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Specificity Of Long-term Unemployment Risk Among Creative Economy Workers

Abstract

This paper investigates the determinants of long-term unemployment in Poland for workers in the creative economy. Over 2,100 unemployed artists, journalists, architects, designers, craftspeople and creative industry technicians registered in public employment agencies are examined to discover the relationship between the probability of long-term unemployment and basic socio-demographic variables, human capital characteristics, as well as type of the local labour market. The outcomes based on the sample of creative workers are compared to a study of almost 44,000 registered unemployed representing all professions. Results indicate that such characteristics as: male gender, age under 30, married, first unemployed registration within the last three years, extensive work experience, high qualifications and multi-skilling each considerably decrease the likelihood of being unemployed for more than 365 days, both among creative workers and among all unemployed. The strength of this influence, however, differs within these two groups, with some co-variates significantly affecting the likelihood of long-term unemployment in the general sample. For example health, having children, or a willingness to take any job all appear to be non-significant for creative workers.

Keywords: *Creative economy workers, Long-term unemployment determinants, Labour market policy*

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1. Introduction

Over the past decade, in economic and regional policy a growing interest can be observed in the development of the creative sectors as drivers for economic growth and new jobs. Though numerous studies about creative labour markets have appeared, there are not many analyses regarding the specificity of unemployment in the creative sectors and, in particular, on the determinants of long-term unemployment risk and their implications for active labour market policy towards that part of the labour force.

A universally accepted definition of the 'creative economy'does not exist. On the contrary, one can observe a phenomenon of gradual evolution and extension of the areas of creative labour analysis (Dubina, Carrayannis & Campbell 2012). Furthermore, with reference to creative employees for whom creative work is only an additional job, provided occasionally as a freelancer, sometimes it is even difficult to determine what 'unemployment' means (Primorac 2006, p. 51). Artists who await the next order for their work often have jobs in non-artistic occupations and are therefore not classified as unemployed (Menger 2004, p. 247).

Determinants of the professional de-activation risk for the creative labour force are still unrecognised. There are many sources of that risk for cultural and creative workers (CCW), both on the supply and the demand sides of the labour market. Supply unemployment determinants refer to the human capital features of this professional group. Demand determinants, in turn, arise from the outer elasticity of the demand for their services. As a consequence, employers in the creative and cultural industries (CCI) offer civil law agreements (instead of labour law), unstable contracts (projects, fixed time contracts) and flexible forms of working time (Lingo & Tepper 2013, p. 338; United Nations Conference on Trade and Development 2010, p. 142).

Investigation of the first group of factors (supply side) with reference to artists, journalists, architects, designers, craftspeople and creative industries' technicians who are registered with public employment agencies is the main goal of this article. All these people are, certainly, only a part of the CCI; firstly, because of the selection of professions and occupations for analysis, and secondly due to the fact that the unemployed in our study are interested mainly in a standard subordinate employment, not in self-employment or freelance work. Our examination is based on individual data acquired directly from databases of employment offices. We focus on the determinants of being long-term unemployed (in the employment office's register for over 365 days). With reference to these individuals, the mechanism of substituting higher employability with lower job security does not work (Benhamou 2000, p. 310), consequently the following research questions emerge: What are the features of

this group of unemployed that demonstrate that this protection mechanism does not work? Why are they not able to reduce the uncertainty of employment (that results from the very specificity of the work) thanks to their greater employability? What are the determinants of the long-term unemployment risk among unemployed CCI workers in comparison with the general population of unemployed? Are the hard-to-place groups (ergo requiring active labour market policy measures) similar among the creative economy workers when compared to the general population of unemployed?

We have formulated the following hypothesis: Multiple jobholding, a high level of education, extensive professional experience and high flexibility all significantly reduce the long-term unemployment risk among both CCI workers and the general population of the unemployed. This implies, therefore, that active labour market policies may be efficient in preventing social exclusion caused by human capital depreciation also with respect to the creative economy workers.

For now it is rather difficult to assess our results in the international context because of the pioneering character of delivered outcomes. There is very little research on creative workers' unemployment and we refer to the relevant American and Australian examples in the following section.

2. Specific features of unemployment among the creative workforce

The question of unemployment appears in research on the creative economy in different contexts. Firstly we analyse the impact of investment in the cultural and creative industries (CCI) on reducing the volume of unemployment and creating new jobs (WIPO 2008). Secondly, the field of economic research in these two spheres often considers participation of the unemployed in the consumption of cultural goods and services (Eurostat 2007, p. 137). Thirdly, the scope of analysis refers to the ways in which measures with respect to culture and the arts can directly support escape from unemployment (Palmer/Rae Associates International Cultural Advisors 2004). Finally, work has been done on the social policy concerning unemployed artists, access to unemployment benefits, and social exclusion. An extensive comparative study on that issue has been carried out by, among others, an institution that represents the International Arts and Entertainment Alliance in Europe (EAEA 2002).

Despite the growing interest in research on CCI labour markets, there are few analyses of artists' and other creative workers' unemployment in the economic literature. There are however some exceptions, most notably the American research on this topic, which has a long tradition. The National

Endowment for the Arts (NEA) has been preparing such analyses for 40 years (Alper et al. 1996, Iyengar 2013, NEA 2009). Cultural economists referring to issues of the unemployment or employment of artists often quote results from the NEA (Heilbrun & Gray 2001, p. 314).

