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Employment of tertiary education graduates: international statistical comparisons

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"The most important reason for a young person to attend a university is to increase the amount of money that he or she will earn in the future," ...

LEARNING TOWARDS EMPLOYMENT we work for students, companies, territories



How to measure the educational level of labour force Three concepts

1.Human capital theory (Becker, 1964)

2. Social capital theory (Burt, 1992, Granovetter)

3. Theory of career development (Lawrence, 1988)

RESEARCH TARGET

identify and evaluate statistical patterns in the relationship between the level of economic development of a country and the share of population with tertiary education diplomas, as well as the composition of university graduates by the education levels.





Research subject

quantitative patterns of relationship between the indicators of tertiary education structure and intensity and employment of the population in age groups 20-24, 25-29, 30-34

Research object

labour market and characteristics of the educational level of the workforce in OECD countries

Research data

official statistical data on 38 OECD countries for 2013-2021



International Classification of Activities for Time-Use Statistics 2016



30º international Conference of Labour Distinicians Gamous, 18, 19 Calabor 2018

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Data collection guidelines for ICSE-18

ILO Department of Statistics (ICLS 2023, Geneva): compliance of international statistical standards on employment, education, work time use, labour income and informal economy.



ISCED 2011 by UNESCO

Level			
Level 0	Early childhood education		
Level 1	Primary education		
Level 2	Lower secondary education		
Level 3	Upper secondary education		
Level 4	Post-secondary non-tertiary education		
Level 5	Short-cycle tertiary education		
Level 6	Bachelor's or equivalent level		
Level 7	Master's or equivalent level		
Level 8	Doctoral or equivalent level		

Indicators system



Descriptive statistics









Cluster analysis, OECD countries, 2018



Cluster analysis, OECD countries, 2024



OECD clusters, 2018

Cluster	Number of countries	Characteristics	Countries
1	9	Mid level characteristics on all the indicators	Belgium, Estonia, Israel, Italy, the Netherlands, Norway, Portugal, Slovenia, United States
2	8	High level share of Masters and Doctors, low level of Bachelors	Austria, Czech Republic, France, Germany, Luxembourg, Slovak Republic, Spain, Sweden
3	6	Low level of Doctors	Chile, Colombia, Greece, Hungary, Latvia, Lithuania
4	7	Low level of Masters, high share of Bachelors	Canada, Costa Rica, Japan, Korea, Mexico, New Zealand, Turkey
5	4	High share of Doctors	Denmark, Finland, Switzerland, United Kingdom
6	6 4 High share of Bachelors and Masters		Australia, Iceland, Ireland, Poland
TOTAL	38	_	_

OECD clusters, 2021

Cluster of countrie		Characteristics	Countries	
1	19Mid level characteristics with bigger share of Masters and Doctors		Австрия, Чехия, Estonia, France, Germany, Italy, Slovak Republic, Spain, Sweden	
2	8	Mid level characteristics with bigger share of Bachelors	canada, Greece, Hungary, Israel, Lithuania, Portugal, Slovenia, United States	
3	6	Low level of Masters, high share of Bachelors	Costa Rica, Japan, Korea, Mexica, New Zeland, Turkey	
4	4 4 Low level of Doc		Chile, Colombia, Latvia, Poland	
5	10	High level of all HE programs	Australia, Belgium Denmark, Finland, Iceland, Ireland, the Netherlands, Norway, Switzerland, Great Britain	
6	1	High level of Masters and Doctors, low levels of Bachelors	Luxembourg	
TOTAL	38	122	-	

Qualitative cluster analysis resulted in 5 types of groups

- 1) countries with mid level characteristics of educational factors (A type);
- countries with high level of Masters and Doctors, low level of Bachelors (B type);
- 3) countries with low level of Masters, high level of Bachelors (C type);
- 4) countries with low level of Doctors (D type);
- 5) countries with high level of HE programs (E type).

Change in OECD countries positions

Country		2021					T-4-1
type		A	В	C	D	E	Total
2018	A	6 (Estonia, Israel, Italy, Portugal, Slovenia, United States)	0	0	0	3 (Belgium, Netherlands, Norway)	9
	в	7 (Austria, Czech Republic, France, Germany, Slovak Republic, Spain, Sweden)	l (Luxembourg)	0	0	0	8
	с	1 (Canada)	0	6 (Costa Rica, Japan, Korea, Mexico, New Zeland, Turkey)	0	0	7
	D	3 (Greece, Hungary, Lithuania)	0	0	3 (Chile, Colombia, Latvia)	0	6
	E	0	0	0	1 (Poland)	7 (Australia, Denmark, Finland, Iceland, Ireland, Switzerland, Great Britain)	8
Total		17	1	6	4	10	38

Linear regression models on OECD countries, 2018

Cluster A	Countries with mid level characteristics of educational factors	$Y = 29,117 - 0,460^{*}X_{4},$ (4,951) (0,145)
Cluster B	Countries with high level of Masters and Doctors, low level of Bachelors	$Y = 16,744 - 0,099 * X_1$ (2,306) (0,006)
		$Y = 10.311 + 0.061 * X_{1-}$
Cluster C	Countries with low level of Masters, high level of Bachelors	(2,264) (0,034)
Cluster D	Countries with low level of Doctors	$Y = 15,500 - 1,970^* X_{6}$ (1,628) (1,033)
Cluster E	Countries with high level of HE programs	$Y = 23,768 - 0,273 * X_4$
		(0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0

R > 65%

Linear regression models on OECD countries, 2021

Cluster A	Countries with mid level characteristics of educational factors	$Y = 4,558 + 0,094*X_1 + 1,294*X_6$ (4,822) (0,050) (0,614)
Cluster B	Countries with high level of Masters and Doctors, low level of Bachelors	
Cluster C	Countries with low level of Masters, high level of Bachelors	$Y=9,984+0,300*X_{3}$ (3,413) (0,153)
Cluster D	Countries with low level of Doctors	
Cluster E	Countries with high level of HE programs	$Y = -0,210 + 0,240 * X_2$ (8,285) (0,132)

Thank you for attention !