Long-term Unemployment of Creative Economy Workers in Poland

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ABSTRACT

This paper investigates the determinants of creative economy workers' long-term unemployment in Poland. Over 2100 unemployed artists, journalists, architects, designers, craftspeople and creative industries 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 a type of local labour market. The outcomes based on the sample of creative workers are compared to a study of almost 44,000 registered unemployed from all professions. Results indicate that the characteristics as: male gender, age under 30, married, first unemployed registration within the last three years, long 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. On the other hand, some covariates affecting significantly the likelihood of long-term unemployment in the general sample, such as health, having children or willingness to take any job, appear to be non-significant for creative workers.

Keywords: Creative workers, Registered unemployment, Long-term unemployment determinants.

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1. Introduction

In spite of the growth of an interest in the economy of the creative sector and numerous studies about the creative labour market, there are not many analyses regarding issues of the creative sector unemployment – and in particular the long-term unemployment. Such research requires disseminating one, universally accepted definition of creative economics, which does not yet exist. On the contrary, one can observe a phenomenon of gradual evolution and extension of the areas of creative labour analysis (Dubina et al. 2012). What is more, with reference to creative employees, for which creative work is only an additional job, provided occasionally as the freelancer, sometimes it is even difficult to determine what the unemployment means (Primorac 2006, p. 51). Artists awaiting the next order often work in non-artistic occupations and are not classified as the unemployed (Menger 2001, p. 247).

It seems that determinants of the professional deactivation risk of creative labour force are still an unrecognised research issue. There are many sources of that risk for cultural and creative workers (CCW), both, on supply and demand side of the labour market. Supply unemployment determinants refer to human capital features of this professional group. Demand determinants, in turn, result from the outer elasticity of the demand for their services. In consequence, employers in creative an cultural industries (CCI) propose 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 registered in public employment agencies, is the goal of this article. All these people are, certainly, only a part of CCI, firstly, because of a selection of professions and occupations for the analysis, and, secondly, on account of the fact that the unemployed in our study are interested mainly in standard subordinate employment, not in self-employment or freelance work. Examinations conducted by us were based on individual data acquired directly from databases of employment offices. It enabled analysing of the supply-side determinants of staying in the register for over 365 days. With reference to these persons (i.e. long-term registered unemployed) the mechanism of substitution of higher employability for lower job security does not work (Benhamou 2000, p. 310). In consequence, the following research questions

appear: what features of these unemployed cause that this protection mechanism does not work? Why are they not able to reduce the uncertainty of the employment (that results from the specificity of the very work) thanks to their larger employability? What are the determinants of the long-term unemployment risk among CCI unemployed in comparison with the general population of registered unemployed?

Basing on a specificity of Polish registered unemployment, we have formulated a following hypothesis: the same factors – such as: multi job holding, level of education, professional experience and flexibility – significantly influence the long-term unemployment risk among CCI workers and other unemployed.

2. Unemployment and creative workforce

Question of unemployment appears in research on creative and culture economics in different contexts. Firstly, the impact of investment in cultural and creative industries (CCI) on reducing the unemployment volume and new jobs creation is analyzed (WIPO 2008). Second field of economic research on these two spheres regards participation of the unemployed in consumption of the culture goods and services (Eurostat 2007, p. 137). Third scope of analysis refers the way the culture and arts measures can directly support escaping unemployment (Palmer/Rae Associetes International Cultural Advisors 2004). Finally, there are works on unemployed artists' social policy, access to unemployment benefits and social exclusion. An extensive comparative study on that issue has been carried out by EAEA – an institution which represents the International Arts and Entertainment Alliance in Europe (EAEA 2002).

Despite growing interests in research on CCI labour markets, analyses of unemployment of artists and other creative workers are quite seldom. There is a long tradition in American research on that topic. National Endowment for the Arts has prepared such analyses for forty years (Alper et al. 1996, Iyengar 2013, NEA 2009). Cultural economists referring to issues of the unemployment or employment of artists often quote results of NEA (Heilbrun & Gray, p. 314).

