SOCIAL AND HUMAN CAPITAL AS THE INDIVIDUAL FACTORS OF ECONOMIC ACTIVITY OF PEOPLE AGED 50+ – CASE OF POLAND

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Abstract

Nowadays the ageing of population comprises one of the most important economic and social phenomenon. Due to the low economic activity rate of older inhabitants, versatile actions aimed at prolonging the professional activity of mature employees seem the most important. Poland, as other UE member states, should intensify actions targeted at creating tools that enable maintaining the competences of older workers, introducing flexible work conditions and developing the employers' knowledge of older workers' potential. The aim of this paper is the assessment of the individual factors of extending working life. Not only socio-economic factors, but also social and human capital as well as the quality of life comprise the main area of interest here. The empirical study is based on the Social Diagnosis 2015 study (limited to Poland). The statistical analysis covers the logistic regression as well as Student's t test, Mann-Whitney test, chi-squared test of independence, tau Goodman-Kruskal coefficient. In the light of the conducted analysis, human capital seems crucial, whereas social capital constitutes insignificant factor when it comes to extending working life and retirement decisions.

Key words: ageing, economic activity, human capital, social capital, logistic regression

JEL Codes: J21, J24

Introduction

The process of population ageing constitutes one of the most serious modern world challenge and its accompanying consequences influence nearly all the areas of life. Considering the economic perspective, the ageing of labour resources comprises the most important issue in this respect. The beginning of the old age phase is most often associated with a significant time in individual's life consisting in leaving the labour market. In most countries, this occurs relatively early, usually earlier than it would appear from the age limit defined in terms of the economic

or the statutory retirement age. The retirement phase is therefore longer which cannot remain without the consequence for the public finance system. On the other hand, recognising and exploring the potential of the mature part of the society through the extension of their economic activity on the labour market as its participants, consumers, family and local community members should balance the potential threats resulting from the inevitable ageing process.

The aim of this paper is thus the assessment of the individual aspects related to extending the working life. Hence, socio-economic factors together with the social and human capital as well as the quality of life will be of particular interest here.

Human and social capital as the determinants of 50+ people economic activity – literature review

Though the economic activity of the older part of the Polish society is not high, its steady increase should be emphasised. At the end of the fourth quarter of 2017, the economic activity rate of people aged 55-64 equalled 51.1, whereas in the corresponding period of the previous year it was 49.8, and in 2015 – 48.4. In comparison, before 2011 this indicator totalled below 40 and in 2006 – it amounted to only 31.6. Furthermore, the employment rate is also growing – at the end of 2017 it equalled 49.4 (47.7 in 2016, 46.1 in 2015 and below 30 before 2008) (GUS, 2018). Yet, instead of the increase in the economic activity of people from older age groups, the situation in this area in Poland is worse than the EU average (lfsa_ergan). Therefore, the subject of extending working life remains valid, from an economic perspective in particular.

The factors underlying the extension of the economic activity can, in general, be divided into three groups: institutional, organisational and individual.

Beginning with the concept of *push* and *pull* factors, Hofäcker (2015) enlists three subgroups among the institutional factors: (1) *pull factors* – inherent in the pension system, (2) *push factors* – determinants on the labour market and (3) *stay factors* – active ageing policy. Institutional *pull* factors comprise primarily a longer period of unemployment benefits for the elderly, easier departure from the labour market connected with the early retirement possibility, disability assessment system, the ability to continue working despite the early retirement, instability of the law in this area. Institutional *push* factors, then, include legal solutions connected with the special protection of older employees, for instance, financial compensation for their dismissal. Also, age-based discrimination and the possibilities of employing older employees in the local labour market are included here. *Stay* determinants embrace two essential elements of the active ageing policy – supporting the employability of the elderly through the active labour market

policy (ALMP) and lifelong learning (LLL). However, low spending on ALMP pushes mature employees out of the labour market while high spending on passive labour market policies makes deactivation more attractive.

Considering the determinants at the organisational level, the following elements need to be mentioned first: the main features of work (physical and psychological load in particular), required skills, attitudes towards older employees, recognition among and support from colleagues and managers (appreciation of their knowledge and experience), development perspectives, ageism and stereotypical perception of older employees, attitudes towards retirement in the workplace, work-life balance, job satisfaction (confronting job and retirement satisfaction, employees often prefer the latter), economics of enterprises' personnel policy and (or perhaps most of all) actions taken in the age management area (see e.g. Ilmarinen, 1997). Moreover, the individual factors of extending working life include human capital (health condition, level of education, qualifications), the related current professional position of people over the age of 50, social interactions with the family, especially caring responsibilities and willingness to retire together with the spouse, as well as social capital. The age, sex, financial situation, or occupational, geographical and virtual mobility of people aged 50+, their previous experience of the unemployment are all of the major importance here (van Droogenbroeck, & Spruyt, 2014).

