

Searching for inclusiveness: a comparison among European trajectories

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Research Objectives

The aim of this study is to establish whether the behaviour of selected variables support the hypothesis of inclusive growth dynamics, as proposed by Europe 2020, a 10-years strategy launched by the European Commission for 2020 providing a strategy for growth:

- smart
- sustainable
- inclusive

In particular, the study provides a preliminary analysis to detect potential relationships between economic growth and a number of economic outcomes related to the job market and inequality. The idea is that if a relationship exists, this could represent a signal of a economic inclusiveness in some European countries.

Inclusiveness

- According to the European Commission, inclusiveness is defined as "How citizens and groups can interact and participate in open policy and decision making"
- In this context, inclusiveness is intended as the capability to make young and women participant to the production of national wealth and the decrease of inequality. For this reason, three main dimensions of inclusiveness has been considered:
 - ① Employment
 - ② Gender equal opportunities
 - ③ Income distribution

Three different European economic models

A family of well-known economic and sociological models (Burroni, 2016; Sapir, 2006; Amable, 2003)

- ① The continental model: Austria, France, Germany and Netherlands
- ② The Anglo-Saxon model: United Kingdom and Ireland
- ③ The Mediterranean model: Portugal, Spain, Italy and Greece

Continental model

- policies to development and innovation and internal flexibility
- labour market centered on high-qualified employees
- lacking in specialized manpower

Anglo-Saxon model

- dual structure labour market and external flexibility
- low subsidies for unemployed
- scarce public intervention except for high-technology

Mediterranean model

- fundamental role of the family
- low contribution of expenditure for the innovation
- introduction of Euro not a winning strategy

Data description

Data refers to five macro-economic indicators:

- GDP per capita (GDPpc)
- Gini coefficient of equivalised disposable income (Gini)
- Total employment rate (Empl)
- Young employment rate (15-24 years) (Young)
- Female employment rate (Female)

Data source for Gross Domestic Product and Employment Rates (total, female and young) is Eurostat. Data about Gini Index are from EU-SILC European Survey on Income and Living Conditions.

Data are selected from 1995 to 2019 for 8 European Countries: France, Germany, United Kingdom, Ireland, Portugal, Spain, Italy and Greece.

An overview on preliminary statistics

1995

Country	GDPpc	Gini	Empl	Young	Female
France	25,707.5	71.0%	67.9%	36.3%	60.9%
Germany	26,307.9	71.0%	70.6%	53.1%	61.3%
United Kingdom	23,175.7	68.0%	75.1%	65.8%	66.5%
Ireland	22,490.7	67.0%	62.5%	47.8%	48.1%
Portugal	13,659.4	63.0%	67.5%	43.6%	59.2%
Spain	17,961.0	66.0%	60.9%	42.2%	46.1%
Italy	24,813.7	67.0%	57.7%	38.8%	42.5%
Greece	15,069.9	65.0%	60.2%	37.0%	44.4%

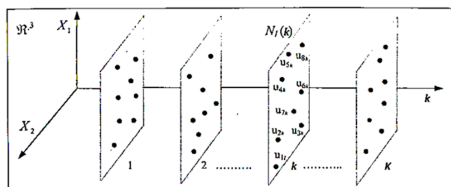
2019

Country	GDPpc	Gini	Empl	Young	Female
France	33,388.8	71.5%	72.0%	37.2%	68.6%
Germany	36,010.5	68.9%	79.2%	51.4%	74.9%
United Kingdom	33,052.4	66.5%	78.1%	56.6%	73.8%
Ireland	60,636.2	71.1%	73.3%	47.1%	67.4%
Portugal	18,553.9	67.9%	75.5%	34.3%	72.9%
Spain	25,255.5	66.8%	73.8%	33.0%	69.0%
Italy	26,862.4	66.6%	65.7%	26.1%	56.5%
Greece	18,125.4	67.7%	68.4%	22.5%	60.4%

Multi-dimensional data

We have three-way data:

I units (countries) \times X variables (economic indicators) \times K occasions (years). For example, if there are only two variables ($X = 2$) X_1 and X_2 observed on K occasions, data structure is as below



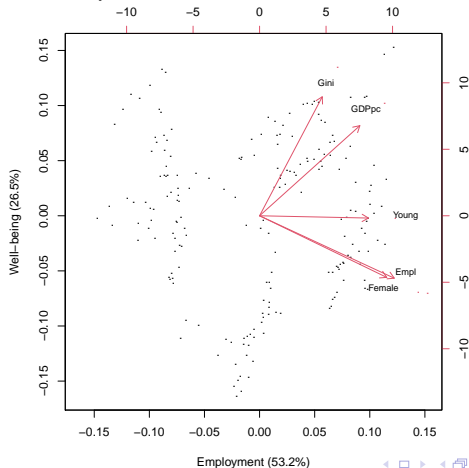
For each occasion (year) k , we have a matrix given by I units \times X variables, named “slice” (D’Urso and Vichi, 1998).