Recent analyses by NEA concern among others the impact of global economic crisis on unemployment and employment of artists. According to these American research, the

considerable growth of artists' unemployment appeared in 2008 (by 63%, i.e. 2.4 percentage points in 4th quarter of 2008, comparing to last quarter of 2007), reaching the level of general unemployment rate at that moment (6.1%). Unemployment rate of Artists was twice as big as Specialists' unemployment rate (in this classification Artists are a part of Specialists) (NEA, p. 1). Not only has the unemployment among artists grown faster than total unemployment, but the real impact of global crisis on artists' labour market probably was bigger. Notable number of artists quitted labour market at that time, discouraged by bad artistic job prospects. American research show that there is a mechanism transmitting the demand fluctuations in the whole economy into the creative sector. One of the example is the construction sector suffering from a slowdown, which resulted in growth of architects' and designers' unemployment (NEA, p. 2). Facing such strong interrelations between creative sector and the whole economy, any improvement of artists' labour market situation can be hardly expected before the economy recovers.

In the analysis of the creative and cultural unemployed we took into account the heterogeneity of this group that causes various odds of being unemployed for longer than one year. This approach seems to be justified, regarding the results of NEA research. In USA in 2008 the highest unemployment rate was recorded 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, p. 10).

Besides, we directed our attention to a phenomenon of multi job holding, which is especially important feature of creative and cultural workers (Throsby & Zednik 2011). Multiple job holding should not only reduce the risk of creative workers unemployment, but – even more – lower the risk of long-term unemployment among this group. This question is also a subject of our analysis.

3. Long-term unemployment

The long-term unemployment is a substantial, though locally concentrated, problem even in economies with good labour market situation. It is particularly important with reference to the issue of social exclusion. One cannot omit also the economic consequences of long-

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lasting unemployment. Unemployment, and particularly long-term unemployment, influence the future professional career and earnings prospects of the individual. Besides, it generates opportunity costs for the society, as well as costs of running the welfare politics (Di Domenico & Gasparini 2008).

One should consider causes of the long-term unemployment at various levels and with many prospects. Di Domenico & Gasparini (2008) enumerate following: intergenerational unemployment, multiple disadvantage, financial considerations, welfare benefits, family commitments, time management difficulties, employer requirements, poor employer knowledge of return-to-work measures, a lack of qualifications and discouragement.

Costs of the long-term unemployment – visible both in the social, as well as in economic sphere – concern not only persons directly affected, but also their families, community and entire country (Clarence & Heikkilä 2013). Economic consequences of long-term unemployment embrace above all: worsening the financial circumstances of unemployed and lowering the prospects of re-entering employment. Social costs in turn include: higher poverty risk, health problems and the long-term unemployed children's failures at school (ILO, OECD, IMF & the World Bank 2012).

The unemployed can lose their skills and work ethic as the period of unemployment extends. Finally, they can becoming discouraged from activity on labour market. This effect is strong especially among the youth and the low qualified. Lee et al. (2012) found that unemployment affecting a young person can lead to diminishing their earnings in long run, increasing risk of further unemployment episodes and worsening of their health. The authors stress, moreover, that many young people on labour market are trapped in „Catch 22" situation – they do not have experience to demonstrate their skills to an employer, but simultaneously they do not have access to a job to acquire this experience.

Report of the Australian Council of Social Services (2005) points out that, in contrast with the employed or short term unemployed, the long-term unemployed more likely are low educated and skilled, chronically ill or disabled. Besides, they live in regions of the country with high unemployment rate, and a course of their employment is very volatile.

In a report on long-term unemployment issued by European Commission (2012), such factors as: female gender, being older and low education, appeared to be strongly correlated

with a risk of long-term unemployment. Moreover, it has been stressed, that significant relations between long-term unemployment risk and disability, professional experience or type of benefits were found in some European countries.

Results of Wolbers' works (2000) on relation between education level and unemployment in the Netherlands show, that the qualified unemployed re-enter the employment more likely than unqualified. The strength of this effect varies accordingly to current aggregated unemployment rate, gender and unemployment duration.

Alavinia & Burdorf (2008) identified following factors supporting labour market withdrawal: low education, being a single, avoiding physical activity and high body mass index. Those, who have not got paid work, suffered more likely from chronic illnesses such as depression, cerebral stroke or diabetes.

Garrouste et al. (2010) point out, that also a type of employment contract can be a potentially significant factor influencing the long-term unemployment probability. This impact, however, depends on the specificity of a particular country.

4. Empirical analysis

4.1 Data

Public Employment Services (PES) in Poland execute their statutory tasks associated with employment support and mitigating negative consequence of the unemployment. PES consist of the ministry of labour, 16 regional and 343 local employment offices. This system is decentralised and based on local self-government structure. Local and regional offices realize central government's targets, but at the same time they have broad autonomy in adjusting the policy to the needs of the region.

