A P P L I E D   E C O N O M E T R I C S   P A P E R S

14-02   Does lower power distance culture contribute to lower long-term unemployment

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Abstract

In this paper we use European Social Survey (2012) microdata from 23 countries to assess the relationship between culture a person is facing at work and the probability of experiencing long-term unemployment by this person. The cultural factors that are tested are: the degree of freedom at work and influence on managerial decisions, which are treated as an indication of the level of power distance. The hypothesis is that low power distance culture encourages employees to gain more hard and soft skills as more responsibility is delegated to them. In our research we follow the concept that cultural factors are among root causes of economic outcomes. The low power distance approach to a subordinate resembles methods applied by personalized Active Labour Market Policies. Both approaches intend to make people aware of their responsibility for their economic outcomes and their power to improve these outcomes. The logit model proved a statistical significance of a relationship between cultural variables and probability of being long-term unemployed even after controlling for age, education, type of work, country and other control variables.

1. Introduction

According to Hofstede (2001) there are five main dimensions on which country cultures differ. One of these dimensions is power distance, "which is related to the different solutions to the basic problem of human inequality". Low Power Distance Index score in the society means that it discourages growth in inequality in terms of power and wealth of its people (Grosso and Smith, 2012). The exact definition of power distance used by Hofstede (2001) is that it is a difference between the extent to which a boss can determine the behaviour of a subordinate and the extent to which a subordinate can determine the behaviour of a boss. In practice low power distance leads to flat organizations, fewer supervisors, subordinates who are not afraid to disagree with managers and expect their bosses to consult important decisions and delegate important work (Grosso and Smith, 2012). Hierarchy is actually perceived just as a convenient arrangement. High Power Distance Index score in the society means that it discourages questioning the power of superiors as hierarchy assures order in a society. In organizational structures this leads to a view that to contradict your boss means to look for another job (Hofstede, 2001).

What is the possible channel through which low power distance culture can contribute to lower long-term unemployment? Low power distance may encourage subordinates to gain more skills and increase their work commitment. The more the manager delegates responsibility to subordinates the more they learn in terms of hard skills as well as soft skills. Allowing subordinates to present their own arguments regarding their work and regarding company's policies usually brings higher motivation for work, broadens subordinates' mind in terms of their job context, gives them more valuable experience and raises their management skills. I the end they become more valuable to the employer and on the job market.

What lies behind the low power distance "managerial thinking" is that subordinates are not expected be "meek and obedient" but on the contrary, they are expected to be responsible for their work to as high degree as possible, even if it means disagreement with a boss. High power distance "managerial thinking" assumes that an average person prefers to be told what to do and wants to avoid responsibility. Such two opposite points of view are also considered in terms of reasons for unemployment. Does an individual bear own responsibility for being unemployed or is it mainly the business cycle to blame? (Kallio et al., 2012; Jensen, 1989; Welshman, 2006). Some governments in their fight with unemployment put emphasis on a more personalized approach to unemployed with the use of Active Labour Market Programmes (Dean, 2013). These policies have actually an underlying assumption that unemployment is to a greater extent a consequence of individual's shortcomings (Kallio et al., 2012). These might be motivational problems, low adaptability to new circumstances, unwillingness to learn, lack of proactive personality, lack of perseverance, low self-

guidance, irresponsibility (Welshman, 2006; Heslin et al., 2012; Oorschot, 2007). Therefore current active labour market policies (ALMP) in Europe are helping unemployed not only in gaining literacy, numeracy skills or other vocational skills but pay attention to their motivation and soft skills such as leadership, management, anger management, communication skills (Dean, 2013).
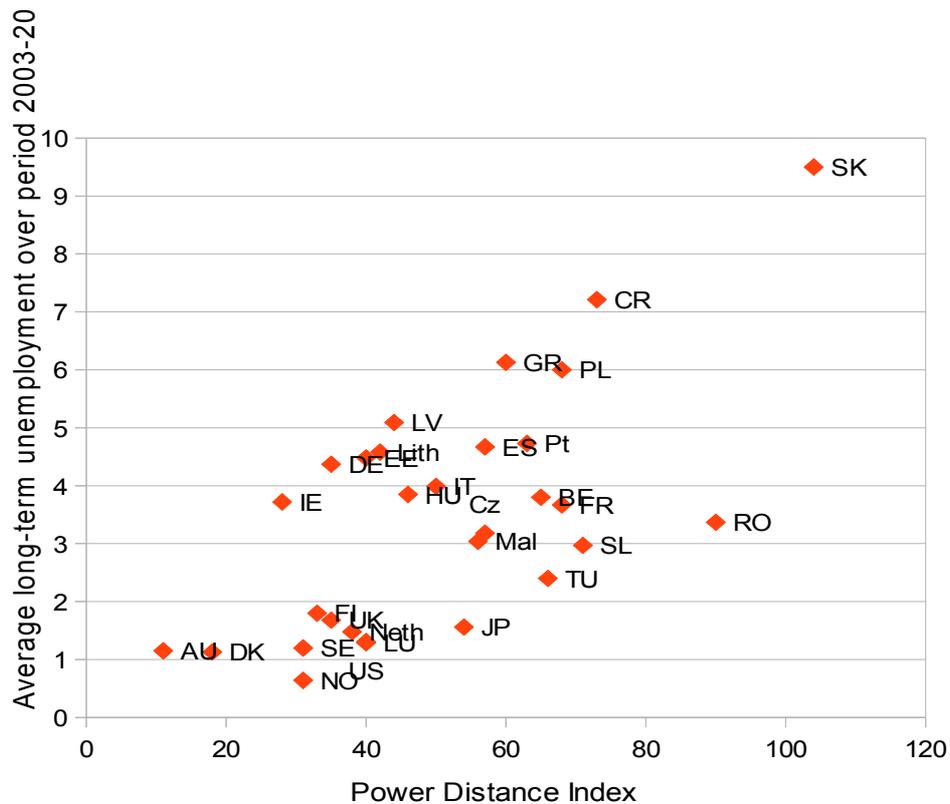
Low power distance type of relationship between a manager and a subordinate could be treated as a latent type of Active Labour Market Policy. Managers who allow subordinates to participate in decisions on how to do the job, with what resources, in fact give them a bit of their managerial responsibilities. Thus encourage them to learn more of managerial skills such as problem solving, analyzing information, interpersonal skills, critical thinking or learning skills, which are the most important when one needs to be able to adapt to new circumstances. Adaptiveness is actually one of the key factors that help decrease the skills mismatch problem on the job market. Mismatch between skills on the supply side and the requirements of the new job offers rises when people are slow in adapting to new technologies and industrial shifts.

