
Occupations with Multiple Vulnerabilities in Romania

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ABSTRACT

In Romania, in the recent years, privatization, economic restructuring, diversifying and business modernization were not accompanied by a special policy on job quality improvement or on improving/modernising working conditions. There is a general legislative framework providing a threshold for working conditions, but a lot of jobs and occupational groups are exposed to multiple vulnerabilities, i.e. about 10% of the employees working more than 8 hours a day. In contrast with economic restructuring efforts, foreign direct investments and high technology transfers, employment quality have not changed substantially, in some cases the vulnerability level being even higher.

The main contribution of our paper is to identify the most vulnerable occupations in Romania by using the available national indicators. Using Principal Component Analysis, we identify two main sources of vulnerability in employment: one related to working time and the other employment's attributes i.e. the level of earnings and contract type (part time or full time). The correlations of these variables allowed us to identify the main occupations with multiple sources of vulnerability - ISCO5, ISCO 6 and ISCO 7 - appear to be the most vulnerable in terms of working time and earnings in Romania.

Keywords: Labour market; Vulnerability; Romania; Employment

JEL Classification: J01, J08, J24

1. INTRODUCTION

The key priorities of European, national and regional policies on economic growth are: increasing employment, improving mobility, quality of jobs and working conditions, information and counselling workers combating poverty and social exclusion and promoting equality of opportunities between men and women and the modernization of social protection systems. The main reasons for such priorities are to strengthen the social dimension of globalization by promoting and encouraging decent work among employees.

The National Reform Program 2017 of Romania (PNR 2017) is actually focused on the implementation of Europe 2020 Strategy and on the PNR 2007-2016 reforms' extension (Government of Romania, 2017).

In Romania, privatization, economic restructuring, diversifying and business modernization were not accompanied by a national policy for improving working conditions. Even if there were observed some changes in working conditions during the high economic growth from the period 2000-2008, in the crisis period there was an imbalanced decline of job quality and a precariousness of working conditions, mainly in the most affected industries by the economic decline. Medium to low skilled occupations in construction, commerce and some processing industries and services were the most affected by the crisis.

At national level, there were and still are no special policy measures on job quality improvement or on improving/modernising working conditions. There is a general legislative framework providing a threshold for working conditions, but a lot of jobs and occupational groups are exposed to multiple vulnerabilities (Eurofound, 2015).

According to the Eurofound study "Trends in Job Quality in Europe" (2012, p.13), the concept of "job quality" focusses on the essential characteristics of jobs that meet workers' needs for good work: two sets of extrinsic job features ("earnings" and "prospects") and two sets of intrinsic features of the work itself ("intrinsic job quality" and "working time quality").

The main contribution of our paper is to identify the most vulnerable occupations in Romania by using the available national indicators on "job quality" related to occupation. The following section is a brief overview of the literature on vulnerable occupations in European countries. The third section presents the employment evolution in Romania in the period 2008-2016. The fourth section deals with the description of the main indicators of "job quality" in Romania and the identification of Romanian particularities. The fifth section by using Principal Component Analysis aims to underline the most first two important sources of vulnerability in occupation in Romania: one related to working time and the other related to the level of earnings and contract type (part time or full time). The combination of these two indexes allows us to identify the main occupations with multiple sources of vulnerability. Finally, the sixth section concludes the analysis.

2. A BRIEF OVERVIEW OF THE LITERATURE ON VULNERABLE OCCUPATIONS

The literature on employment vulnerability is highly diversified. The International Labour Organization (ILO) focuses on own account workers and contributing family workers (ILO, 2018, p. 1), are they less likely to have

formal work arrangements and are therefore more likely to lack elements associated with decent employment. Bocquier *et al.* (2010) propose different indicators of employment vulnerability for seven economic capitals of West Africa. Job insecurity is identified as one major concern for the poor and linkages with poverty are numerous (World Bank, 2001). Hudson (2006), Pollert and Charlwood (2009) and the TUC commission on vulnerable employment (2008) mainly are focused on the level of wages. Saunders (2003) proposed a multidimensional approach of labour market vulnerability in the Canadian context. Using also a multidimensional approach, Bewley and Forth (2010) argue that the prevalence of adverse treatment and vulnerable employment have a cyclical component since vulnerability was found to be related to an employee's ease of re-employment. All these studies are focused more on workers than on occupations. Regarding occupation vulnerability, Bardhan and Tong (2010) studied the vulnerability of jobs due to adverse economic shocks and Davoine *et al.* (2008) analyzed the European indicators of work quality.