Recent analyses by the NEA concern, among other things, the impact of the global economic crisis on unemployment and the employment of artists. According to these American studies, a considerable rise in artists' unemployment appeared in 2008 (by 63%, i.e., 2.4 percentage points in the fourth quarter of 2008 compared to the last quarter of 2007). As a consequence, the levels of unemployment in the artists' labour market reached the general unemployment rate at the same period (6.1%). The unemployment rate of 'artists' was twice that of 'specialists' (in NEA's classification 'artists' are a part of the category of 'specialists') (NEA 2009, p. 1). Not only has unemployment among artists grown faster than total unemployment, the real impact of the global crisis has probably been greater on the artists' labour market. A number of artists quit the labour market at that time, discouraged by the bad job prospects for artists. American research shows that there is a mechanism for transmitting the demand fluctuations in the whole economy into the creative sector. One such example is the slowdown suffered in the construction sector, which resulted in growth in architects' and designers' unemployment (NEA 2009, p. 2). Facing such strong interrelations between the creative sector and the whole economy, little if any improvement in the artists' labour market situation can be expected before the economy recovers.

In our analysis of unemployment in the creative and cultural sector we assumed that the heterogeneity of this sub-population may cause differences in the probability of remaining unemployed for longer than one year. This approach seems to be justified taking into account the results of the NEA's research. In 2008 in the USA the highest unemployment rate was reported among actors (32.2%). Among dancers and choreographers it was considerably lower, but still above the average (10.9%). The lowest unemployment rate was recorded among producers and directors (3.3%), architects (3.6%) and designers (4.2%) (NEA 2009, p. 10).

We also focus our attention to the phenomenon of multiple job-holding, which is an important characteristic of the creative and cultural workforce (Throsby & Zednik 2011). Multiple job-holding should not only reduce the risk of creative workers' unemployment, but should also lower the risk of long-term unemployment among this group. We try to verify this hypothesis as well.

3. A few remarks on long-term unemployment

Long-term unemployment is a substantial though locally concentrated problem, even in economies with a satisfactory labour market situation. This is particularly important with reference to the issue of social exclusion, and the economic consequences of long-lasting unemployment cannot be disregarded. Long-term unemployment greatly influences the professional career and earnings prospects' of an individual, and generates opportunity costs for society, as well as the costs of running welfare policies (Di Domenico & Gasparini 2008).The causes of long-term unemployment must be considered at various levels and from many viewpoints. Di Domenico and Gasparini (2008) enumerate the following causes: intergenerational unemployment, multiple disadvantage, financial considerations, welfare benefits, family commitments, time management difficulties, employer requirements, poor employer knowledge of return-to-work measures, lack of qualifications, and discouragement.

The costs of long-term unemployment – visible both in the social as well as in the economic sphere – concern not only those directly affected, but also their families, community and the entire country (Clarence & Heikkilä 2013). Economic consequences of long-term unemployment embrace above all a worsening of the financial circumstances of the unemployed, and lowering the prospects of re-entering employment. Social costs, in turn, include: a higher risk of poverty, health problems, and the school failures of children of the long-term unemployed (ILO, OECD, IMF & The World Bank 2012). The unemployed may lose their skills and work ethic as the period of unemployment extends. As a consequence, they often become discouraged from engaging in any labour market activity. This effect is especially strong among the youth and the less qualified. Lee, Sissons, Balaram, Jones and Cominetti (2012) found that unemployment affecting a young person can lead to diminished earnings in the long run, an increased risk of further episodes of unemployment, and a worsening of their health. The authors stress, moreover, that many young people in the labour market are trapped in a 'Catch-22' situation: they do not have the experience to demonstrate their skills to an employer, but simultaneously they do not have access to a job to acquire this experience. A report by the Australian Council of Social Services (2005) points out that, in contrast to the employed or short-term unemployed, the long-term unemployed are more likely to have lower levels of education and skills, or to be chronically ill or disabled. They are also more likely to live in regions of the country with high unemployment rates, with the course of their employment being very volatile.

In a report on long-term unemployment issued by the European Commission (2012) such factors as being female, being older, and having lower levels of education appeared to be strongly correlated with the risk of long-term unemployment. Moreover, it has been stressed that significant relationships were found between long-term unemployment risk and disability, professional experience, or type of benefits in some European countries. The results of Wolbers' (2000) work on the relationship between education and unemployment in the Netherlands shows that the qualified unemployed are more likely to re-enter the workforce than the unqualified. The strength of this effect varies according to the current aggregated unemployment rate, sex, and duration of unemployment.

Alavinia and Burdorf (2008) identified the following factors supporting withdrawal from the labour market: low education, being single, avoidance of physical activity, and having a high body mass index. Those without paid work were more likely to suffer from chronic illnesses such as depression, cerebral stroke or diabetes. Finally, Garrouste, Kozovska and Perez (2010) point out that the type of employment contract can also be a potentially significant factor influencing the probability of long-term unemployment. That impact, however, depends on the specificity of a particular country's labour regulations.

4. Empirical analysis

4.1 Data

The Public Employment Services (PES) in Poland carry out their statutory tasks associated with employment support and mitigating the negative consequences of unemployment. PES is comprised of the Ministry of Labour, with 16 regional and 343 local employment offices.This system is decentralised and based on a local self-government structure. Local and regional offices realize the central government's targets, but at the same time they have broad autonomy in adjusting their policies to the needs of their region.

A person looking for a job can register in a local employment office in accordance with his or her place of residence. The law describes the set of criteria that must be fulfilled in order to register as unemployed. First of all, to register as an unemployed one needs to be of full legal age (18 years old), and retirement age is the maximum age at which a person can register as unemployed[4].

[4] The retirement age in Poland in 2012 for men was 65, for women 60.

Moreover, to be registered as unemployed a candidate needs to be ready and able to commence full-time work. Generally a candidate should not be a student of high school or another full-time study programme. A registered candidate is obliged to actively look for a job. The relevant act enumerates some additional restrictions regarding permitted sources and levels of income.