Thus the hypothesis is that low power distance type of relationship may benefit subordinates in the way that in the end it reduces their probability of being unemployed in the long-term. The stated hypothesis follows the concept that cultural factors are among root causes of economic performance. Guise et al. (2006) give several examples of channels through which culture may affect economic outcomes. Values coming from religion or taught by parents influence economic preferences (e.g. the level of savings, income distribution), the general level of trust and in the end economic behaviour. Franke et al. (1991) claim that cultural values explain more than half of cross-national variance in economic growth in their sample. Burrage (1969) sought in British conservatism and other typical attitudes and values reasons for lower rate of economic growth in Britain than in the United States. Shane (1990) tried to explain different levels of inventiveness by cultural differences between countries.

2. Country level data

When comparing long-term unemployment (more than 12 months) rate with the Power Distance Index (PDI) one can notice that countries with low PDI usually had also low average unemployment rate (Graph 1). Countries like Austria or Denmark with the PDI below 20 had also one of the lowest average long-term unemployment rate of about 1.15% over the period of 2003-2012. The correlation between the two indicators is significant and equals 0.67.

Graph 1. Relationship between average long-term unemployment rate over the period 2003-2012 and the power distance index. (explanation of countries' codes in Appendix – Table A1)

3. Microdata

In European Social Survey there are two questions that had been asked in several rounds and which are related to the type of relationship between a subordinate and a manager. The questions are:

1. How much the management at your work allows/allowed you to decide how your own daily work is/was organized? (variable: *Allowed to decide*)

2. How much the management at your work allows/allowed you to influence policy decisions about the activities of the organization? (variable: *Allowed to influence*)

Answers were given on a scale of 0 to 10, where 0 means – I have/had no influence and 10 means – I have/had complete control. These questions are different from the ones used to construct a Power Distance Index. Hofstede (2001) built PDI index based on three survey questions regarding: being

4

afraid to disagree with a manager, perception of a manager as an autocratic person and preference for a specific style of decision making by a manager. However questions used in European Social Survey (ESS) touch also the managerial style that a respondent was facing. The more the person is allowed to decide on the way their daily work is organized and the more management allows to influence policy decisions the more likely that a respondent was facing a consultative manager with whom a subordinate is not afraid to disagree.

To compare PDI index with the two variables *Allowed to decide* (how daily work is organized) and *Allowed to influence* (policy decisions) we need to calculate an average value of the two variables per country as PDI index is also given as average value for each country. The correlation between the aggregated per country *Allowed to decide* variable and the PDI was equal -0.73. and the correlation between the aggregated per country *Allowed to influence* and the PDI was equal -0.62. Correlation coefficients were estimated based on 15 countries for which we had both PDI index and *Allowed to decide* and *Allowed to influence* values.

In the ESS respondents were also asked whether they had ever been unemployed for more than 3 months. Those who did were asked if they had ever been unemployed for more than 12 months. About 28% of all 44243 respondents from 23 countries replied that they had experienced an unemployment for more than 3 months. 14% experienced unemployment for more than 12 months.

Comparing the percentages of respondents who experienced an unemployment for more than 12 months with their responses concerning level of influence over their daily work organization and influence over their organization's policy decisions one can notice some relationship (Graph 2). Among those who answered that they had higher influence over their work organization the percentage of those experiencing ever long-term unemployment was much lower. For example among those who rated their degree of control over daily work organization at 10 (full control) only 12% answered that they had ever been unemployed for more than 12 months. Among those who rated their level of influence very low (0) 17% said that they had experienced long-term unemployment.

One can argue that the level of responsibility at work depends on education level of a person. Thus the correlation between unemployment and a degree of freedom at work would be spurious as both are influenced by education level. Indeed, data on the aggregated level presented in Hofstede (2001) showed relationship between education and Power Distance Index score. In countries with average low Power Distance Index (PDI) score, e.g. Great Britan (PDI=35), the group of unskilled plant workers had actually higher PDI score (102) than the average PDI score in countries like Mexico (81) or India (77). In all presented countries higher-education, higher-status

occupations produced lower PDI scores. Therefore education needs to be controlled when analyzing relationship between the degree of freedom at work and the long-term unemployment.

Graph 2. Relationship between unemployment for more than 12 months and the extent to which a respondent has/had control over their daily work as well as influence on policy regarding company's activities.