Regarding the analysis of occupations in terms of multiple vulnerabilities, the Eurofound study (2014) analysed the variations between occupations in terms of levels of earnings, job and career prospects, working time and intrinsic job quality. Furthermore, differences between occupations are often related to the level of skills required to carry out the tasks and duties. Occupations requiring higher levels of skills (Managers, Professionals, and Technicians) are more frequently found at the top of the distribution, while mid-skilled manual (Skilled agricultural forestry and fishery workers, Craft and related trade workers, Plant and machine operators) and low-skilled occupations (Elementary occupations) are found in the bottom half. Therefore, the occupations with multiple disadvantages identified by Eurofound at European level are: customer services clerks; personal service workers; sales workers; market-oriented skilled forestry, fishery and hunting workers; building and related trades workers; metal, machinery and related trades workers; food processing, wood working, garment and other craft and related trades workers; stationary plant and machine operators; assemblers; drivers and mobile plant operators; laborers in mining, construction, manufacturing and transport; and food preparation assistants. These occupations experience relatively poor levels of earnings, prospects, intrinsic job quality and working time quality, and are therefore ranked at the bottom half of the distributions on all the dimensions of job quality. Eurofound have reported also the situation of working conditions in occupations with multiple disadvantages (Eurofound, 2015). The study presented examples of initiatives, policies and measures at national level aimed at improving overall working conditions in these disadvantaged occupations.

3. EMPLOYMENT EVOLUTION IN ROMANIA

This section synthesizes the evolution of the employment in Romania over the period 2008-2016, by means of ISCO-08 major groups and activities of national economy, according to NACE Rev.2. Table 1 shows a clear heterogeneity among occupational groups. Thus, the following evolutions of occupational groups are identified:

- The share of managers in total active population had a constant value, of about 2.0% among the period.
- The share of professionals increased significantly from 9.0% in 2008 to 13.9% in 2016.
- The share of technicians registered a decrease, from 8.0 in 2008 to 5.8 in 2012 and 5.5 in 2016.
- The clerical support workers decreased but not significantly: from 4.3% in 2008 to 4.0% in 2016.
- The share of services and sales workers has increased from 8.8% in 2008 to 13.7% in 2016, because of the development of the economic services sector.
- Skilled agricultural workers represent the largest group of occupations throughout the analysed period, even if it has a negative trend (22.1% in 2008, 21.6% in 2012 and 17.8% in 2016).
- Craft workers dropped their percentage from 14.5% in 2008 to 13.8% in 2013. Their share in total active population was 15.2% in 2016.
- The machine operators are relatively maintaining their share in the total active population: 20.8% in 2008, 20.0% in 2013 and 19.5% in 2016.
- The elementary occupations had a share of 10.1% in 2008. Since 2011 their share in total active population is constantly decreasing.

Structure of active population by ISCO-08 major groups, 2008-2016 (%)

Table 1

%	2008	2009	2010	2011	2012	2013	2014	2015	2016	Evolution
ISCO 1 Managers	2.3	2.0	1.8	1.9	2.0	1.9	1.8	2.0	2.0	
ISCO 2 Professionals	9.0	9.3	9.5	12.4	12.1	11.7	12.3	13.5	13.9	
ISCO 3 Technicians and ...	8.0	8.3	8.0	6.1	5.8	5.4	5.4	5.3	5.5	
ISCO 4 Clerical Support Workers	4.3	4.4	4.2	3.7	3.7	4.0	3.8	4.0	4.0	
ISCO 5 Service and Sales Workers	8.8	9.7	9.9	11.4	11.6	12.0	12.3	13.3	13.7	
ISCO 6 Skilled Agricultural Workers	22.1	22.4	22.4	21.3	21.6	21.5	21.2	19.5	17.8	
ISCO 7 Craft and Trade Workers	14.5	14.2	13.4	13.9	13.9	13.8	14.4	14.5	15.2	
ISCO 8 Plant and Machine Operators	20.8	20.1	20.4	19.5	19.5	20.0	19.6	19.3	19.5	
ISCO 9 Elementary occupations	10.1	9.6	10.4	9.6	9.7	9.6	9.3	8.8	8.5	

Source: National Institute of Statistics, Tempo online database, AMG 1100

The structure of active population by NACE Rev 2 activities shows a highly share of agricultural sector, of 30% in 2008 and 23.1% in 2016. The

manufacturing sector is decreasing, from 20.0% in 2008 to 18.9% in 2016. The activities that registered important increase in the share of the active population in total active population are the following: retail trade, transporting and storage, accommodation, ICT, professional and scientific activities, administrative activities, human health activities and other service activities.