An application called Sirius (Syriusz^{Std}) is a basic IT tool for local employment offices.When the present research was carried out, Sirius was the only available source of individual data on the unemployed because there was no central database of all registered unemployed in Poland. Our research is based on data drawn directly from six representative local employment offices. Each of these offices serviced the unemployed from different local counties (which reflect the NUTS-4 level according to Nomenclature of Territorial Units for Statistics) in six regions (NUTS-2) of the country. Three of them are urban districts (Bialystok, Przemysl, Wloclawek) and the other three are rural districts (Dzialdowo, Sierpc, Krasnystaw). Each of the districts represents a different type of economy: from modern through to those with different degrees of industrialization, up to one based on traditional small-scale farming operations.[5]

The data was abstracted from the Sirius database in November and December 2012, and included information on the unemployed registered in the PES IT system on 31 December 2010. This dataset embraced almost 44,000 unemployed, including over 2100 unemployed artists, creators and other creative workers. The latter group's selection was based on the career path of the unemployed - it consists of those who had at least one creative occupation episode (at the 3-digit level of International Standard Classification of Occupation 2008) and/or who were

[5] The k-means method was used for the clustering of all counties in Poland. Data for the year 2010 for nine potentially significant variables available in the public statistics were taken into account to describe the specificity of local economies. The variables were standardized and those which appeared to be strongly correlated were omitted. Finally, four indicators of the local economy: unemployment rate at the end of the year; entrepreneurship; share of employment in the agricultural sector; and share of employment in financial activities, insurance and real estate within the total employment, were used for the clustering. Six groups of counties were then selected and labelled and a representative county for each group was chosen based on the following criteria: high long-term unemployment rate; high number of unemployed; and high share of long-term unemployed within the unemployed. Additionally, it was assumed that each of the counties should represent a different region of Poland. These are the types of clusters and their representatives:

- modern, post-industrial counties: Bialystok,
- industrial counties and suburbs: Wloclawek,
- industrial area with an old structure of the economy: Przemysl,
- well-balanced, industrial and agricultural developed areas: Dzialdowo,
- agricultural and industrial area with an old structure of the economy: Sierpc,
- traditional agricultural area with well-developed service sector: Krasnystaw (Dolny & Wojdylo -Preisner 2014, pp. 84–91).

formally educated in any creative occupation. Variants of characteristics of the unemployed were established according to the condition on 31 December 2010 recorded in Sirius, whereas the unemployment duration was based on the date of the last registration of an individual in PES's system as of the end of 2010.

4.2. Description of the samples

For the empirical analysis we used two sets of data on unemployed persons registered in the PES on 31.12.2010: (1) the General Sample (GS) consisting of 43,971 individuals, and (2) the Creative Sample (CS, N=2127) embracing the unemployed who had ever worked in and/or were formally educated in a creative occupation. The GS mainly consists of long-term unemployed – over 72% of individuals at the checking time had been registered for more than 365 days. In the CS this ratio is below 38% (see Appendix, Table A).

The structure of the GS and the CS by sex is similar: in both groups women slightly outnumbered men. Family status also is alike in both groups: circa 2/3 of the individuals have no dependent children. However, the creative unemployed were more often married. The CS is older than the GS. Every fifth individual in the creative sample is younger than 30, and every fourth is older than 50. By contrast, 38.5% of individuals of the GS are 18–29 years old, with 20% over 50. The human capital level in the CS is higher than in the GS. The creative unemployed more often have tertiary level education, longer professional experience, and more occupations and professions. On the other hand, relatively more CS individuals are disabled and have no knowledge of any foreign language. It is also worth mentioning that the structures of the samples by type of living place are different. The creative unemployed more often live in urban areas, while a considerably higher percentage of the CS (compared to the GS) comes from the largest modern city in the research (47.4% and 32.7% respectively). On the other hand, a smaller proportion of CS individuals lives in old industrial areas.

In both models we include dummies referring to occupation categories. In the GS individuals without formal education (27.3%) and those without any work experience (40.6%) dominate. One in five in the GS is a professional tradesperson or works in services, and 18.0% are craftspeople and 12.9% are workers in elementary occupations. In the GS many individuals have jobs that require higher qualifications than their formal profession (14.2% from the second and 15.4% from the third major ISCO-08 group).

Due to the fact that the CS unemployed belong mainly to the seventh major group in the ISCO-08 classification, and there was none in the first, fourth, fifth and sixth, we stratified the CS in a different way. Handicraft workers make up over a half of the CS, printing trade workers comprise one seventh and represent the third major group (18%), and creative specialists – 13.4%.

Table 1. GS structure by occupations (%) (Profession = a profession studied, confirmed with diplomas. Job = an occupation at some time practised)

Category	Profession	Job
No profession or job	27.3	40.6
1.Managers	0.5	0.0
2.Professionals	3.7	14.2
3.Technicians and associate professionals	5.2	15.4
4.Clerical support workers	5.5	1.0
5.Service and sales workers	20.0	6.8
6.Skilled agricultural, forestry and fishery workers	0.7	1.9
7.Craft and related trades workers	18.1	18.0
8.Plant and machine operators, and assemblers	6.1	1.8
9.Elementary occupations	12.9	0.3

Source: Major groups in ISCO-08.

Table 2. CS structure by occupation (%)

Category	Frequency	Percent
PROFESS_01 Creative and performing artists (code 265)	67	3.1
PROFESS_02 Authors and related writers& Journalists (codes 2641 & 2642)	70	3.3
PROFESS_03Architects & designers (codes: 2161-2163 & 2166)	149	7.0
PROFESS_04Artistic and cultural professionals (code 343 without 3434)	288	13.5
PROFESS_05 Telecommunications and broadcasting technicians (code 352)	96	4.5
PROFESS_06 Handicraft workers (code 731)	1167	55.9
PROFESS_07 Printing trades workers (code 732)	290	13.6

Source: Occupation groups by ISCO-08.