Influence daily work organization

Influence organization's policy decisions
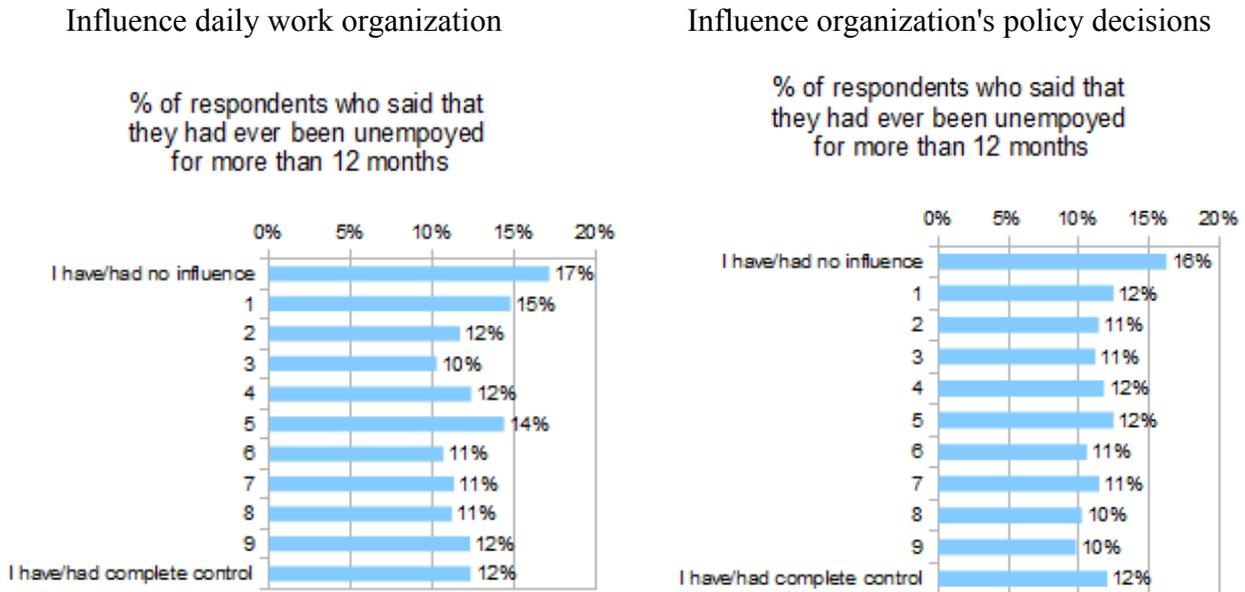
Source: European Social Survey Round 6 Data (2012)[1]

Another argument is that those in managerial positions have clearly more control over their daily work, have more influence on policy decisions and at the same time will be in a better position to find a new job. To control for these factors a logit model has been constructed with the dummy variable equal 1 if a person has ever been unemployed for more than 12 months as a dependent variable (*unemp12m*). The set of explanatory variables contain: education level, age, an indicator of managerial position, an indicator whether a person felt to be discriminated, an indication of serious health problems, the proxy for self-confidence, the type of organization that a person works/worked, the code of industry a person works or last worked, the code of occupation and countries dummy variables. An indicator of perceived discrimination was included as prejudice was found as one of the significant factors determining long-term unemployment (Heslin et al., 2012; Hemphill et al., 2012). The type of organization that the person is/was working for was included in order to account for the size of employment in public sector in a specific country as it is one of the instruments used to achieve welfare state (Buendia, L, Palazuelos, E., 2013).   Full list of control variables is presented in Table 1.

Table 1 . Description of variables:

unemp12m	dummy dependent variable equal 1 if respondent answered that they had ever been unemployed for more than 12 months
Allowed to decide	Allowed to decide how daily work is organized, 0 – no influence, 10 – complete control
Allowed to influence	Allowed to influence policy decisions about activities of organization 0 – no influence, 10 – complete control
avg_decide_infl	Average of the two above variables: (*Allowed to decide + Allowed to influence*)/2
edu1	dummy variable equal 1 if respondent's highest level of education completed is pre-primary, primary and lower secondary education (levels 0-2 in ISCED coding)
edu2	(reference category) dummy variable equal 1 if respondent's highest level of education completed is upper secondary or post-secondary non tertiary education (levels 3-4 in ISCED coding),
edu3	dummy variable equal 1 if respondent's highest level of education completed is first and second stage of tertiary education (levels 5 and 6)
age 20_30	age between 20 and 30
age 30_50	(reference category) age between 30 and 50
age 50_65	age above 50
dscrgrp	dummy variable equal 1 if respondent describes themselves as a member of a group discriminated against in their country
jbspv	dummy variable equal 1 if respondent was responsible for supervising other employees
tporgwk==Centr/loc gov	Respondent works/worked for central or local government
tporgwk==Other publ	Respondent works/worked for other public sector
tporgwk==A state enterp	Respondent works/worked for a state owned enterprise
Industry, NACE rev.2	The code of industry a person worked/works for (control variable, coefficient without interpretation)
Occupation, ISCO08	A person's code of occupation (control variable, coefficient without interpretation)
hampered	Dummy variable equal 1 if respondent answered yes a lot or yes to some extent to a question: Are you hampered in your daily activities in any way by any longstanding illness, or disability, infirmity or mental health problem?
At times feel as failure	At times I feel as if I am a failure 1-agree strongly, 5-disagree strongly
country	Country codes used in the model are in Appendix in Table A2 Reference country = DE (Germany)

The degree of control over daily work and degree of influence over employer's policy are the explanatory variables of interest. The results are printed in Table 2.

4. Results

Model has been estimated for people at the age of 20-65. The overall quality of the model is not high. The pseudo R-squared equals 0.106, however it is not easy to gain high pseudo R-squared values for logit models and it might be worth to pay more attention to the statistical significance of the explanatory variables than the goodness-of-fit (Wooldridge, 2003). In the estimated model all the variables except for some of the country dummies are significant at 0.05 level.

Both variables indicating the degree of self-control over daily work organization (*Allowed to decide*) and degree of influence on policy decisions about activities of organization (*Allowed to influence*) are significantly negatively correlated with the dependent variable – having ever been unemployed for more than 12 months. Three versions of model were estimated: with two variables included separately and in third version with average of the two variables. Marginal effects were calculated for the third version of model. The influence of variables of interest appears to be small but significant. Thus, the more a person has control over their daily work organization and the more they have influence on policy decisions the less probability that they encountered a long term unemployment. Control variables behave quite as expected. Respondent with the lowest education level attained (*edu1*) has significantly higher probability of encountering long-term unemployment than those with at least upper-secondary or post-secondary education (*edu2* – as reference category). The difference in probability is 0.052 (marginal effect value). Those with tertiary education (*edu3*) have significantly lower probability of entering long-term unemployment. Supervising other employees (*jbspv1*) decreases probability of being unemployed for more than 12 months by 0.029 (marginal effect value). Belonging to a group that is discriminated in a country (*discrim1*) increases the probability of being unemployed for longer time by 0.085 (marginal effect value). If a person was working in public sector or in state owned enterprise than the probability of being unemployed for more than 12 months was also lower than for those working in private companies or were self-employed. Those more self-confident (higher value of *At times feel as failure*) were less probable to be unemployed for long period. Problems with health increased probability of long-term unemployment by 0.049.

