), according to classes of working family units.