A person looking for a job can register in a local employment office, in accordance with his or her living place. The law describes the set of criteria that must be fulfilled to register as the unemployed. First of all, to register as an unemployed one needs to be of full legal age (i.e. 18 years old). The retirement age is the maximum age limit for an unemployed[2]. Moreover, a candidate for a registered unemployed needs to be able and ready to start full-time

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[2] The retirement age in 2012 for men was 65, for women – 60.

working. Generally, a candidate should not be a student neither a high school nor full-time studies. A candidate is obliged to look actively for a job. The relevant act enumerates some additional restrictions referring permitted source and level of income.

A basic IT tool for local employment offices is an application called Sirius (Syriusz[Std]). At the moment Sirius is the only available source of individual data on the unemployed, because there is no central database of all registered unemployed in Poland. This application, however, is designed mainly for administering the currently registered unemployed dataset. The interface of Syrius enables exporting the data, but its today's form does not allow to track the history of consecutive episodes of employment and unemployment. This is why our research bases on data withdrawn from six local employment offices. Each of these offices services the unemployed from different local districts (called poviat – NUTS-4) in six different regions (voivodship – NUTS-2). Three of them are township districts (Bialystok, Przemysl, Wloclawek), and the other three – country districts (Dzialdowo, Sierpc, Krasnystaw). Each of the districts represents different type of economy: from a modern one, through those of different degree of industrialization, up to a traditional small-scale farming (Dolny & Wojdylo-Preisner 2014).

The data were collected from Sirius in November and December 2012. Then, the information on the unemployed registered in PES IT system on 31 December 2010 was abstracted. This dataset embraced almost 44 thousand of unemployed, including over 2100 unemployed artists, creators and other creative workers. The latter group is selected based on the career path of the unemployed; the population consists of those, who has at least one creative occupation episode (at 3-digit level of ISCO-08), or (and) who are formally educated in a creative occupation. Variants of characteristics of the unemployed are set according to the condition of 31 December 2010 recorded in Sirius, whereas the unemployment duration – based on a date of the last registration of an individual before 31 December 2010 and the end of 2010.

4.2. Description of the samples

For empirical analysis we used two sets of data of the unemployed registered in PES on 31 December 2010: a General Sample (GS) consisting of 43971 individuals, and a Creative

Sample (CS), N=2127, embracing the unemployed who ever worked or are formally educated in a creative occupation. GS mainly consists of long-term unemployed – over 72% individuals at the checking moment had been registered for more than 365 days. In CS this ratio is less that 38% (Appendix, Table A).

The structure of GS and CS by gender is similar, in both women slightly outnumber the men. Family status is alike in both groups: circa 2/3 is childless (or without dependent children). Creative unemployed more often were married.

CS is older than GS. Every fifth individual of creative sample is younger than 30, every fourth – older than 50. By contrast 38.5% individuals of GS are 18–29 year old, 20% – over 50.

Human capital level in CS is higher than in GS. The creative unemployed more often have tertiary 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 worth mentioning, that the structures of the samples by type of living place are different. The creative more often live in urban areas. Considerably higher percentage of CS (than of GS) individuals comes from the largest modern city in the research (47.4% and 32.7% respectively). On the other hand, smaller part of CS individuals lives in old industrial areas.

In both models we included dummies referring occupation categories (Table 1). In the GS individuals without formal education (27.3%) and without any working experience (40.6%) dominate. Every fifth of the GS is a professional tradesman or worked in services, 18.0% are craftspeople and 12.9% – elementary occupations workers. In GS many individuals have a job that required higher qualification 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 unemployed in CS belong mainly to the seventh major group, and there were no one in the first, fourth, fifth and sixth one, we stratified CS in a different way (Table 2). Handicraft workers are over a half of CS, printing trade workers – one seventh, representatives of the third major group – 18%, and the best educated in the research creative specialists – 13.4%.

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

Major groups in ISCO-08.

Table 2.
CS structure by occupations (%)

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_03 Architects & designers (codes: 2161-2163 & 2166)	149	7.0
PROFESS_04 Artistic 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

Occupation groups by ISCO-08.