Structure of active population by NACE Rev 2 activities, 2008-2016 (%)

Table 2

%	2008	2009	2010	2011	2012	2013	2014	2015	2016	Evolution
A - Agriculture	29.7	30.0	31.0	29.3	29.7	29.3	28.3	25.6	23.1	
B - Mining and quarrying	1.2	1.1	1.1	0.9	0.9	0.9	0.9	0.9	0.8	
C - Manufacturing	20.0	18.7	17.6	18.1	17.8	18.0	18.5	18.2	18.9	
D - Electricity, gas, ...	1.3	1.4	1.4	1.2	1.2	1.1	1.1	1.0	1.0	
E - Water supply; sewerage; ...	0.8	0.7	0.8	0.9	0.9	1.0	1.0	1.0	1.2	
F - Construction	7.9	7.8	7.5	7.4	7.4	7.4	7.4	7.5	8.0	
G - Wholesale and retail trade; ...	12.3	12.2	12.0	12.5	12.7	12.7	12.9	13.5	13.9	
H - Transporting and storage	4.9	5.0	4.8	4.7	4.7	5.0	5.0	5.6	5.6	
I - Accommodation and ...	1.6	1.7	1.9	2.0	2.0	2.0	2.1	2.2	2.4	
J - Information and communication	1.3	1.3	1.3	1.4	1.7	1.7	1.7	2.0	2.0	
K - Financial and insurance activities	1.1	1.3	1.4	1.6	1.5	1.4	1.3	1.2	1.3	
L - Real estate activities	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	
M - Professional, scientific and ...	1.5	1.6	1.7	1.8	1.8	1.9	2.2	2.2	2.3	
N - Administrative and ...	1.5	1.6	1.6	1.7	1.7	2.0	2.1	2.4	2.4	
O - Public administration and ...	4.9	5.3	5.1	5.1	5.1	5.0	4.5	5.2	5.1	
P - Education	4.1	4.2	4.1	4.3	4.0	3.8	3.6	4.2	4.1	
Q - Human health and ...	4.0	4.2	4.3	4.4	4.1	4.1	4.3	4.5	4.6	
R - Arts, entertainment and ...	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	
S - Other services activities	1.3	1.3	1.6	1.8	1.9	2.0	2.0	2.1	2.2	

Source: National Institute of Statistics, Tempo online database, AMG 110U

A comprehensive image of the labour market could be accomplished by matching the two elements: ISCO-08 groups and NACE Rev 2 activities. These cross data between ISCO 1 digit data and NACE Rev 2, two digits data is provided by the 2012 Statistical survey on salaries in October. Unfortunately, this cross data has been set only in 2011 and 2012, but its importance is essential for the statistical insights that it provides. The distribution of ISCO groups among the activities of national economy is essential for a complete labour market overview.

4. JOB QUALITY INDICATORS IN ROMANIA

By using the concept of “job quality” according to Eurofound definitions (2012), we have started our analysis on Romanian case by analysing the cross data on average number of employees and average gross salary in October of employees who worked the entire month, full-time, on the activities of the national economy (sections according to NACE Rev 2) and occupations (according to ISCO-88) (Table 3).

