

# Seniority Principle in the European Labour Market with Emphasis on Slovakia

*Gabriela Dovál'ová, (PhD.)*

*Veronika Hvozdíková, (PhD)*

Institute of Economic Research SAS, Slovakia

---

## Abstract

Income is without doubt an important indicator reflecting status of a person in the labour market. By comparing the wage dynamics decomposed by age groups, we try to reveal whether there is the seniority principle promoting accumulated working experience and skills in older age, or whether older people in the European countries face age discrimination in terms of earnings. Looking closely at the case of Slovakia, we point out the misinterpretation based on stereotypes about poor employment situation of older persons. In fact, median-age to pre-retirement age cohorts show less inactive and less unemployed persons compared to young generation. However, this is true only when considering employment rates. As regards income development, in average, older people can rarely expect their wage to rise with age. This is not just the case of Slovakia; the seniority principle in terms of earnings vanishing across the EU countries, particularly in old member states.

---

**Keywords:** Seniority principle, labor market, employment, wage, decomposition by age (age groups)

## Introduction

Implementation of the seniority principle is, in addition to employment and unemployment rates, an important indicator of the status of older people in the labour market. This is important particularly in the context of the results of several previous Eurobarometers, according to which age is one of the most significant factors of potential discrimination in the labour market. Respondents of the Eurobarometer (European Commission, 2015) are more likely to say that age discrimination is widespread on the basis of being over 55 years old rather than being under 30 years old.

Negative stereotypes regarding older people can result in greater discrimination in redundancy situations, lower participation in training and

development activities, problems with promotion or in situation when older employees get less pay than their younger colleagues for the same work, which all together gradually undermine their position in the labor market. Age itself can be seen also as one of the main obstacles for becoming re-employed. It is therefore necessary to pay attention to whether the wage increases with age or not, because theoretically being longer in practice and in a certain workplace should lead to higher individual human capital and to at least moderate wage growth. Some of the previous studies which have been already done on this topic (e.g. Pudelko, M., 2006) suggest that seniority principle is losing importance and that the “American-style performance orientation serves as an important source of inspiration”.

The aim of the article is to reveal whether the seniority principle is present in the European Union (EU) countries and to use the case of Slovakia to characterize employment status of older workers and to examine their potential income discrimination by selected aspects. We compare pay differences among given age groups in international and national context. The methodology of comparison is based on “wage” as a proxy (for average earnings by age groups in each country) calculated to the “wage index” where the level of earnings in the youngest age group (under 30 years) represents the base (index =100). In this paper we use last available data decomposed by age (2014), however the analysis is also based on the results of the previous study (Bútorová et al., 2013) in which the international and national analyses were conducted on data of 2006 and 2005. For purposes of this paper we consider only the narrow content of the “seniority principle”: changes in income with age. The advantage of the simplified approach is that age is the only factor determining differences in the level of earnings. The disadvantage of this methodology is that we do not distinguish to what extent the wage differences depends on the differences in productivity gains.

### **International comparison of differences in earnings by age**

Eurostat statistics do not provide data on earnings by age group for all EU countries but nevertheless, major trends can be identified. The data obtained from the analysis suggest that when taking into account average annual earnings in the national economy (considering only productive age), the seniority principle still exists in the countries such as Spain, the Netherlands, Slovenia or Cyprus (Table 1). Both Slovakia and Czech Republic belong to the group of countries which are characterized by having lower earnings in 50-59 age group compared with two younger age groups.

In comparison with the previous years the weakening of seniority principle can be found in some old EU countries, e.g. Germany. This reflects the unfavourable situation of older people in the labour market in terms of wage improvements. In case of Slovakia, it is obvious that the structural

changes which economy has undergone during its transition significantly disadvantaged older people in the labour market. Empirical data for Slovakia showed that seniority does not bring considerable wage increases, which suggest that older age groups attained qualification (as the sum of two components – education and experience) under the different economic conditions and they were not able to overcome their handicaps from the previous period.

The level of earnings in the 60+ age group is likely a reflection of the significant national differences in the career-ending. This age group consists mostly of those individuals who remained economically active after reaching retirement age. This factor is very important for the level of earnings and it suggests that people who stay in working process are those who do not have any serious health problems and have required qualification which enables them to remain in the labour market longer. At the same time these are individuals whose earnings are relatively higher compared to those who after reaching retirement age or shortly thereafter retire. Therefore earnings in the oldest age group are overvalued compared to other age groups. Implicitly, it can be assumed that those people who retired earlier were less successful in the labour market and had lower qualification and lower earnings.

Table 1 Wage index by age groups – national economy (less than 30 = 100; 2014)

	Less than 30	From 30 to 39	From 40 to 49	From 50 to 59	Over 60
BG	100	118	113	107	101
CZ	100	127	125	118	127
DE	100	150	166	164	147
EE	100	122	113	97	88
IR	100	131	145	139	116
ES	100	129	145	154	166
CY	100	143	167	176	x
LV	100	121	107	96	95
LT	100	125	113	107	109
HU	100	125	122	118	136
NL	100	156	179	180	177
PL	100	135	142	130	149
SI	100	123	133	134	186
<b>SR</b>	<b>100</b>	<b>131</b>	<b>125</b>	<b>114</b>	<b>128</b>
FI	100	122	132	129	129
UK	100	146	158	150	133

Source: Own calculation based on Eurostat data.