4.3. Econometric models

We attempted to find significant determinants of probability of being in PES registers for longer than 365 days, separately for GS and CS, using econometric models of binary logit regression. In the logit model the probability of the occurrence of the event – here the long-term unemployment – is determined by the function (Dougherty, p. 294):

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

where Z_i is a linear function of the explanatory varible.

As logits cannot be estimated using OLS, we used maximum likelihood technique, which chooses coefficient estimates that maximize the likelihood of the sample data set being observed (Studenmund, p. 442).

In both estimated models the dependent variable was the probability of being unemployed for over one year (365 days) since the date of the last registration in PES. This binary variable equals:

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

y=0 otherwise.

Explanatory variables

A list of potentially useful independent variables consists of 15 categories for GS and 14 for CS. All of these qualitative variables have been recoded into dummies. Thirteen of these categories appeared in both samples, among others: social-demographic characteristics of the unemployed (gender, age and marital status), family situation (dependent child) and quality of human capital (education, knowledge of foreign languages, working experience, numbers of professions and practised occupations, health). We included also the information on an individual's willingness to take any job, not necessarily in accordance with one's formal profession. Based on the record of the unemployed story, a variable showing the moment of the first registration in PES has been constructed. Finally, two variables in both models explain a type of living place of the unemployed.

As a vector variable of individual's occupational status in GS and GS we used different classifications. In GS the data on the highest classified profession and the longest job have been used to create nine subclasses, according to the major groups of International Standard Classification of Occupations 2008. In CS, on the other hand, we used seven narrower subclasses of creative occupations, mainly based on 3-digit level of ISCO-08. Detailed set of all variables is presented in Table B (Appendix).

4.4. Results

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

Non-significance of education level as a factor potentially impacting long-term unemployment appeared also in estimation of logit model for CS. However, in creative sample 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 a character of the place an individual lives (LIVING_PLACE). Moreover, living in four out of six districts (REGION) and having an episode of work in most of creative occupations (PROFESS) appear to be non-significant.

Gender of the unemployed (GENDER) proved to be an important factor, both in GS and in CS. Women are significantly more likely to be long-term unemployed, ceteris paribus, by 65% in GS and by 53% in CS.

Age of the individual (AGE) is the next factor that affects risk of long-term unemployment in both samples: the risk is the highest among the oldest unemployed (50+). The youngest (up to 29) are in relatively best situation: in General Sample the youngest are the long-term unemployed, ceteris paribus, less likely by 81% than the oldest, while in Creative Sample – by 91%.

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

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

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

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

In each of the samples there was a variable describing character of the region (REGION) among the explanatory variables. As it has been proved, living in an old industrialized region as well as in suburb significantly increases the risk of long-term unemployment. Only in GS, however, the risk was lower for the individuals living in either agricultural and industrial area with an old structure or well balanced, industrial and agricultural developed area.

Only in GS having a dependent child (NO_CHILD) in a household was a factor that reduces the risk of long-term unemployment. These unemployed were, ceteris paribus, by 14% less likely at the risk than the individuals with children. Besides, in that sample the knowledge of at least one foreign language (NO_LANGUAGE) significantly lowers the risk of long-term unemployment, while being disabled (HEALTH) – increases the risk. Willingness to take any job (FLEXIB) was the next determinant of long-term unemployment that proved to be significant, but only in GS. There, the more flexible unemployed are less likely to become a long-term unemployed than those, who refuse jobs incompatible with their profession. Results of logit models estimation show that the unemployed living in purely rural or urban districts (LIVING_PLACE) were less likely at risk of long-term unemployment than those who live in mixed districts.

In GS in case of five major groups of the job, 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 work as: professionals, service and sales workers or craft and related trades workers before the checking moment, were less likely to become a

long-term unemployed. In turn, agricultural, forestry and fishery workers, as well as individuals without any qualified work experience, are at higher risk of long-term unemployment.

In GS, by contrast, the studied professions (AC_PROFESS) are non-significant. Only the individuals without any profession proved with a diploma are, ceteris paribus, by 16% more likely to become long-term unemployed than the other.

Only one creative profession – architects and designers – appeared to be significantly influencing the long-term unemployment risk. These creative specialists are, ceteris paribus, by 43% less likely to be long-term unemployed than the other.