Table 3 - Average number of employees and average gross salary in October 2012

NACE Rev 2 / ISCO 08	Total	ISCO 1 Managers	ISCO 2 Professionals	ISCO 3 Technicians	ISCO 4 Clerical Support Workers	ISCO 5 Service and Sales Workers	ISCO 6 Skilled Agricultural Workers	ISCO 7 Craft and Trade Workers	ISCO 8 Plant and Machine Operators	ISCO 9 Elementary occupations
Total	2052 (3645061)	4887 (258198)	2869 (819195)	2258 (332073)	1731 (247316)	1076 (521751)	1189 (16627)	1657 (548557)	1624 (465675)	1014 (435669)
A - Agriculture	1513 (83032)	3037 (5979)	2185 (12479)	1745 (5343)	1484 (2875)	1138 (3080)	1241 (9736)	1371 (11139)	1279 (12265)	998 (20136)
B - Mining and quarrying	3776 (58648)	7876 (4205)	5130 (7553)	3976 (3666)	2810 (2300)	2656 (785)	-	3205 (15766)	3205 (23116)	1480 (1257)
C - Manufacturing	1801 (860883)	5252 (42758)	3204 (60238)	2328 (56237)	1788 (30496)	1118 (27089)	1214 (2133)	1599 (243325)	1508 (227811)	1063 (170796)
D - Electricity, gas, ...	3672 (63987)	7225 (5172)	4445 (11518)	3497 (11822)	2565 (1962)	2435 (678)	-	3144 (25556)	2580 (6204)	1846 (1069)
E - Water supply; sewerage; ...	1860 (84825)	4318 (5425)	2756 (8684)	2113 (6426)	1761 (4420)	1378 (2729)	1299 (222)	1773 (20377)	1710 (13383)	1122 (23159)
F - Construction	1712 (278357)	3912 (18938)	2811 (30003)	2093 (13935)	1659 (9068)	1219 (7391)	1080 (339)	1423 (113264)	1627 (30134)	986 (55285)
G - Wholesale and retail trade; ...	1876 (576091)	4123 (64000)	3447 (54063)	2112 (83942)	1536 (59973)	1130 (179333)	956 (391)	1362 (37859)	1322 (37942)	958 (58588)
H - Transporting and storage	2192 (214109)	4548 (10498)	3400 (13403)	4357 (12332)	1973 (49804)	1965 (11015)	1037 (22)	1991 (28648)	1632 (77739)	1299 (10648)
I - Accommodation and ...	1112 (85429)	2166 (6345)	1798 (3069)	1415 (4606)	1180 (5668)	996 (45373)	808 (60)	960 (4738)	1039 (1599)	815 (13971)
J - Information and communication	4019 (98335)	7772 (9371)	4938 (43413)	2683 (26091)	2334 (8503)	1873 (3686)	-	1799 (3667)	1568 (1675)	1048 (1924)
K - Financial and insurance activities	4557 (81087)	9273 (15163)	4059 (45151)	2521 (5985)	2104 (12432)	1555 (1338)	-	2100 (90)	2634 (553)	1690 (375)
L - Real estate activities	2020 (13985)	5294 (1367)	2881 (2078)	1883 (1770)	1829 (1291)	1238 (2344)	1000 (127)	1509 (1954)	1505 (698)	978 (2356)
M - Professional, scientific and ...	3196 (90361)	6760 (8256)	3767 (41485)	2124 (15732)	2134 (4776)	1151 (3688)	1133 (799)	2051 (5759)	2074 (4048)	1336 (5818)
N - Administrative and ...	1383 (158401)	3876 (5309)	3179 (14472)	2115 (9788)	1636 (8953)	936 (79987)	1100 (1196)	1289 (8327)	1220 (9097)	899 (21272)
O - Public administration and ...	2302 (242883)	4530 (24425)	3220 (90710)	1976 (28201)	1430 (18051)	837 (55279)	1017 (1116)	1050 (5759)	1283 (7404)	862 (11938)
P - Education	1861 (341306)	3815 (17287)	1958 (250501)	1534 (7417)	1480 (12304)	950 (15913)	1010 (146)	1025 (10059)	1076 (3033)	818 (24556)
Q - Human health and ...	1924 (245881)	4022 (9222)	2441 (111369)	1639 (30929)	1478 (6276)	1120 (66164)	1283 (17)	1306 (7696)	1692 (7083)	1035 (7125)
R - Arts, entertainment and ...	1633 (38736)	3237 (2739)	1899 (11412)	1670 (5492)	1399 (6422)	1223 (6812)	1096 (101)	1166 (2307)	1176 (741)	933 (2710)
S - Other services activities	1250 (28725)	2917 (1739)	1650 (7504)	1353 (2359)	1464 (1742)	749 (9067)	1054 (211)	906 (2267)	1118 (1150)	871 (2686)

Source: National Institute of Statistics, Tempo online database FOM 118G, Statistical survey on salaries in October and Labor Force Survey,