The particular attention is paid to the two of the above-mentioned individual determinants of the economic activity – human and social capital. According to the numerous studies (see e.g. Kryńska et al., 2013), people with higher skills, level of education and better health condition are more likely to continue working than those with lower human capital (this applies to both women and men). Furthermore, higher level of education contributes to the continuation of employment also after reaching the retirement age (McNair et al., 2004). The research in this area demonstrates that human capital is usually analysed from the level of education and health status perspective, whereas its versatile dimensions as well as the role of social capital are less likely to be considered. Competencies are changing with age. In the case of older employees, social competences, especially interpersonal ones, are rated the highest, though they are also at a high level in the case of younger workers (Wiktorowicz, 2016). In general, the disparities between employees of different age groups are not large – excluding those connected with the qualifications in the field of information and communication technologies which constitute a significant competency gap. Older employees are perceived as more loyal, reliable, responsible and resistant to stress. On the other hand, older employees' knowledge and competences may become obsolete due to the rapid technological and organisational changes. Therefore, faced

with their inability to keep up with modern technologies and forms of communication, mature workers are more eager to withdraw from the labour market. Hence, the devaluation of older employees' competences seems a more critical issue in the context of maintaining employment than ageing itself.

Social capital as well as networks developed during a long professional career comprise significant factors here – they may compensate for the possible decrease in productivity, especially in the period preceding deactivation. In unitary terms, social capital is understood as resources that an individual can mobilise through networks of personal connections. Three components are usually distinguished within the framework of social capital – networks, trust and norms (see e.g. Paxton, 1999). Overall, it plays a special role in creating human capital (and vice versa) and its status is especially emphasised when it comes to those eager to find or change jobs as well as to employees in the context of their career development. At the stage of seeking employment, neither trust or norms seem as significant as networks (Stone, Gray, & Hughes, 2003).

Data and methods

The empirical analysis is based on the representative national survey *Social Diagnosis* conducted in Poland in 2015 (SD 2015). The population analysed in this paper comprise people aged 50+ (but still in a productive age). Economic activity was verified based on a question about the current status on the labour market – the economically active people (employees, self-employed, farmers and the unemployed, n = 3080) as opposed to pensioners (n = 1123). Hence, the disability pensioners and inactive people for reasons other than retirement were excluded from the study. The constructed models allow to assess the importance of human and social capital for maintaining economic activity of people over the age of 50. Since both capitals cannot be measured directly, they were operationalised for the purposes of the study. Human capital was measured in the level of education (4 variants), health (based on the number of ailments from among 15 analysed), language (active knowledge of at least one foreign language) and IT competences – synthetic index of Internet versality (*WWI*), measuring the scope of Internet use (see Wiktorowicz, 2015). The measurement of social capital was based on the concept proposed by van Oorschot, Arsta, and Gelissen (2006). Social capital (*SC*) was determined as the average of its three indicators – trust (*T*), network (*N*) and social norms (*S*). The range of volatility of the calculated social capital indicator as well as sub-indicators follows the [0; 1] interval. The social trust indicator (*T*) was calculated by averaging the assessment of the generalised, vertical and horizontal trust. The social network indicator (*N*) was designated

as a weighted average of variables expressing membership in organisations and the networks' size and quality (determined by the number of friends, number of people from the immediate family, friends and acquaintances a 50+ person regularly contacts for social and personal purposes, the satisfaction from the relationships with relatives and friends). The social norms indicator (*S*) was determined as a weighted average of variables expressing moral (attitude towards tax and public transport payments avoidance, as well as an unauthorised collection of the unemployment benefit, pension, compensation) and cooperation norms (the unpaid work and services, participation in public meetings). A detailed description of the methodology concerning the social capital indicator is included in: Wiktorowicz (2016). The model also comprises a subjective assessment of the quality of life measured as the sum of points corresponding to the assessment of satisfaction with 13 aspects of life (all measured on the Likert scale, the synthetic variable with values from [13, 78]). The reliability of these indicators is satisfactory. The models also include (as control variables) socio-demographic characteristics, treated as individual determinants of extending working life – gender, age, place of residence, marital status.