Table 3.
General results comparison

Variable	Model on General Sample	Model on Creative Sample
GENDER	positive ***	positive ***
AGE_1	negative ***	negative ***
AGE_2	negative ***	negative ***
AGE_3	.	.
EDU_LOW	ns.	ns.
EDU_MID	ns.	ns.
EDU_HIGH	ns.	ns.
MARIT	negative ***	negative **
NO_CHILD	negative ***	ns.
NO_LANGUAGE	positive ***	ns.
HEALTH	negative ***	ns.
FIRST_REG	positive ***	positive ***
FLEXIB	negative *	ns.
PROF_NUMB_0	positive ***	X
PROF_NUMB_12	positive ***	positive ***
PROF_NUMB_34	positive ***	positive ***
PROF_NUMB_5	.	.
YEARS_EXP_1	positive ***	positive ***
YEARS_EXP_2	positive ***	positive ***
YEARS_EXP_3	positive ***	positive ***
YEARS_EXP_4	positive ***	positive ***
YEARS_EXP_5	.	.
LIVING_PLACE_1	negative ***	ns.
LIVING_PLACE_2	negative ***	ns.
LIVING_PLACE_3	.	ns.
REGION_1	negative ***	ns.
REGION_2	positive ***	positive ***
REGION_3	positive ***	positive ***

REGION_4	ns.	ns.
REGION_5	negative ***	ns.
REGION_6	ns.	ns.
JOB_0	positive ***	X
JOB_1	ns.	X
JOB_2	negative ***	X
JOB_3	ns.	X
JOB_4	ns.	X
JOB_5	negative ***	X
JOB_6	positive ***	X
JOB_7	negative ***	X
JOB_8	ns.	X
JOB_9	ns.	X
AC_PROFESS_0	negative ***	X
AC_PROFESS _1	ns.	X
AC_PROFESS _2	ns.	X
AC_PROFESS _3	ns.	X
AC_PROFESS _4	ns.	X
AC_PROFESS _5	ns.	X
AC_PROFESS _6	ns.	X
AC_PROFESS _7	ns.	X
AC_PROFESS _8	ns.	X
AC_PROFESS _9	ns.	X
PROFESS_1	X	ns.
PROFESS_2	X	ns.
PROFESS_3	X	negative **
PROFESS_4	X	ns.
PROFESS_5	X	ns.
PROFESS_6	X	ns.
PROFESS_7	X	ns.

*** p ≤ 0.01; ** p ≤ 0.05; * p ≤ 0.1; ns. − non-significant; . − reference category; X – variable not included to the model

5. Conclusions

The subject of creative and cultural workers' unemployment, which is the topic of this article, is a very interesting research area, however practically untouched in the cultural economics literature. The extensive, original, empirical data allow us to analyse thoroughly the risk of long-term unemployment among representatives of creative occupations in group of individual unemployed registered in employment offices in Poland. First observation regards the fact, that in spite of assumption of broad categories of creative and cultural workers, they are only a small percentage (4.5%) of the general unemployed population.

Secondly, our results show that the exposition of CCI workers and the rest of the unemployed registered in PES on the long-term unemployment risk is highly convergent. In both subpopulations – CS and GS – women are more likely at risk of long-term unemployment. Even a high education or a creative profession is not a factor lowering this risk among women. Optimistically, it appeared that having children does not influence the risk of long-term unemployment among creative workers, whereas in GS it does. The long-term unemployment risk of older unemployed in comparison to the youngest (18–29) among creative workers grows more sharply than in general population of unemployed. Interestingly, the education level is a non-significant factor of long-term unemployment risk in both relevant populations. This can be explained by the structural mismatch of labour supply and demand in local labour markets, both in GS as well as in CS (especially in relation to high educated creative workers). It is possible, besides, that in current Polish labour market conditions soft qualifications as interpersonal skills, internal motivation, or talent, matter more than formal education, regarding risk of long-term unemployment. Finally, the non-significance of formal education in case of some CS workers can be caused also by the fact that the individual's highest education level is not always gained in a creative profession.

Surely, the analyses we carried out are not fully exhaustive and require further extension, to include for instance other creative workers groups[3]. In the future a central database of the individual records of the unemployed would enable to expand territorially research on that subject. It is unquestionable, however, that, independently on character of disposable data, one should continue to investigate creative and cultural labour market, especially to reduce long-term unemployment in that group. It is known, as Stolarick & Currid-Halkett (2013) show, that high participation of creative class in regional labour market is significantly and positively associated with lower unemployment rate, and can mitigate the negative consequences of economic crisis.