4.3. Econometric models

We attempted to find significant determinants for the probability of being in PES registers for longer than 365 days separately for both the GS and the CS, using econometric models with binary logit regression. In the logit model, the probability of occurrence of the event – in this case long-term unemployment – is determined by the function:

$$p_i = \frac{1}{1 + e^{-z_i}}$$

where Z_i is a linear function of the explanatory variable (Dougherty 2007, p. 294).

As logits cannot be estimated using OLS, we used a maximum likelihood technique, choosing coefficient estimates that maximize the likelihood of the sample data set being observed (Studenmund 2011, p. 442). In all estimated models the probability of being unemployed for over one year (365 days) since the date of the last registration in PES was the dependent variable that equals:

y=1, when unemployment period is longer than one year,
y=0 otherwise.

Explanatory variables

A list of potentially useful independent variables was developed consisting of 15 categories for the GS and 14 for the CS. All of these qualitative variables have been recoded into dummies. Thirteen of these categories appeared in both samples, including: socio-demographic characteristics of the unemployed (sex, age and marital status); family situation (dependent child); and quality of human capital (education, knowledge of foreign languages, work experience, numbers of professions and practised occupations, health). Information on an individual's willingness to take any job, i.e. not necessarily in accordance with one's formal profession, was also included in the model. Based on the unemployed worker's history, a variable showing the moment of the first registration in PES has been constructed. Finally, two variables in both models explain type of living place of the unemployed.

Different classifications were used to construct the vector variable of an individual's occupational status in the GS and in the CS. In the GS the data on the highest classified profession and the longest time spent in a job have been used to create nine subclasses, according to the major groups in the

International Standard Classification of Occupations (2008). In the CS, on the other hand, we used seven narrower subclasses of creative occupations, mainly based on the 3-digit level of ISCO-08. A detailed set of all variables is presented in Table B (Appendix).

4.4. Results

Estimation of the logit model explaining the determinants of long-term unemployment in the GS shows that the education level (EDU) is the only category that is non-significant. Living in two of the six types of districts in question (REGION) appeared insignificant too. Similarly, five variants of a sometime practice of an occupation (JOB), as well as all variants of studied professions (AC_PROFESS) turned out to be non-significant.

The non-significance of the education level as a factor potentially impacting long-term unemployment appeared also in the estimation of the CS model. However, in this model there are many other non-significant explanatory variables: dependent child (NO_CHILD); knowledge of foreign languages (NO_LANGUAGE); health (HEALTH); willingness to take any job (FLEXIB); as well as character of the place in which an individual lives (LIVING_PLACE). Moreover, living in four out of six districts (REGION) and having an episode of work in any creative occupation (PROFESS) appeared to be non-significant.

The gender of the unemployed (GENDER) proved to be an important factor, both in the GS and CS.Women are significantly more likely to be long-term unemployed than men; by 65% in the GS and by 53% in the CS.

The age of the individual (AGE) appeared to be the next factor that affects the risk of long-term unemployment in both samples: the risk is the highest among the most elderly unemployed (50+). The youngest (up to 29) are in the best situation: in the GS and in the CS the youngest are less likely long-term unemployed than the oldest, *ceteris paribus*.

According to both estimations, the marital status of the unemployed (MARIT) significantly influences the risk of long-term unemployment – in GS the married unemployed were 11% less likely to experience long-term unemployment; in the CS 20% less likely, *ceteris paribus*.

The time of the first registration in PES as unemployed (FIRST_REG) has the strongest impact on the probability of long-term unemployment, both in the CS and the GS. Individuals who registered in an employment office three years or earlier before the checking time of data collection were many times more likely to become long-term unemployed than the others.

The number of professions or jobs (PROF_NUMB) appeared to be a significant factor influencing the long-term unemployment risk in both investigated groups. In the CS as well as the GS, individuals with five or more professions were the least likely to become long-term unemployed.

The influence of work experience (YEARS_EXP) on the probability of long-term unemployment proved to be significant in both samples. In the GS, individuals who worked for not longer than one year before the relevant unemployment episode were most at risk of long-term unemployment. In the CS, in turn, the registered unemployed without any work experience was at the greatest risk. Both models show that individuals with the longest work experience (20 years and more) were the least likely to experience long-term unemployment.

In each of the samples there was a value describing the character of the region (REGION) among the explanatory variables. As has been shown, living in an old industrialized region as well as in the suburbs significantly increases the risk of long-term unemployment. Only in the GS, however, was the risk lower for the individuals living in mixed rural-urban areas.

Also only in the GS was not having a dependent child (NO_CHILD) in a household a factor that reduces the risk of long-term unemployment. These unemployed were 14% less likely at risk of long-term unemployment than individuals with children. Besides, in that sample the knowledge of at least one foreign language (NO_LANGUAGE) significantly lowered the risk of long-term unemployment, while being disabled (HEALTH) showed an increase in risk. Willingness to take any job (FLEXIB) was the next determinant of long-term unemployment that proved to be significant, but only in the GS. There the more flexible were the unemployed, the less likely were they to become long-term unemployed than those who refuse jobs deemed incompatible with their profession. The results of logit models estimation show that the unemployed living in purely rural or urban districts (LIVING_PLACE) were less likely to be at risk of long-term unemployment than those who lived in mixed districts.

In the GS, in the five major groups of jobs the kind of occupational experience (JOB) appears not to be an important factor influencing the risk of long-term unemployment. But we observed that the unemployed who worked as professionals, service and sales workers, or craft and related trades workers before the time of data collection were less likely to become long-term unemployed. In turn, agricultural, forestry and fishery workers, as well as individuals without any qualified work experience, are at a higher risk of long-term unemployment.