At national level, in October 2012, the average gross salary of employees who worked the entire month, full-time, was 2052 RON (451 EURO). The occupations with the lowest level of salary were Service and sales workers – ISCO 5 working in Other services activities (Major group S) with 749 RON

(about 164 EUR) followed by Skilled agricultural and fishery workers – ISCO 6 from Accommodation and food service activities (Major group I) with 808 RON (about 177 EURO) and Elementary occupations in the same major group of activities (I) with 815 RON (about 179 EURO). By taking into consideration only the major groups of occupations, the lowest level of salary was registered for Elementary occupations – ISCO 9 with 1014 RON (about 223 EURO), followed by Service and sales workers – ISCO 5 with 1076 RON (about 236 EURO), Plant and machine operators and assemblers – ISCO 8 with 1624 RON (357 EURO) and Craft and related trades workers – ISCO 7 with 1657 RON (364 EURO). Therefore, as long as Elementary occupations and Service and sales workers represent about a quarter of the entire employed population, it could be considered that more than one of four-employed person is disadvantaged in terms of earnings.

Vulnerabilities are manifesting singularly or most often associatively. For example, if a person is in a part-time position and is in work poverty, we may interpret that he has a chronic vulnerable status.

Analyzing the risk of poverty rate of people in employment in Romania compared to EU, by working time, we observe that the risk of poverty rate associated with the people working part time is much higher (more than 4.5 times in 2016) than for those working full time (Table 4). In addition, the risk of poverty rate of people working full-time in Romania is twice higher than the average risk in EU-28, with a slightly gap reducing after 2014.

In-work at-risk-of-poverty rate by full-/part-time work, 2008-2016

Table 4

	Part-time workers			Full-time workers		
	EU-28 (%)	Romania (%)	Ratio RO/EU-28 (times)	EU-28 (%)	Romania (%)	Ratio RO/EU-28 (times)
2008	:	58.4	:	:	14.2	:
2009	:	56.5	:	:	13.5	:
2010	12.5	53.0	4.24	7.1	15.7	2.21
2011	13.5	59.5	4.41	7.4	15.4	2.08
2012	13.8	59.6	4.32	7.4	15.9	2.15
2013	14.7	58.5	3.98	7.2	13.6	1.89
2014	15.7	63.5	4.04	7.7	15.0	1.95
2015	15.3	59.4	3.88	7.7	14.7	1.91
2016	15.8	64.7	4.09	7.8	14.3	1.83

Source: Eurostat database, ilc_iw07

Moreover, from the average number of usual weekly hours in main job point of view, we observe that the difference between Romania and EU comes from part time jobs. In Romania part time employees worked with 3.2 hours per week more than EU average, while full time employees worked less, i.e. with 1.0 hour than EU average in 2016 (Table 5).

Average number of usual weekly hours in main job, by full-time/part-time status (hours)

Table 5

	Total			Part-time			Full-time		
	EU-28	Romania	RO – EU-28	EU-28	Romania	RO – EU-28	EU-28	Romania	RO – EU-28
2008	37.8	40.5	2.7	19.9	24.4	4.5	41.7	41.1	-0.6
2009	37.7	40.4	2.7	20.0	23.9	3.9	41.7	40.9	-0.8
2010	37.5	40.2	2.7	20.1	23.7	3.6	41.6	40.8	-0.8
2011	37.4	40.2	2.8	19.9	23.4	3.5	41.6	40.8	-0.8
2012	37.3	40.1	2.8	19.9	23.3	3.4	41.6	40.7	-0.9
2013	37.2	40.0	2.8	20.0	23.2	3.2	41.5	40.5	-1.0
2014	37.2	40.0	2.8	20.1	23.6	3.5	41.5	40.4	-1.1
2015	37.1	39.8	2.7	20.2	22.9	2.7	41.4	40.4	-1.0
2016	37.1	39.9	2.8	20.3	23.5	3.2	41.4	40.4	-1.0

Source: Eurostat database, *lfsa_ewhuis*

Therefore, *Actual duration of seven full-time working days*, *Actual duration of seven part-time working days* and *The rate of part-time employees to full time employees* will be considered as indicators of job quality in Romania.

At national level, the share of employees with permanent jobs and working more than 46 hours in the total number of employees with permanent jobs is 13.22%. For Service and sales workers – ISCO 5, the average length of working week is 41.6 hours, the longest value among all occupations, according to LFS 2013 data.