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[3] We omitted here the first major group ISCO-08, for instance, because there were only two relevant observations within he whole GS.

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 365 days or more	72.5	37.8
Women	51.8	55.1
18 to 29 year old	38.5	20.2
30 to 49 year old	41.4	53.5
50 and more year 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 foreign language knowledge	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 and more professions or occupations	6.1	15.6
No work experience	28.8	11.8
Shorter than 1 year work experience period	12.2	8.4
1 to 5 year work experience period	25.5	26.4
6 to 20 year work experience period	24.2	36.0
Longer than 20 year work experience period	10.2	17.4
Living in urban district	77.0	87.3
Living in rural district	19.5	10.6
Living in mixed (urban-rural) district	3.5	2.1
Living in (region 1) agricultural and industrial area with an old structure (Sierpc)	9.5	4.4
Living in (region 2) industrial area with an old structure (Przemysl)	11.7	8.3
Living in (region 3) industrial area and suburbs (Wloclawek)	22.5	20.3
Living in (region 4) modern, postindustrial area (Bialystok)	32.7	47.4
Living in (region 5) well balanced, industrial and agricultural developed area (Dzialdowo)	13.3	10.6
Living in (region 6) a traditional, agricultural area without well developed service sector (Krasnystaw)	10.4	9.0

Table B.
List of the independent variables for model on General Sample (n=43916) and Creative Sample (n=2127)

Variable	Definition
GENDER	Dummy variable (female=1, male=0)
AGE_1	Dummy variable (=1 for person 18 to 29 year old)
AGE_2	Dummy variable (=1 for person 30 to 49 year old)
AGE_3	Dummy variable (=1 for person 50 year old and 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, otherwise=0)
YEARS_EXP_4	Dummy variable (=1 working experience longer than 5 year but shorter than 21, 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, otherwise=0)
REGION_1	Dummy variable (=1 for unemployed living in agricultural and industrial area with an old structure (Sierpc), otherwise=0)
REGION_2	Dummy variable (=1 for unemployed living in industrial area with an old structure (Przemysl), otherwise=0)
REGION_3	Dummy variable (=1 for unemployed living in industrial area and suburbs (Wloclawek), otherwise=0)
REGION_4	Dummy variable (=1 for unemployed living in modern, postindustrial area (Bialystok), otherwise=0)

REGION_5	Dummy variable (=1 for unemployed living in well balanced, industrial and agricultural developed area (Dzialdowo), otherwise=0)
REGION_6	Dummy variable (=1 for unemployed living in a traditional, agricultural area without well-developed service sector (Krasnystaw), otherwise=0)

Explanatory variables used only in model on GS

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 major group: Managers, otherwise=0)
AC_PROFESS _2	Dummy variable (=1 for the unemployed with the highest studied profession in major group: Professionals, otherwise=0)
AC_PROFESS _3	Dummy variable (=1 for the unemployed with the highest studied profession in major group: Technicians and associate professionals, otherwise=0)
AC_PROFESS _4	Dummy variable (=1 for the unemployed with the highest studied profession in major group: Clerical support workers, otherwise=0)
AC_PROFESS _5	Dummy variable (=1 for the unemployed with the highest studied profession in major group: Service and sales workers, otherwise=0)
AC_PROFESS _6	Dummy variable (=1 for the unemployed with the highest studied profession in 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 major group: Craft and related trades workers, otherwise=0)
AC_PROFESS _8	Dummy variable (=1 for the unemployed with the highest studied profession in 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 major group: Elementary occupations, otherwise=0)

	Explanatory variables used only in model on CS	
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 on General Sample

	Parameter Estimates						
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   .220
Nagelkerke   .297
McFadden   .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

Classification

Observed	Predicted		
	0	1	Percent Correct
0	20550	5569	78.7%
1	7467	10330	58.0%
Overall Percentage	63.8%	36.2%	70.3%

Hit quotient = (n00*n11)/(n01*n10);
Hit quotient in GS =5.10

Table D.
Estimation results for logit model on Creative Sample

Parameter Estimates							
UNEMPL_DUR_OVER365		**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   .208
Nagelkerke   .284
McFadden   .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

Classification

Observed	Predicted		
	0	1	Percent Correct
0	1085	237	82.1%
1	378	427	53.0%
Overall Percentage	68.8%	31.2%	71.1%

Hit quotient in CS =5.17

Acknowledgements

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