In the GS, by contrast, the studied professions (AC_PROFESS) are non-significant. Individuals not qualified in any profession are 16% more likely to become long-term unemployed than those who are qualified.

Only one category of creative profession – architects and designers – appeared to significantly influence the long-term unemployment risk. These creative specialists are 43% less likely to be long-term unemployed than the others.

5. Conclusions

The subject of creative and cultural workers' unemployment is a particularly important topic in the era of domination of the knowledge and creativity paradigm. The extensive and original empirical data allowed us to thoroughly analyse the specificity of long-term unemployment risk among representatives of creative occupations. Our first observation concerns the fact that in spite of the relatively broad categories of creative and cultural workers adopted in our study, the creative unemployed are only a small part (4.5%) of the general population of unemployed. That may be good news for workers in the creative sector. Secondly, the results show that the exposure of creative and cultural industry workers and the rest of the unemployed to the risk of long-term unemployment is highly convergent. In both subpopulations – the creative sample (CS) and the general sample (GS) – women are more likely to be at risk of long-term unemployment. Even a high level of education or a creative profession is not a factor in lowering this risk among women. On the plus side, it appeared that having children does not influence the risk of long-term unemployment among creative workers, whereas it does in the GS. The long-term unemployment risk of older unemployed workers in comparison to the youngest (18–29) is significantly greater among the creative workers than in the general population of unemployed. Interestingly, education level is a non-significant factor in the risk of long-term unemployment in both analysed populations. That finding could be explained by the structural mismatch of labour supply and demand in local labour markets, both in the GS as well as the CS (especially in relation to highly educated creative workers). It is possible, too, that the soft qualifications such as interpersonal skills and internal motivation or talent matter more in a time of economic slowdown than does formal education, at least with respect to the long-term unemployment risk. Finally, the non-significance of formal education in the case of some CS workers may also be caused by the fact that the individual's highest education level may not necessarily be gained in a creative profession, which implies that the long-term unemployment risk of these individuals is rather a derivative of the structural unemployment and general primacy of experience over formal qualifications on other `non-creative' labour markets.

Our results show that the hard-to-place groups of unemployed being at the highest risk of long-term unemployment are similar among the creative economy workers and in the population of 'non-creative' unemployed. This implies that `classical' active labour market policies may also be efficient in preventing social exclusion caused by human capital depreciation with respect to creative economy workers.

Certainly the outcome presented in this study shows only a fragment of the complex reality of the creative labour market. Other occupational groups of `creative workers' and other `unemployment' definitions might be used for further analyses in order to find the best policy solutions for preventing long-term unemployment, social exclusion, and human capital depreciation affecting this potentially most innovative group of the labour force. What's more, an effective policy in this area would bring about multiplier effects outside the creative economy. As Stolarick and Currid-Halkett (2013) show, a high participation of the creative class in the regional labour market is significantly and positively associated with lower unemployment rates and can mitigate the negative consequences of an economic crisis.

Appendix

Table A.Structure of General Sample and Creative Sample (%)

Variant of the variable	General sample	Creative sample
	Share of the positive variant ("1") of the variable	
Unemployment duration of 365 days or more	72.5	37.8
Women	51.8	55.1
18 to 29 years old	38.5	20.2
30 to 49 years old	41.4	53.5
50 or more years old	20.1	26.3
Married	47.4	51.8
Have no children	66.8	66.1
Tertiary education	14.7	16.9
Upper secondary education	33.5	30.0
Lower secondary, primary & no education	51.8	53.0
Disabled	8.1	11.2
Lack of knowledge of a foreign language	70.7	72.3
Not willing to take any job	12.8	16.0
No profession	12.5	-

1 or 2 professions or occupations	56.3	42.7
3 or 4 professions or occupations	25.1	41.7
5 or more professions or occupations	6.1	15.6
No work experience	28.8	11.8
Shorter than one year of work experience	12.2	8.4
1 to 5 years of work experience	25.5	26.4
6 to 20 years of work experience	24.2	36.0
Longer than 20 years of work experience	10.2	17.4
Living in an urban district	77.0	87.3
Living in a rural district	19.5	10.6
Living in a mixed (urban-rural) district	3.5	2.1
Living in a (region 1) agricultural and industrial area with an old structure (Sierpc)	9.5	4.4
Living in a (region 2) industrial area with an old structure (Przemysl)	11.7	8.3
Living in a (region 3) industrial area and suburbs (Wloclawek)	22.5	20.3
Living in a (region 4) modern, post-industrial area (Bialystok)	32.7	47.4
Living in a (region 5) well balanced, industrial and agricultural developed area (Dzialdowo)	13.3	10.6
Living in a (region 6) traditional, agricultural area without a well-developed service sector (Krasnystaw)	10.4	9.0

Table B. List of the independent variables for General Sample (N=43916) and Creative Sample (N=2127) models

Variable	Definition
GENDER	Dummy variable (female=1, male=0)
AGE_1	Dummy variable (=1 for person 18 to 29 years old)
AGE_2	Dummy variable (=1 for person 30 to 49 years old)
AGE_3	Dummy variable (=1 for person 50 years old or older)
EDU_LOW	Dummy variable (=1 no education, primarily and lower secondary education level, otherwise=0)
EDU_MID	Dummy variable (=1 upper secondary education level, otherwise=0)
EDU_HIGH	Dummy variable (=1 tertiary education level, otherwise=0)
MARIT	Dummy variable (=1 for married, otherwise=0)
NO_CHILD	Dummy variable (=1 for having no children, otherwise=0)
NO_LANGUAGE	Dummy variable (=1 for unemployed who do not know any foreign language, otherwise=0)