5. WHICH ARE THE OCCUPATIONS WITH MULTIPLE VULNERABILITIES IN ROMANIA?

In order to identify the occupations with multiple vulnerabilities in Romania, we have used the national statistics related to occupations and activities, meaning the cross data between ISCO-08 (1 digit data) and NACE Rev 2 (two digits data), available for 2012. As long as the available data for occupations ISCO-08 are only at one digit, the data related to national activities NACE Rev 2 are used at one digit too, in order to describe better the occupations with multiple vulnerabilities.

According to previous analysis of Romanian case, we have chosen six variables to characterize the “job quality” (according to Eurofound definitions, 2012):

- Earnings: Average gross nominal monthly earnings;
- Working time: Actual duration of seven full-time working days; Actual duration of seven part-time working days;

- Prospects: the percentage of job vacancies; the rate of part-time employees to full time employees;
- Intrinsic job quality: the percentage of employees injured at work.

In order to obtain a suggestive representation of the occupations with multiple vulnerabilities and also of interrelations between different aspects of working conditions, a principal component analysis (PCA) is applied. PCA is a technique used to reduce multidimensional data sets to lower dimensions, when all the variables used are quantitative. PCA is mathematically defined as an orthogonal linear transformation that projects the data to a new coordinate system (which is made by principal components) in order to obtain the greatest variance explained by this projection of the data.

Total Variance explained

Table 6

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.814	46.898	46.898	2.537	42.288	42.288
2	1.167	19.453	66.350	1.444	24.062	66.350
3	.767	12.779	79.130			
4	.602	10.039	89.169			
5	.510	8.503	97.672			
6	.140	2.328	100.000			

Extraction Method: Principal Component Analysis

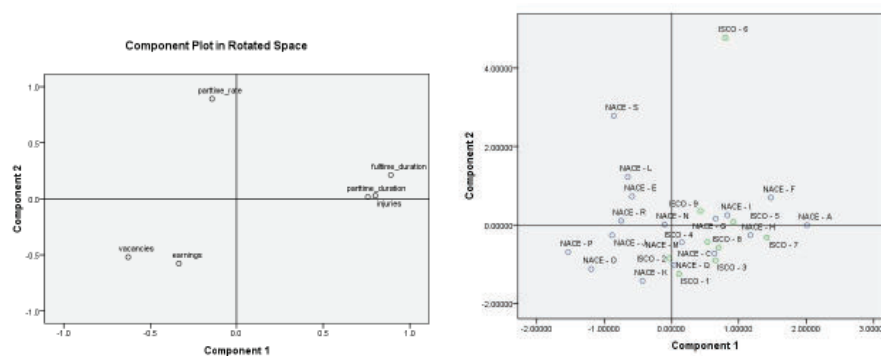
Source: Authors' calculations based on data provided by National Institute of Statistics, Tempo online database FOM 118G, Statistical survey on salaries in October and Labor Force Survey, Field: Activities from national economy, NACE Rev 2.

The projection of data on the first two components preserves 66.4% of the total inertia (42.3% for the first axis and 24.1% for the second axis; Table 6). On the first axis, the best-represented variables are related to working time and intrinsic job quality (*Actual duration of seven full-time working days, Actual duration of seven part-time working days, The percentage of employees injured at work*). Very interesting is that the variable *Actual duration of seven part-time working days* is correlated to the variable *The percentage of employees injured at work*, which means that the occupations with high levels of working time for part time jobs are more exposed to injuries as the other occupations. Therefore, an occupation vulnerable in terms of working time is also vulnerable in terms of intrinsic job quality. On the second axis, the best represented variables are those related to earnings and job prospects (*Average gross nominal monthly earnings, The rate of part-time employees to full time employees*). It could be observed also that the occupations with a higher

proportion of part time contracts have low levels of earnings. This means that an occupation vulnerable in terms of job prospects is also vulnerable in terms of earnings.

Component and objects plot in Rotated Space

Figure 1



Extraction Method: Principal Component Analysis

Source: Authors' calculations using SPSS software, based on data provided by National Institute of Statistics, Tempo online database FOM 118G, Statistical survey on salaries in October and Labor Force Survey.

Field: Activities from national economy - NACE Rev 2 and Occupations - ISCO 08.