The analysis was carried out with the application of the logistic regression (this method is widely discussed in: e.g. Hosmer, Lemeshow, & Sturdivant 2013) which formed the basis for the estimation of the economic activity function for people aged 50-64. The output variable (Economic Activity Status, *EAS*) was 1 for economically active people, and 0 for retirees. The models were considered correct if: (1) in the omnibus test of model coefficients $p < \alpha$, (2) Nagerkelke's pseudo R^2 is relatively high, (3) counting determination measure is relatively high, in particular the percentage of correct qualifications for $y = 1$ is high. Due to the inclusion of qualitative variables, the Hosmer-Lemeshow test will be omitted.

Empirical results

Among Poles aged 50-64, nearly 40% remain in employment (oftener than younger people they are employed in the public sector – 17%, relatively high is the share of farmers – 8%). Economically active people cover a total of just over a half of those aged 50-64, while pensioners – 20%.

The human capital of economically active people is significantly (in a statistical sense) higher than in the case of those already in retirement. First, the percentage of people with middle school or lower education is clearly higher among pensioners as compared to those economically active (16% vs. 10%), while the share of people with higher education is lower (13% vs. 18%). Secondly, the knowledge of foreign languages is greater among economically

active people (19% compared to 14% for pensioners). For both determinants of human capital in the chi-square independence test $p < 0.001$ *, although the Goodman and Kruskal tau coefficient is low: 0.010 and 0.030, respectively. In the case of economically active people, the IT competences and health condition are also significantly higher (in the Mann-Whitney test, $p < 0.001$* for *WWI* and $p = 0.001$* for the number of ailments). Considerable differences were observed not only in the general assessment of social capital (in the Student's t test $p < 0.001$*), but also the two of its components. In the case of economically active people, the overall level of social and normative capital is significantly higher ($p < 0.001$*) whereas the social trust is significantly lower ($p = 0.041$*) than in retirees. However, no substantial differences in the social network capital level of these two populations were observed (in the Mann-Whitney test $p = 0.696$). On the other hand, the assessment of life quality is significantly ($p < 0.001$*) higher in the case of retirees as compared to the economically active people.

Analysing the relationship between the coexistence of both human and social capital and the chance of maintaining the economic activity, it should be pointed out, first, that the importance of social capital turns out to be statistically insignificant in comparison to other factors, including the statistically significant human capital (see tab. 1). Social capital seems vital in the model omitting control variables (model 1), and – surprisingly – its higher level is associated with a decrease in the likelihood of economic activity. The importance of health is also marked in this model (in the Wald test $p < 0.001$*). However, since the health condition is strongly related to age (decreases in subsequent five-year age groups), its inclusion (together with other control variables) shows that under the assumption that age is the same, the impact of health (similarly to social capital) remains statistically insignificant (model 2, tab. 1). The importance of control variables should also be emphasised: sex (with other variables determined, men aged 50-64 decide on economic activity rather than retirement almost three times more often than women) and age (the likelihood of choosing an economic activity clearly grows with the next age groups; it should be added, though, that among people aged 50-54, the share of retirees reaches 3.5% compared to approximately 61% for people aged 60-64, including 77% for 60+ women and nearly 40% for men, although men are more frequent in the youngest group of the retired – 6% of them in relation to 1% of women). Considering the discussed factors, the relationship with the place of residence is also significant – compared to those living in rural areas, the inhabitants of small and medium-sized cities (less by around 30%) choose economic activity rather than retirement less often ($p = 0.001$*), whereas the residents of large cities do not they differ significantly in this respect from those living in the countryside (model 2).