HEALTH	Dummy variable (=1 for the unemployed who are not disabled, otherwise=0)
FIRST_REG	Dummy variable (=1 if the first registration in employment office had been 3 or more years before the checking moment - numbers of registrations independently, otherwise=0)
FLEXIB	Dummy variable (=1 willingness to take any job, otherwise=0)
PROF_NUMB_0	Dummy variable (=1 the unemployed has no profession or occupation, otherwise=0)
PROF_NUMB_12	Dummy variable (=1 the unemployed has one or two professions or occupations, otherwise=0)
PROF_NUMB_34	Dummy variable (=1 the unemployed has three or four professions or occupations, otherwise=0)
PROF_NUMB_5	Dummy variable (=1 the unemployed has at least 5 professions or occupations, otherwise=0)
YEARS_EXP_1	Dummy variable (=1 working experience shorter than one year, otherwise=0)
YEARS_EXP_2	Dummy variable (=1 no working experience, otherwise=0)
YEARS_EXP_3	Dummy variable (=1 working experience longer than 1 year but shorter than 6 years, otherwise=0)
YEARS_EXP_4	Dummy variable (=1 working experience longer than 5 years but shorter than 21 years, otherwise=0)
YEARS_EXP_5	Dummy variable (=1 working experience longer than 20 years, otherwise=0)
LIVING_PLACE_1	Dummy variable (=1 living in urban area, otherwise=0)
LIVING_PLACE_2	Dummy variable (=1 living in rural area, otherwise=0)
LIVING_PLACE_3	Dummy variable (=1 living in mixed rural-urban area,
REGION_1	Dummy variable (=1 for unemployed living in an agricultural and industrial area with an old structure (Sierpc), otherwise=0)
REGION_2	Dummy variable (=1 for unemployed living in an industrial area with an old structure (Przemysl), otherwise=0)
REGION_3	Dummy variable (=1 for unemployed living in an industrial area and suburbs (Wloclawek), otherwise=0)
REGION_4	Dummy variable (=1 for unemployed living in a modern, post-industrial area (Bialystok), otherwise=0)
REGION_5	Dummy variable (=1 for unemployed living in a well balanced, industrial and agricultural developed area (Dzialdowo), otherwise=0)
REGION_6	Dummy variable (=1 for unemployed living in a traditional, agricultural area without a well-developed service sector (Krasnystaw), otherwise=0)

Explanatory variables used only in the GS model

JOB_0	Dummy variable (=1 for the unemployed with no occupation ever practiced, otherwise=0)
JOB_1	Dummy variable (=1 for the unemployed with the longest experience in occupation practiced as Managers, otherwise=0)
JOB_2	Dummy variable (=1 for the unemployed with the longest experience in occupation practiced as Professionals, otherwise=0)

JOB_3	Dummy variable (=1 for the unemployed with the longest experience in occupation practiced as Technicians and associate professionals, otherwise=0)
JOB_4	Dummy variable (=1 for the unemployed with the longest experience in occupation practiced as Clerical support workers, otherwise=0)
JOB_5	Dummy variable (=1 for the unemployed with the longest experience in occupation practiced as Service and sales workers, otherwise=0)
JOB_6	Dummy variable (=1 for the unemployed with the longest experience in occupation practiced as Skilled agricultural, forestry and fishery workers, otherwise=0)
JOB_7	Dummy variable (=1 for the unemployed with the longest experience in occupation practiced as Craft and related trades workers, otherwise=0)
JOB_8	Dummy variable (=1 for the unemployed with the longest experience in occupation practiced as Plant and machine operators, and assemblers, otherwise=0)
JOB_9	Dummy variable (=1 for the unemployed with the longest experience in occupation practiced as Elementary occupations, otherwise=0)
AC_PROFESS_0	Dummy variable (=1 for the unemployed without any studied profession, otherwise=0)
AC_PROFESS _1	Dummy variable (=1 for the unemployed with the highest studied profession in a major group: Managers, otherwise=0)
AC_PROFESS _2	Dummy variable (=1 for the unemployed with the highest studied profession in a major group: Professionals, otherwise=0)
AC_PROFESS _3	Dummy variable (=1 for the unemployed with the highest studied profession in a major group: Technicians and associate professionals, otherwise=0)
AC_PROFESS _4	Dummy variable (=1 for the unemployed with the highest studied profession in a major group: Clerical support workers, otherwise=0)
AC_PROFESS _5	Dummy variable (=1 for the unemployed with the highest studied profession in a major group: Service and sales workers, otherwise=0)
AC_PROFESS _6	Dummy variable (=1 for the unemployed with the highest studied profession in a major group: Skilled agricultural, forestry and fishery workers, otherwise=0)
AC_PROFESS _7	Dummy variable (=1 for the unemployed with the highest studied profession in a major group: Craft and related trades workers, otherwise=0)
AC_PROFESS _8	Dummy variable (=1 for the unemployed with the highest studied profession in a major group: Plant and machine operators, and assemblers, otherwise=0)
AC_PROFESS _9	Dummy variable (=1 for the unemployed with the highest studied profession in a major group: Elementary occupations, otherwise=0)
Explanatory variables used only in the CS model	
PROFESS_1	Dummy variable (=1 for creative and performing artists (code 265), otherwise=0)
PROFESS_2	Dummy variable (=1 for authors and related writers & Journalists (codes 2641 & 2642), otherwise=0)

PROFESS_3	Dummy variable (=1 for architects & designers (codes: 2161-2163 & 2166), otherwise=0)
PROFESS_4	Dummy variable (=1 for artistic and cultural professionals (code 343 without 3434), otherwise=0)
PROFESS_5	Dummy variable (=1 for telecommunications and broadcasting technicians (code 352), otherwise=0)
PROFESS_6	Dummy variable (=1 for handicraft workers (code 731), otherwise=0)
PROFESS_7	Dummy variable (=1 for printing trades workers (code 732), otherwise=0)