Dummy variables for all countries were added in order to control for special features of countries that might affect both the type of relationship between subordinates and managers and at the same time the long-term unemployment level. Estimating the model for each country separately (Table A3 and Table A4 in the Appendix) shows that in many cases the 'cultural variable' remains significant and with the negative sign. Thus it can be stated that the relationship exists also within countries and not only between countries. Only in Russia surprisingly the effect is positive and

significant.

Table 2. Logit model with dependent variable = 1 if respondent ever unemployed for more than 12 months

	Model 1		Model 2		Model 3		Marginal effect or d for model 3	
	coef	se	coef	se	coef	se	b	se
Allowed to decide	**-0.022***	**(0.006)**						
Allowed to influence			**-0.025***	**(0.006)**				
avg_decide_infl					**-0.030***	**(0.007)**	**-0.003***	**(0.001)**
edu== 1.0000	0.432***	(0.054)	0.445***	(0.054)	0.439***	(0.054)	0.052***	(0.007)
edu== 3.0000	-0.155**	(0.050)	-0.151**	(0.050)	-0.151**	(0.050)	-0.016**	(0.005)
Age== 20_30	-0.528***	(0.054)	-0.542***	(0.054)	-0.543***	(0.054)	-0.051***	(0.004)
Age== 50_65	-0.236***	(0.042)	-0.239***	(0.042)	-0.237***	(0.042)	-0.024***	(0.004)
jbspv==Yes	-0.306***	(0.047)	-0.293***	(0.048)	-0.290***	(0.048)	-0.029***	(0.005)
dscrgrp==Yes	0.651***	(0.062)	0.662***	(0.062)	0.655***	(0.062)	0.085***	(0.010)
tporgwk==Centr/loc gov	-0.270***	(0.079)	-0.281***	(0.079)	-0.283***	(0.079)	-0.027***	(0.007)
tporgwk==Other publ	-0.455***	(0.068)	-0.474***	(0.069)	-0.474***	(0.069)	-0.044***	(0.006)
tporgwk==A state enterp	-0.341***	(0.077)	-0.336***	(0.077)	-0.342***	(0.077)	-0.032***	(0.006)
Industry, NACE rev.2	0.004***	(0.001)	0.004***	(0.001)	0.004***	(0.001)	0.000***	(0.000)
Occupation, ISCO08	0.000***	(0.000)	0.000***	(0.000)	0.000***	(0.000)	0.000***	(0.000)
hampered	0.428***	(0.044)	0.425***	(0.044)	0.426***	(0.044)	0.049***	(0.005)
At times feel as failure	-0.175***	(0.018)	-0.174***	(0.018)	-0.174***	(0.018)	-0.018***	(0.002)
cntry==BE	0.211	(0.113)	0.215	(0.113)	0.211	(0.114)	0.024	(0.014)
cntry==BG	0.803***	(0.119)	0.802***	(0.119)	0.785***	(0.119)	0.109***	(0.021)
cntry==CH	-1.027***	(0.205)	-1.011***	(0.205)	-1.016***	(0.205)	-0.074***	(0.009)
cntry==CY	-0.157	(0.407)	-0.158	(0.407)	-0.163	(0.407)	-0.016	(0.038)
cntry==CZ	-0.695***	(0.151)	-0.657***	(0.150)	-0.678***	(0.151)	-0.056***	(0.009)
cntry==DK	-0.300	(0.187)	-0.290	(0.188)	-0.290	(0.188)	-0.027	(0.016)
cntry==EE	-0.205	(0.331)	-0.213	(0.333)	-0.210	(0.333)	-0.020	(0.030)
cntry==ES	0.495***	(0.068)	0.519***	(0.068)	0.506***	(0.068)	0.062***	(0.010)
cntry==FI	-0.188	(0.164)	-0.190	(0.166)	-0.189	(0.165)	-0.018	(0.015)
cntry==GB	-0.580***	(0.073)	-0.566***	(0.073)	-0.574***	(0.073)	-0.051***	(0.005)
cntry==IE	0.236	(0.167)	0.262	(0.166)	0.241	(0.167)	0.028	(0.021)
cntry==IL	-0.026	(0.178)	0.027	(0.178)	0.008	(0.178)	0.001	(0.019)
cntry==IS	-1.190	(1.051)	-1.170	(1.050)	-1.165	(1.051)	-0.079	(0.041)
cntry==NL	-0.630***	(0.118)	-0.633***	(0.119)	-0.639***	(0.119)	-0.054***	(0.008)
cntry==NO	-0.938***	(0.244)	-0.917***	(0.245)	-0.926***	(0.245)	-0.069***	(0.012)
cntry==PL	0.321***	(0.070)	0.340***	(0.070)	0.326***	(0.070)	0.038***	(0.009)
cntry==PT	0.320**	(0.111)	0.341**	(0.112)	0.325**	(0.112)	0.038**	(0.015)
cntry==RU	-0.815***	(0.067)	-0.782***	(0.066)	-0.803***	(0.067)	-0.074***	(0.005)
cntry==SE	-0.651***	(0.157)	-0.637***	(0.157)	-0.649***	(0.158)	-0.054***	(0.010)
cntry==SI	0.288	(0.248)	0.298	(0.249)	0.292	(0.249)	0.034	(0.032)
cntry==SK	-0.091	(0.159)	-0.089	(0.158)	-0.102	(0.159)	-0.010	(0.015)
cntry==XK	1.220***	(0.333)	1.180***	(0.343)	1.161***	(0.343)	0.182*	(0.072)
_cons	-1.377***	(0.122)	-1.425***	(0.117)	-1.361***	(0.121)		

N	26088		25982	25960
Pseudo R2	0.1060		0.1061	0.1061

* p<0.05, ** p<0.01,   *** p<0.001
d: change in Y for discrete change of dummy variable from 0 to 1

Source: European Social Survey Round 6 Data (2012).