Tab. 1: Factors of extending working life of people aged 50-64 in Poland (2015) – logistic regression estimation results

Specification	Model 1				Model 2			
	B	*SE*	*OR*	*p*	*B*	*SE*	*OR*	*p*
WWI	0.043	0.005	1.044	<0.001*	0.017	0.005	1.018	0.001*
Level of education[a]				<0.001*				0.007*
vocational	0.510	0.113	1.665	<0.001*	-0.005	0.148	0.995	0.971
secondary	0.206	0.118	1.229	0.079	0.287	0.156	1.332	0.065
higher	0.243	0.153	1.275	0.113	0.511	0.193	1.668	0.008
Health condition (number of ailments)	-0.042	0.010	0.959	<0.001*				
Social capital	-0.933	0.347	0.393	0.007				
Subjective quality of life					-0.020	0.006	0.980	<0.001*
Sex[b]					1.066	0.096	2.903	<0.001*
Age[c]								<0.001*
50-54					3.744	0.162	42.274	<0.001*
55-59					2.421	0.104	11.261	<0.001*
The size of place of residence[d]								<0.001*
small or medium town					-0.368	0.113	0.692	0.001
the city					0.034	0.127	1.034	0.791
Constant	1.061	0.172	2.891	<0.001*	0.018	0.321	1.018	0.956
p in the omnibus test of model coefficients	<0.001*				<0.001*			
Nagerkelke's R^2	0.053				0.463			
% of the correct classifications for $y = 1$[1]	79%				84%			
Count R^2	69%				82%			

Reference group: [a] – at least middle school, [b] – women, [c] – people aged 60-64, [d] – village. [1] – due the imbalance of the sample, cut-off point is 75%. *B* – regression coefficient for the sample, *SE* – β parameter estimation error, OR – odds ratio, *p* – probability in Wald test.

Source: own calculation based on the individual data of Social Diagnosis 2015.

The study confirms, *ceteris paribus*, the importance of human capital in the choice between the economic activity and retirement, albeit not in all the dimensions analysed. The level of education seems significant – assuming a constant level of other variables, including socio-demographic characteristics, it is observed that people with higher education on average 1.7 times more often decide on economic activity rather than retirement compared to those with at least middle school education, in the case of the secondary education – about 1.4 times more often. Since people with basic vocational education are almost twice as likely to be men than women, inclusion of sex variable in the model (model 2) changed the assessment of differences between the two lowest education categories – no significant differences can be observed amongst those with basic vocational or at least middle school education (*ceteris paribus*) in terms of their economic activity. Higher IT competences are also conducive to higher economic activity whereas linguistic competences have been insignificant. The significant, in the statistical sense, role of the quality of life should also be noted – the lower its subjective assessment, the higher the probability of continuing the economic activity. This may indicate

that economic activity after the age of 50 is in Poland rather a 'necessity' (associated with the desire to maintain the quality of life, often in the material dimension) than the desire to satisfy the need for activity. According to previous studies (Kryńska et al., 2013), approximately 30% of employees aged 45+ do not want to retire as soon as possible (55% of people in this group are of the opposite opinion; every 5-year age group of 45-64 is similar in this respect). One third of those who do not plan rapid economic deactivation admit it is related to the economic condition (work as a source of income, low pension) although the main reason is job satisfaction (54%), and the willingness to maintain their activity (18%, with a possible choice of several answers).

Conclusion

The study confirms that the individual determinants are very important, if not crucial, in terms of extending working life after the age of 50. Since the human capital is a key factor in the growth of an individual productivity, its role in maintaining the economic activity is indisputable. This study focused on one, albeit crucial, aspect of the economic activity after the age of 50, namely the decisions of people aged 50-64 regarding either the continuation of their professional careers or their cessation. Thus, the possibilities of changing their status on the labour market (discontinuation of work) included in many other models (see e.g. Wiktorowicz, 2016) were omitted here. People without the acquired right to a retirement pension either with problems with staying in the labour market or not interested in it, 'run away' into a pension or other forms of economic inactivity. Since this viewpoint has been omitted, the relationship between human and social capital and the economic activity are assessed from a different perspective and lead to slightly distinct conclusions than in many other studies. First of all, the insignificance of health condition when compared to other factors must be surprising (it comprises an important determinant of choice between the economic activity and retirement provided that we omit the sex and age interdependence). Secondly, social capital is insignificant here and the estimation of the odds ratio for a model that excepts the control variables is opposite to the expected one. The structure of this capital plays a certain role in this respect – trust is at the highest level here, and network capital – at the lowest. Meanwhile, the latter is vital from a professional perspective.

The conducted analysis confirms the usefulness of binominal logistic regression in studying decisions of the retirement and maintaining economic activity. Good statistical properties of the estimated models should be emphasised, especially for the model relating to the control variables. The high R^2 value, the high quality of classification for economically active people,

as well as the relatively high Nagerkelke's pseudo R^2, indicate that human capital (including socio-demographic variables and the quality of life) largely determines decisions about maintaining activity as opposed to retirement.

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