Table C. Estimation results for logit model for the General Sample

UNEMPL_DUR_OVER365		B	Std. Error	Wald	Df	Sig.	Exp(B)
1	Intercept	-3.669	.124	877.497	1	.000	
	AGE_1	-1.648	.042	1532.088	1	.000	.192
	AGE_2	-.939	.034	752.326	1	.000	.391
	AGE_3	0[b]	.	.	0	.	.
	NO_CHILD	-.151	.026	34.664	1	.000	.860
	NO_LANGUAGE	.322	.028	128.214	1	.000	1.380
	PROF_NUMB_0	.684	.074	85.409	1	.000	1.983
	PROF_NUMB_12	.819	.051	257.182	1	.000	2.268
	PROF_NUMB_34	.405	.051	62.684	1	.000	1.499
	PROF_NUMB_5	0[b]	.	.	0	.	.
	LIVING_PLACE_1	-.342	.072	22.505	1	.000	.711
	LIVING_PLACE_2	-.237	.070	11.448	1	.001	.789
	LIVING_PLACE_3	0[b]	.	.	0	.	.
	GENDER	.504	.025	393.269	1	.000	1.656
	MARIT	-.110	.024	20.337	1	.000	.896
	HEALTH	-.263	.040	43.501	1	.000	.769
	FLEXIB	-.062	.034	3.369	1	.066	.939
	REGION_1	-.181	.044	16.897	1	.000	.834
	REGION_2	.497	.036	185.593	1	.000	1.644
	REGION_3	.115	.031	13.605	1	.000	1.122
	REGION_5	-.203	.044	21.194	1	.000	.816
	YEARS_EXP_1	1.451	.056	672.030	1	.000	4.266
	YEARS_EXP_2	1.662	.058	811.908	1	.000	5.269
	YEARS_EXP_3	.855	.049	309.333	1	.000	2.352
	YEARS_EXP_4	.736	.044	275.267	1	.000	2.088
	YEARS_EXP_5	0[b]	.	.	0	.	.
	JOB_0	.376	.046	67.328	1	.000	1.456
	JOB_2	-.279	.065	18.520	1	.000	.756
	JOB_5	-.198	.032	37.855	1	.000	.820
	JOB_6	.366	.132	7.651	1	.006	1.441
	JOB_7	-.114	.033	11.897	1	.001	.892
	AC_PROFESS_0	-.167	.027	38.936	1	.000	.847
	FIRST_REG	3.142	.062	2538.590	1	.000	23.154

Cox and Snell .220Nagelkerke.297McFadden.184

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	Df	Sig.
Intercept Only	37433.536			
Final	26539.917	10893.619	28	.000

Table D. Estimation results for logit model for the Creative Sample

UNEMPL_DUR		B	Std. Error	Wald	Df	Sig.	Exp(B)
1	Intercept	-3.549	.339	109.871	1	.000	
	AGE_1	-2.381	.211	126.840	1	.000	.092
	AGE_2	-1.035	.134	59.404	1	.000	.355
	AGE_3	0[b]	.	.	0	.	.
	PROF_NUMB_12	1.045	.161	41.891	1	.000	2.842
	PROF_NUMB_34	.463	.153	9.120	1	.003	1.588
	PROF_NUMB_5	0[b]	.	.	0	.	.
	GENDER	.426	.106	16.032	1	.000	1.531
	MARIT	-.218	.108	4.128	1	.042	.804
	YEARS_EXP_1	1.643	.248	43.818	1	.000	5.171
	YEARS_EXP_2	1.314	.240	30.071	1	.000	3.719
	YEARS_EXP_3	.726	.188	14.924	1	.000	2.068
	YEARS_EXP_4	.837	.160	27.354	1	.000	2.310
	YEARS_EXP_5	0[b]	.	.	0	.	.
	FIRST_REG	2.567	.289	78.682	1	.000	13.020
	REGION_2	.686	.183	13.999	1	.000	1.987
	REGION_3	.335	.124	7.286	1	.007	1.398
	PROFESS_3	-.547	.243	5.087	1	.024	.579

Cox and Snell .208Nagelkerke.284McFadden.176

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	Df	Sig.
Intercept Only	1353.874			
Final	856.577	497.297	14	.000

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References

Alper N. O., et. al. (1996), *Artists in the Work Force: Employment and Earnings*, 1970 to 1990, *ENA Research Division Report #37*.

Alavinia S. M., Burdorf,A. (2008), *Unemployment and retirement and ill-health: across-sectional analysis across European countrie*s, 'International Archives of Occupational and Environmental Health', 82 DOI 10.1007/s00420-008-0304-6.

Australian Council of Social Services (2005), Measuring Long Term Unemployment in Australia. Strawberry Hills, NSW, Australian Council of Social Services.

Benhamou F. (2000), *The Opposition between Two Models of Labour Market Adjustment: The Case of Audiovisual and Performing Arts Activities in France and Great Britain over a Ten Year Period*, 'Journal of Cultural Economics', 24.

Bridgstock, R. (2011), Skills for creative industries graduate success, *Education + Training*, Vol. 53, No. 1.

Clarence E., Heikkilä S. (2013), *Successful Methods for Getting the Long-term Unemployed into Work: A Short Overview*, OECD LEED Trento Centre for Local Development.

Comunian R., Faggian A., Jewell, S. (2011), *Winning and losing in the creative industries: an analysis of creative graduates' career opportunities across creative disciplines*, 'Cultural Trends', 20:3-4, DOI: 10.1080/09548963.2011.589710.