Table 3. Multinomial logit model where dependent variable is the current status of respondent (at work, education, unemployed, other). Estimated for a sample of respondents who have been unemployed for more than 12 months.

	education		unemployed		other	
	coef	se	coef	se	coef	se
avg_decide_infl	-0.060	(0.047)	-0.129***	(0.014)	-0.146***	(0.016)
edu== 1.0000	-0.070	(0.370)	0.502***	(0.111)	0.498***	(0.121)
edu== 3.0000	-0.666*	(0.332)	-0.213	(0.118)	-0.572***	(0.127)
Age== 20_30	2.912***	(0.305)	0.343**	(0.119)	-0.217	(0.153)
Age== 50_65	-2.468*	(1.103)	0.290**	(0.094)	0.693***	(0.096)
jbspv==Yes	0.159	(0.346)	0.149	(0.112)	0.442***	(0.116)
dscrgrp==Yes	0.656	(0.361)	0.324*	(0.128)	0.183	(0.139)
tporgwk==Centr/loc gov	-0.292	(0.605)	-0.249	(0.183)	-0.037	(0.188)
tporgwk==Other publ	0.910*	(0.449)	-0.242	(0.166)	0.058	(0.158)
tporgwk==A state enterp	0.725	(0.572)	0.248	(0.178)	0.336	(0.175)
Industry, NACE rev.2	-0.002	(0.006)	-0.006**	(0.002)	-0.000	(0.002)
Occupation, ISCO08	-0.000***	(0.000)	-0.000	(0.000)	-0.000	(0.000)
hampered	-0.958*	(0.375)	0.026	(0.100)	0.638***	(0.097)
At times feel as failure	0.117	(0.124)	-0.072	(0.039)	-0.042	(0.042)
cntry==BE	-0.400	(0.855)	0.219	(0.251)	-0.098	(0.249)
cntry==BG	-0.453	(1.019)	0.127	(0.247)	0.057	(0.239)
cntry==CH	-0.164	(1.596)	-0.357	(0.536)	-0.532	(0.509)
cntry==CY	-1.109	(3.691)	0.790	(0.851)	0.103	(1.011)
cntry==CZ	-0.324	(1.239)	0.082	(0.322)	-1.684**	(0.523)
cntry==DK	2.268**	(0.841)	-0.278	(0.493)	-1.012	(0.565)
cntry==EE	-0.487	(2.821)	-0.040	(0.750)	-0.269	(0.757)
cntry==ES	0.259	(0.489)	0.859***	(0.146)	-0.166	(0.159)
cntry==FI	0.705	(1.064)	0.444	(0.355)	-0.361	(0.404)
cntry==GB	-0.648	(0.618)	0.463**	(0.165)	-0.173	(0.178)
cntry==IE	1.798*	(0.800)	1.749***	(0.398)	0.747	(0.460)
cntry==IL	0.258	(0.975)	-0.022	(0.421)	0.095	(0.416)
cntry==IS	3.288	(3.661)	-0.551	(3.656)	0.404	(2.401)
cntry==NL	0.301	(0.928)	-0.282	(0.298)	-0.499	(0.279)
cntry==NO	1.509	(1.075)	-0.264	(0.675)	-0.240	(0.605)
cntry==PL	-0.760	(0.559)	-0.020	(0.157)	-0.420**	(0.158)
cntry==PT	-0.023	(0.794)	1.202***	(0.223)	-0.556	(0.313)
cntry==RU	0.564	(0.485)	-0.346*	(0.170)	-0.206	(0.159)
cntry==SE	1.125	(0.767)	0.178	(0.363)	-0.822	(0.441)
cntry==SI	0.346	(1.679)	0.755	(0.542)	0.250	(0.579)
cntry==SK	-29.463	(1.95e+06)	0.266	(0.338)	-0.310	(0.375)
cntry==XK	-1.740	(3.564)	0.634	(0.604)	-0.347	(0.736)
_cons	-2.546**	(0.926)	0.377	(0.272)	-0.026	(0.291)
N	3819					
Pseudo R2	0.1101					

Source: European Social Survey Round 6 Data (2012).

Apart from information whether respondent has ever been unemployed for more than 12 months the database contains information on the current status of respondent. Thus by narrowing the sample only to those who have ever been unemployed for more than a year we can check whether the "cultural" variables have impact on remaining or coming back to status of being

unemployed or transforming to status of being at work. A multinomial logit model has been estimated (Table 3). The sample included those who have experienced long term unemployment. The dependent variable takes on four values: currently at work (reference category), in education, unemployed, other. The estimation results show that the odds ratio of 'being unemployed' against 'at work' are significantly lower if the respondent declared a higher influence on last employer's decision and higher control of one's daily work organization (*avg_decide_infl*).

5. Changes over time

The question remains whether there can be any change in the prevailing type of relationship that occurs between subordinates and managers in a specific country. After all, this is an element of culture, thus one might suppose that it should evolve over centuries rather than years. But there are views that cultural dimensions adjust to economic conditions. Tang and Koveos (2008) have constructed a model where Hofstede's cultural dimensions are explained by economic growth.

Comparing data from 2004 year and 2012 year in terms of question: How much the management at your work allows/allowed you to influence policy decisions about activities of organization, is quite surprising (Graph 3). Among four countries with the highest increase with respect to this indicator three of them are the ones which had undergone structural economic and political transformation in 90s (Czech Republic, Germany [East], Estonia). In Czech Republic the percentage of those having the feeling of influence on their organization's policy increased from 11.5% to 22.5% (by 11pp.). The second indicator of influence over one's daily work has risen as well. One of the largest increases could again be noticed in Germany.

Did these changes have effect on long-term unemployment? In Germany long-term unemployment fell from 5.9% in 2004 to 2.5% in 2012 (by 3.4 p.p.). In Czech Republic there was a decrease by 1.2pp. over this period. However there are also examples like Spain where both measurements, influence on policies in a company and self-control over work organization, increased but the long-term unemployment had also increased substantially over the same period.

One will not be able to predict changes in long-term unemployment level based on power distance proxy indicators. There are too many other factors contributing to the changes. However, as there was found evidence in data that the relationship between the indicators related to power distance and long-term unemployment is significant, therefore it is worth monitoring these kind of indicators in terms of long-term comparative unemployment analysis.