Re-arranging three-way data

- The K slices are stacked to obtain a single matrix M , whose dimension is $IK \times X$.
- A Weighted Factor Analysis (WFA) is performed to reduce the number of variables.
- The distribution of units for each occasion can be visualized in the space spanned by the first two principal components, i.e. the compromise plane (Carlier, 1986; D'Urso and Vichi, 1998).
- The dynamic path of a unit can be displayed by connecting its points for different occasions (Coppi and D'Urso, 2001; Liberati and Mariani, 2012).

Principal results by WFA

The two components are strictly related to two sub-groups of indicators: the first component identified by the employment rates is **Employment**, the second one with GDPpc and Gini is named **Well-being**



The quarters of compromised plan

When all countries are represented in the same compromised plan, each quarter of the plot could display group of countries in a common situation.

- First quarter: high values of well-being and employment

active

- Second quarter: high values of well-being but low values for employment

resilient

- Third quarter: low values both for well-being and employment

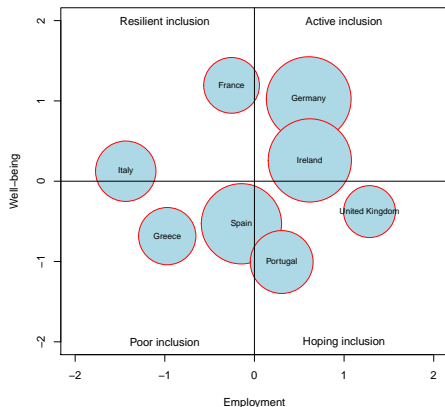
poor

- Fourth quarter: low values of well-being and high values for employment

hoping

A static representation

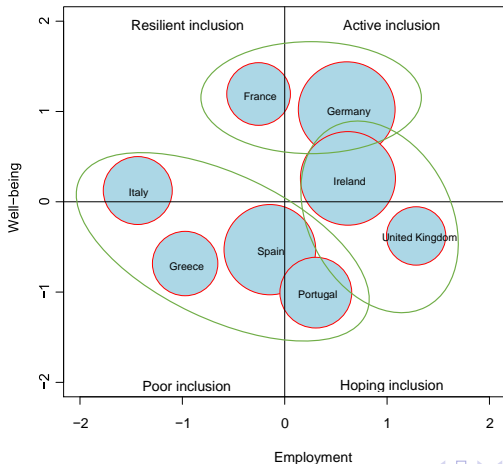
A bubble graph represents a static point of view only based on the barycentre of the countries not taking into account the trend of the entire time-series



The dynamic aspect is better represented by the trajectory analysis!

Bubble graph vs European economic models

It is possible to note a direct correspondence between clusters of countries and the three European economic models



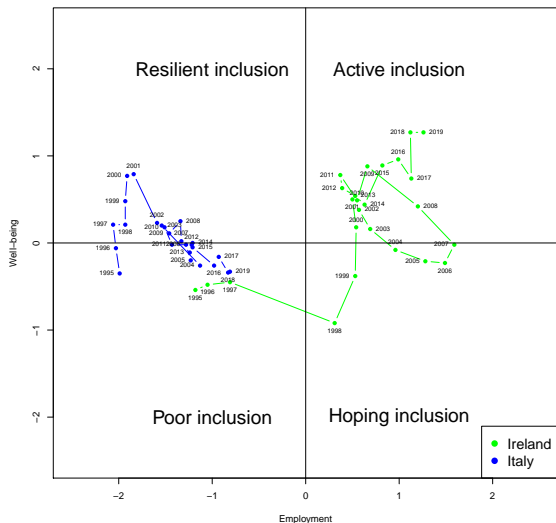
Two different cases: Ireland and Italy

Ireland

- expansive policies thanks to favourable taxation for foreign enterprises
- increasing of real wages

Italy

- big differences between North and South area
- reduction of real wages and cut of public expenditure



Conclusions and Future Research

- The dynamic factor analysis has been used as an exploratory approach to verify the presence of an inclusive growth for some European countries from 1995 to 2019
- The situation about inclusiveness appears to be very heterogeneous among countries
- Germany and Ireland tend to move to the selected dimensions of inclusiveness
- Mediterranean area countries are still far from inclusiveness too influenced by a not simple internal economic phase
- Future works could approach different aspects about the inclusiveness or other territories within Europe