Di Domenico G., Gasparini C. (2008), *National Approaches to the Long-Term Unemployment as a Target Addressed by Public Employment Services: General Framework, Case Studies and Significant European Experiences* [in:] Di Domenico, G, Spattini, S. (eds.), *New European Approaches to Long-Term Unemployment. What Role for Public Employment Services and What market for Private Stakeholders?*, Kluwer Law International, Alphen aan den Rijn.

Dolny E., Wojdylo-Preisner M. (2014), *Zarys koncepcji badań terenowych (Outline of the field research*), [in:] Bronk, A., Wisniewski, Z., Wojdylo-Preisner, M. (eds*.), Ryzyko długotrwałego bezrobocia w Polsce. Diagnoza i metody zapobiegania (Long-term unemployment risk: diagnosis and methods of prevention)*, Ministerstwo Pracy I Polityki Społecznej i Centrum Rozwoju Zasobów Ludzkich, Warszawa 2014.

Dougherty, Ch. (2007), *Introduction to econometrics*, Oxford University Press.

Dubina I.N., Carrayannis E.G., Campbell, D.F.J. (2012), *Creativity Economy and a Crisis of the Economy? Coevolution of Knowledge, Innovation, and Creativity, and of the Knowledge Economy and Knowledge Society*, 'Journal of Knowledge and Economy', 3 DOI 10.1007/s13132-011-0042-y.

EAEA (2001), Study relating to the various regimes of employment and social protection of cultural workers in the EU.

European Commission (2012), EEO Review. Long-term unemployment 2012, DG for Employment, Social Affairs and Inclusion, September.

Eurostat (2007), Cultural Statistics, European Communities, Luxemburg.

Garrouste, C., Kozovska, K., Perez, E. A. (2010), *Education and Long-Term Unemployment, European Commission*, Joint Research Centre, Institute for the Protection and Security of the Citizen.

Heilbrun J., Gray Ch. M. (2001), *The Economics of Art and Culture*, Cambridge University Press.

ILO, OECD, IMF, the World Bank (2012), Boosting Jobs and Living Standards in G20 Countries, OECD Economics Department, ILO (Geneva), OECD (Paris), IMF (Washington, DC), the World Bank (Washington, DC).

Iyengar S. (2013), *Artists by Numbers: Moving From Descriptive Statistics to Impact Analyses*, 'Work and Occupations', 40: 496, DOI: 10.1177/0730888413505097.

Lee N., Sissons P., Balaram B., Jones K., Cominetti N. (2012), *Short-term crisis – long-term problem? Addressing the youth employment challenge*, The Work Foundation.

Lingo E., Tepper S. (2013), *Looking Back, Looking Forward: Arts-Based Careers and Creative Work,* 'Work and Occupations', 40: 337, DOI: 10.1177/0730888413505229.

Menger P. (2001), *Artists as workers: Theoretical and methodological challenges*, 'Poetics', 28.

NEA (2009), Artists in a Year of Recession: Impact on Jobs in 2008, *NEA Research Note #97*, http://arts.gov/sites/default/files/97.pdf.

OECD (2012), OECD Employment Outlook 2012, OECD Publishing, Paris.

Palmer/Rae Associates International Cultural Advisors (2004), European Cities and Capitals of Culture;

Primorac J. (2006), *The position of cultural workers in the south-eastern European perspective*, Amsterdam: European Cultural Foundation.

Stolarick K., Currid-Halkett E. (2013), *Creativity and the crisis: The impact of creative workers on regional unemployment*, 'Cities', 33.

Studenmund A.H. (2011), *Using econometrics. A practical guide*, Pearson.

Throsby D., Zednik A. (2011), *Multiple job-holding and artistic careers: some empirical evidence*, 'Cultural Trends', 20(1).

United Nations Conference on Trade and Development (2010), Creative Economy Report 2010, United Nations, Geneva.

WIPO (2008), National Studies on Assessing the Scientific Contribution of the Copyright-Based Industries, Creative Industries Series No. 3.

Wolbers M. (2000), *The effects of level of education on mobility between employment and unemployment in the Netherlands*, 'European Sociological Review', Vol. 16 No. 2.

Streszczenie

SPECYFIKA RYZYKA DŁUGOOKRESOWEGO BEZROBOCIA WŚRÓD PRACOWNIKÓW EKONOMII KREATYWNEJ

W artykule przedstawiono wyniki badań nad determinantami długookresowego bezrobocia pracowników ekonomii kreatywnej w Polsce. Analizie poddano ponad 2100 bezrobotnych artystów, dziennikarzy, architektów, projektantów, rzemieślników oraz techników przemysłów kreatywnych, zarejestrowanych w powiatowych urzędach pracy. Modelowano relacje między ilorazem szans długookresowego bezrobocia a podstawowymi zmiennymi społeczno-demograficznymi, charakterystykami kapitału ludzkiego, a także typem lokalnego rynku pracy. Rezultaty badań wśród pracowników kreatywnych zestawiono z wynikami na grupie niemal 44.000 zarejestrowanych bezrobotnych reprezentujących wszystkie zawody. Wykazano, że takie cechy jak: płeć męska, wiek poniżej 30 lat, pozostawanie w związku małżeńskim, odległy czas pierwszej rejestracji, wieloletnie doświadczenie zawodowe, wysokie kwalifikacje oraz wielozawodowość obniżają istotnie ryzyko długotrwałego bezrobocia, zarówno w próbie kreatywnej, jak i generalnej. Siła tego wpływu różni się jednak w obu badanych populacjach. Natomiast niektóre ze zmiennych – przykładowo stan zdrowia, posiadanie dzieci lub gotowość podjęcia jakiejkolwiek pracy – determinują ryzyko długiego pozostawania bez pracy wyłącznie wśród ogółu zarejestrowanych bezrobotnych.

Słowa kluczowe: *pracownicy ekonomii kreatywnej, determinanty bezrobocia długookresowego, polityka rynku prac*