6. Conclusion

The reported results show that there is a significant impact of cultural factors on economic

outcomes. The degree of freedom at work and influence on managerial decisions, which are treated as an indication of the level of power distance, are both significant determinants of probability of long term unemployment even after controlling for age, education, job position or type of employer.

Graph 3. Percentage of respondents that put 8, 9 or 10 on a scale measuring their degree of influence on policy decisions about activities of organization in year 2004 and in year 2012.

Allowed to influence policy decisions about activities of organisation

% that chose 8,9 or 10 on a scale 0-10
where 0 - no influence, 10 - complete control
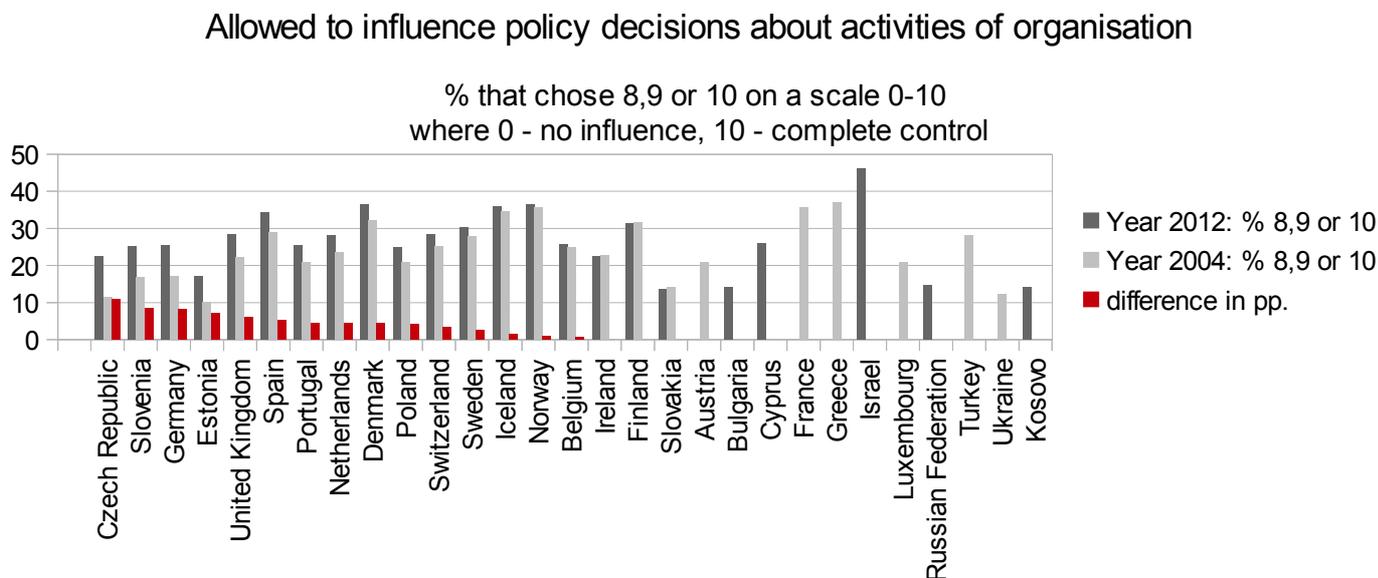
Source: European Social Survey Round 6 Data (2012) and Round 2 Data (2004)[2]

Graph 4. Percentage of respondents that put 8, 9 or 10 on a scale measuring their degree of influence on their daily work organization in year 2004 and in year 2012.

Allowed to decide how daily work is organised
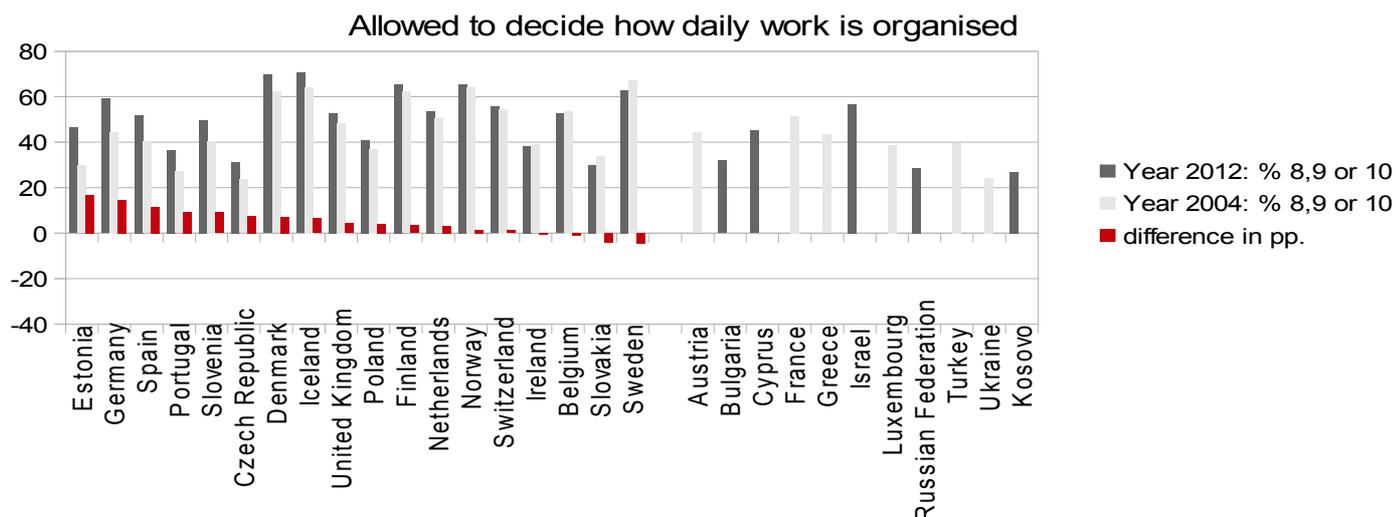
Source: European Social Survey Round 6 Data (2012) and Round 2 Data (2004)

2   European Social Survey Round 2 Data (2004). Data file edition 3.3. Norwegian Social Science Data Services, Norway – Data Archive and distributor of ESS data.