By analysing the projection of occupations and activities on the first two axes, it could be observed that the occupations from the major group Skilled agricultural and fishery workers (ISCO – 6) appear to be exposed to at least two vulnerabilities in Romania: the earnings are lower than the national level and the rate of part time jobs is higher than the national mean. Therefore, these occupations are vulnerable in terms of earnings and prospects (part time working contracts).

Other major group of vulnerable occupations in Romania is Craft and related trades workers (ISCO – 7), from Transportation and storage sector (NACE - H) in terms of working time (*Actual duration of seven part-time working days* and *Actual duration of seven full-time working days* are higher than the national level) and intrinsic job quality (*The percentage of employees injured at work* is also higher than the national mean).

The major group Service and sales workers (ISCO – 5) working in Construction (NACE – F) and in Accommodation and food service activities (NACE – I) – are occupations which appear vulnerable in terms of working time (*Actual duration of seven part-time working days* and *Actual duration of seven full-time working days* are higher than the national level),

intrinsic job quality (*The percentage of employees injured at work is higher than the national average*) and earnings (*Average gross nominal monthly earnings is higher than the national mean*) too.

6. CONCLUSIONS

The Romanian labour market is relatively rigid, about 10% of the employees working more than 8 hours a day. In contrast with economic restructuring efforts, foreign direct investments and high technology transfers, working conditions have not changed substantially. Employment quality has not improved significantly during the last years, in some cases the vulnerability level is even higher - job insecurity, number of atypical job contracts, augmentation of job turnover etc. The Romanian economy is based on low and medium skilled labour with low technology (85% of all employees works in ISCO5-ISCO9 major groups of occupations according to LSF 2013 data). Jobs shows multiple risks and affects physical and mental health, wages remain low, even compared to similar jobs abroad which stimulates the mobility of Romanian employees for the low and unskilled labour (construction workers, industrial services, agricultural or domestic work). The private sector is not necessarily more efficient than the public one and does not offer better working conditions, not even in large transnational companies. In the private sector, evaluations on the quality of employment are scarce. Employment protection is reduced to the minimum legislative requirements and only by exception is due to social dialogue. A better position is identified in companies providing a higher social responsibility (ISO 26000)

For the Skilled agricultural, forestry and fishery workers (ISCO - 6), who are employees, the average length of working week is 44.2 hours, the highest value registered among all occupations, at national level according to LSF 2013 data. Therefore these occupations could be considered disadvantaged in terms of working time. Moreover, the average gross salary in October 2012, of ISCO – 6 employees who worked the entire month, full-time was of only 1189 lei (261 EURO), these occupations being considered deprived in terms of earnings too. Skilled agricultural, forestry and fishery workers represent 0.75% from permanent workers and 15.8% from temporary workers (according to LSF 2013 data), therefore in terms of Prospects these occupations could be considered as disadvantaged as well. Therefore ISCO 6 could be included in the category of occupations with multiple disadvantages in case of Romania, which is not the case in other European countries. Another particular category of vulnerable workers for Romania is Service and sales workers (ISCO – 5). The average length of working week

for these employees is 41.6 hours, the second highest value registered among all occupations, at national level according to LSF 2013 data. Moreover, the average gross salary in October 2012, of employees ISCO – 5 who worked the entire month, full-time was even lower than the previous analyzed ISCO category, of 1076 lei, these occupations being deprived in terms of earnings too. Craft and related trades workers (ISCO – 7) are vulnerable especially in terms of working hours for part time workers. The average length of working week for the part time employees is 29.8 hours, the highest value registered among all occupations, at national level according to LSF 2013 data. Craft and related trades workers (ISCO – 7) represent 17.9% from permanent workers and 20.7% from temporary workers (according to LSF 2013 data), therefore in terms of prospects these occupations could be considered as disadvantaged as well.

We underline that the cross data between ISCO 1 digit data and NACE Rev 2, two digits data is necessary at least 4 years or even 2, depending on the dynamics of economy's digitalization and the absorption of the technological progress. Such analyses could be further develop using a more detailed database, of 2-3 digits for ISCO and 4 digits for NACE Rev2 and also by introducing new vulnerabilities as subject of discussions, i.e gender, work conditions, level of education, immigrant status etc. Considered through the lens of efficiency, these in depth analysis would support policy measures for reducing vulnerabilities of jobs.

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