The more a person has control over their daily work organization and the more they have influence on policy decisions the less probability that they encountered a long term unemployment. Cultural factor remains significant in most models estimated for each country separately.

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Appendix

Table A1. Country codes used in Graph 1		**Table A2.** Country codes used in logit model	
AU	Austria	BE	Belgium
DK	Denmark	BG	Bulgaria
IE	Ireland	CH	Switzerland
SE	Sweden	CY	Cyprus
NO	Norway	CZ	Chech Republic
FI	Finland	DK	Denmark
DE	Germany	EE	Estonia
UK	United Kingdom	ES	Spain
Neth	Netherlands	FI	Finland
EE	Estonia	GB	Great Britain
LU	Luxembourg	IE	Ireland
US	United States	IL	Israel
Lith	Lithuania	IS	Iceland
LV	Latvia	NL	Netherlands
HU	Hungary	NO	Norway
IT	Italy	PL	Poland
JP	Japan	PT	Portugal
Mal	Malta	RU	Russian Federation
Cz	Czech Republic	SE	Sweden
ES	Spain	SI	Slovenia
GR	Greece	SK	Slovakia
Pt	Portugal	XK	Kosovo
BE	Belgium		
TU	Turkey		
FR	France		
PL	Poland		
SL	Slovenia		
CR	Croatia		
RO	Romania		
SK	Slovakia		

Table A3. Logit model with dependent variable = 1 if respondent ever unemployed for more than 12 months. Estimated for each country separately.

	BE	BG	CH	CY	Cz	DE	DK	EE	ES	FI	GB
avg_decide_infl	-0.056	-0.047*	-0.111*	-0.113**	-0.132***	-0.064**	-0.094*	-0.039	-0.022	-0.059	-0.059
	(0.029)	(0.023)	(0.051)	(0.035)	(0.039)	(0.023)	(0.041)	(0.028)	(0.022)	(0.030)	(0.032)
edu== 1.0000	0.473*	0.774***	0.657	0.839**	0.960**	0.671**	0.535	0.702**	0.319	0.259	0.244
	(0.187)	(0.178)	(0.404)	(0.303)	(0.360)	(0.221)	(0.276)	(0.225)	(0.185)	(0.214)	(0.221)
edu== 3.0000	-0.540*	-0.532**	-0.267	-0.285	-0.665	-0.268	-0.068	-0.419	-0.358	-0.225	0.445*
	(0.214)	(0.186)	(0.358)	(0.278)	(0.423)	(0.167)	(0.253)	(0.214)	(0.213)	(0.192)	(0.226)
Age== 20_30	-0.622**	-0.268	-0.959*	0.389	-0.147	-0.975***	-0.614	-0.833***	-0.398*	-0.968***	-0.274
	(0.221)	(0.210)	(0.442)	(0.282)	(0.330)	(0.226)	(0.318)	(0.225)	(0.194)	(0.246)	(0.233)
Age== 50_65	-0.103	-0.191	-0.088	-0.552*	-0.359	0.449**	0.556**	-0.128	-0.184	-0.050	-0.840***
	(0.174)	(0.134)	(0.303)	(0.272)	(0.234)	(0.141)	(0.215)	(0.162)	(0.150)	(0.162)	(0.214)
jbspv==Yes	-0.295	-0.087	0.017	-0.468	-0.168	-0.484**	-0.550*	-0.336	-0.346*	-0.271	-0.267
	(0.189)	(0.218)	(0.314)	(0.308)	(0.362)	(0.153)	(0.249)	(0.202)	(0.160)	(0.192)	(0.207)
dscrgrp==Yes	0.633**	0.940***	0.997*	0.543	1.300***	0.980***	0.572	0.789***	0.579*	0.351	0.548*
	(0.237)	(0.211)	(0.412)	(0.334)	(0.328)	(0.245)	(0.437)	(0.194)	(0.230)	(0.229)	(0.238)
tporgwk==Centr/loc gov	0.198	0.431	-0.259	-0.511	-0.824	-0.477	0.508	-0.601*	-0.047	0.007	-0.729
	(0.262)	(0.226)	(0.486)	(0.416)	(0.453)	(0.289)	(0.260)	(0.251)	(0.260)	(0.364)	(0.401)
tporgwk==Other publ	0.069	-0.650*	-0.272	-1.973**	-0.316	-0.383	-0.710	-0.375	-0.105	-0.515*	-0.537
	(0.256)	(0.269)	(0.512)	(0.751)	(0.454)	(0.243)	(0.634)	(0.353)	(0.267)	(0.222)	(0.335)
tporgwk==A state enterp	0.033	0.167	-0.005	-1.055	-0.889	-0.085		0.201	-0.839	0.001	1.049
	(0.306)	(0.200)	(0.650)	(0.839)	(0.473)	(0.319)		(0.271)	(0.648)	(0.255)	(0.570)
Industry, NACE rev.2	0.005	0.005	0.008	0.003	0.001	0.002	-0.005	0.004	0.007*	0.009*	-0.007
	(0.003)	(0.003)	(0.006)	(0.005)	(0.005)	(0.003)	(0.005)	(0.003)	(0.003)	(0.003)	(0.004)
Occupation, ISCO08	0.000**	0.000**	-0.000	-0.000*	0.000	0.000*	0.000	0.000*	0.000*	0.000*	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
hampered	0.489**	0.299	0.874**	0.505	0.706**	0.520***	0.416	0.403*	-0.232	0.584***	0.093
	(0.174)	(0.199)	(0.305)	(0.292)	(0.241)	(0.138)	(0.220)	(0.162)	(0.199)	(0.152)	(0.220)
At times feel as failure	-0.185**	-0.233***	0.112	-0.102	-0.398***	-0.112	-0.064	-0.088	-0.107	-0.133	-0.250**
	(0.068)	(0.059)	(0.142)	(0.105)	(0.104)	(0.065)	(0.093)	(0.071)	(0.060)	(0.074)	(0.082)
_cons	-1.210**	-0.553	-2.968***	-0.105	-0.575	-1.439***	-1.619*	-1.651***	-0.955*	-1.747***	-1.254*
	(0.458)	(0.375)	(0.883)	(0.666)	(0.564)	(0.419)	(0.638)	(0.420)	(0.398)	(0.467)	(0.533)
N	1270.000	1475.000	1018.000	747.000	1197.000	1995.000	1045.000	1497.000	1229.000	1489.000	1397.000
Pseudo R2	0.1121	0.1353	0.0759	0.0950	0.1539	0.1054	0.0854	0.0839	0.0479	0.0629	0.1079

Table A4. Logit model with dependent variable = 1 if respondent ever unemployed for more than 12 months. Estimated for each country separately.

	IE	IL	IS	NL	NO	PL	PT	RU	SE	SI	SK	XK
avg_decide_infl	-0.048*	-0.051	-0.112	-0.078*	-0.008	-0.063**	-0.018	0.097**	-0.126**	-0.081*	-0.072*	-0.006
	(0.021)	(0.027)	(0.082)	(0.036)	(0.051)	(0.024)	(0.024)	(0.038)	(0.041)	(0.033)	(0.034)	(0.040)
edu== 1.0000	0.635***	0.154	0.611	0.003	0.474	0.628**	0.748***	1.798***	0.718*	0.179	1.101***	-0.279
	(0.154)	(0.275)	(0.493)	(0.245)	(0.368)	(0.229)	(0.176)	(0.470)	(0.292)	(0.279)	(0.299)	(0.316)
edu== 3.0000	-0.389*	-0.406*	-0.375	-0.005	-0.443	-0.823**	-0.500	0.162	-0.749**	0.419	-0.211	0.455
	(0.160)	(0.203)	(0.545)	(0.260)	(0.369)	(0.252)	(0.298)	(0.262)	(0.290)	(0.258)	(0.262)	(0.367)
Age== 20_30	-0.058	-0.724**	-1.903*	-0.925**	-0.251	-0.694***	0.001	-0.669*	-0.435	-0.594*	0.181	-0.207
	(0.158)	(0.228)	(0.822)	(0.334)	(0.335)	(0.203)	(0.181)	(0.284)	(0.276)	(0.294)	(0.236)	(0.307)
Age== 50_65	-0.564***	0.005	0.153	-0.031	-0.375	-0.682***	-0.621***	-0.672**	-0.546*	-0.267	-0.083	0.447
	(0.151)	(0.191)	(0.436)	(0.210)	(0.305)	(0.177)	(0.154)	(0.260)	(0.250)	(0.213)	(0.183)	(0.263)
jbspv==Yes	0.081	-0.468*	-0.472	-0.061	-1.276**	-0.303	-0.863***	-0.069	0.277	-0.338	-0.405	0.407
	(0.163)	(0.208)	(0.488)	(0.222)	(0.400)	(0.262)	(0.239)	(0.276)	(0.270)	(0.233)	(0.292)	(0.266)
dscrgrp==Yes	0.954***	-0.480*	0.173	0.830**	0.131	0.636*	0.577	0.517	1.250***	0.295	0.294	-0.384
	(0.264)	(0.221)	(0.485)	(0.288)	(0.462)	(0.299)	(0.305)	(0.347)	(0.288)	(0.498)	(0.354)	(0.495)
tporgwk==Centr/loc gov	-0.295	-1.054**	-0.849	-0.776	0.085	-0.941*	-1.137*	0.177	-0.140	-0.058	-0.128	-0.735
	(0.347)	(0.360)	(0.880)	(0.569)	(0.386)	(0.407)	(0.509)	(0.495)	(0.311)	(0.316)	(0.442)	(0.808)
tporgwk==Other publ	-0.472*	-0.251	-1.271	0.026	-1.216*	-0.420	-1.258***	-0.932*	-0.300	0.256	-0.415	-0.219
	(0.222)	(0.300)	(0.759)	(0.265)	(0.519)	(0.282)	(0.375)	(0.372)	(0.387)	(0.325)	(0.303)	(0.390)
tporgwk==A state enterp	0.038	0.261	0.269	0.123	0.645	-0.785**	-0.662	-0.364	0.784	-0.328	0.056	0.551
	(0.288)	(0.311)	(0.578)	(0.440)	(0.453)	(0.253)	(0.340)	(0.311)	(0.418)	(0.268)	(0.260)	(0.313)
Industry, NACE rev.2	-0.000	0.022	0.016	0.002	0.004	0.007*	0.004	0.005	0.003	0.005	0.001	-0.002
	(0.003)	(0.036)	(0.010)	(0.005)	(0.006)	(0.003)	(0.002)	(0.005)	(0.005)	(0.004)	(0.004)	(0.005)
Occupation, ISCO08	0.000**	0.000*	0.000	0.000	0.000	0.000	-0.000	0.000*	0.000*	0.000**	0.000***	0.000*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
hampered	0.012	0.386	0.597	0.384	0.805**	0.412*	0.267	0.858***	0.367	0.387	0.367	0.637
	(0.170)	(0.228)	(0.434)	(0.209)	(0.268)	(0.178)	(0.199)	(0.228)	(0.230)	(0.229)	(0.202)	(0.424)
At times feel as failure	-0.265***	-0.263***	-0.400*	-0.243**	-0.353**	-0.129	-0.153*	-0.292**	-0.296**	-0.242*	-0.330***	-0.387***
	(0.060)	(0.076)	(0.195)	(0.094)	(0.118)	(0.073)	(0.064)	(0.105)	(0.100)	(0.094)	(0.093)	(0.113)
_cons	-0.515	-1.073	-1.608	-1.342*	-1.955*	-0.667	-0.437	-2.806***	-1.353*	-0.962	-1.545**	-0.161
	(0.378)	(1.042)	(1.234)	(0.595)	(0.829)	(0.478)	(0.417)	(0.655)	(0.669)	(0.617)	(0.489)	(0.649)
N	1846.000	1403.000	508.000	1310.000	1096.000	1271.000	1341.000	1451.000	1224.000	813.000	1298.000	386.000
Pseudo R2	0.0805	0.0902	0.1719	0.0660	0.1401	0.0990	0.0825	0.0935	0.1353	0.0662	0.1259	0.0805