A more detailed analysis of wages in manual professions indicates that the differences in earnings between age groups are lower compared to the differences over the entire national economy. This is also true in case of

Germany. If Germany stands as representative of a developed country, it is important to note that earnings in the 30-39, 40-49 and 50-59 age groups in manual jobs are almost identical (Table 2).

In several new EU member states (e.g. Slovakia, Czech Republic, Latvia, Estonia, Lithuania), lower average earnings of manual workers were found in the 40-49 and 50-59 age groups compared with the age group of 30-39 years olds. Hungary appears to be more conservative country with the profile of income distribution by age similar to that of Germany.

Results of the international comparison of wages for manual workers indicate that seniority is likely to remain of importance in Cyprus and in the Netherlands (in case that we take into account people in working age, i.e. under 60 years). These results are consistent with conclusions of some previous studies done in this field, e.g. with Allinger (2016) who found that the impact of work experience on a person's net income has been drastically reduced in the last 20 years and this means that average income profiles have been flattened, particularly among blue-collar workers.

Table 2 Wage index by age groups – manual workers (less than 30 = 100; 2014)

	Less than 30	From 30 to 39	From 40 to 49	From 50 to 59	Over 60
BG	100	106	113	111	100
CZ	100	106	105	101	104
DE	100	131	130	129	109
EE	100	102	95	86	75
IE	100	115	127	124	110
ES	100	114	118	124	142
CY	100	114	119	130	120
LV	100	104	93	91	82
LT	100	103	97	93	88
HU	100	105	105	106	115
NL	100	142	150	151	147
PL	100	111	113	108	106
SI	100	107	107	105	103
<b>SR</b>	<b>100</b>	<b>107</b>	<b>104</b>	<b>99</b>	<b>95</b>
FI	100	110	112	109	103
UK	100	122	127	125	113

Source: Own calculation based on Eurostat data.

In the next part of the article we continue with the analysis of earnings by age in white-collar jobs. The analysis of data related to non-manual professions has shown significant differences between countries that are likely to be a result of an impact of a range of institutional factors.

Table 3 Wage index by age groups – non-manual workers (less than 30 = 100; 2014)

	Less than 30	From 30 to 39	From 40 to 49	From 50 to 59	Over 60
BG	100	124	116	107	101
CZ	100	135	133	126	137
DE	100	156	178	177	164
EE	100	129	121	103	96
IE	100	134	149	142	114
ES	100	134	157	170	185
CY	100	149	181	191	180
LV	100	126	111	100	103
LT	100	130	119	115	118
HU	100	128	126	122	141
NL	100	155	183	184	184
PL	100	142	156	142	167
SI	100	126	143	143	198
<b>SR</b>	<b>100</b>	<b>139</b>	<b>134</b>	<b>124</b>	<b>139</b>
FI	100	124	137	134	135
UK	100	150	164	156	142

Source: Own calculation based on Eurostat data.

It can be observed, that one group of developed countries (e.g. Spain, Cyprus, the Netherlands) is more seniority oriented, while in the second group of these countries (e.g. Germany, UK, Finland) earnings in the 50-59 age group are slightly lower than in younger age group (from 40 to 49 years).

As regards the new EU member countries, Slovenia belongs to the group of countries with the traditionalist type of remuneration where seniority system plays important role. But even in this country the weakening of the seniority principle can be observed, as in 2014 the difference in earnings between the 40-49 and 50-59 age groups significantly decreased compared with the year 2006. V4 countries (except Poland) belong to those countries where earnings were the highest for those aged 30 to 39 years (taking into account only the productive age).

Univariate analysis revealed in the EU countries following tendencies:

- Compared to the year 2006, the weakening of the seniority principle has occurred also in some old EU member states, regarding the remuneration the age group 50-59 years is seen as the most vulnerable.
- In the new EU countries foreign investors often require mainly medium skilled-workers, younger blue-collar employees who are physically fit and are more likely to work on irregular schedules – younger people are often placed to such job positions, they have stable and high productivity, which allows them to obtain even higher earnings compared to older employees.

- The differences in the application of the principle of seniority in the EU countries are affected by the number of factors. It is necessary to mention cultural habits or institutional factors, which means stronger trade unions (e.g. in the Nordic countries) and the tradition of social dialogue in remuneration (which can still, to some extent, manage to protect older workers against deterioration of the wage level).

### **Employment status of older people in Slovakia**

Older people form majority of total active population in Slovakia (for purposes of this article “older” means population older than average/median age, i.e. population aged 40+; in 2015, average age of population in Slovakia was 40.13 years and median age 39.40 years). As it can be seen from comparison based on division of economically active population by standard main age groups, population aged 50 years and more represents app. one quarter of total economically active population in Slovakia (table 4). Age structure in older cohorts is quite even: each 5-year age cohort between 40 and 60 years comprises a little more than one tenth of total active population. Together with persons older than 60 years, they (40+) represent more than a half (51.9 %) of total active population in Slovakia (consisting of 1.4 million individuals). Of which 25.5 % of total active population are persons aged 40-50 years and 22.5 % represent people aged 50-60 years.

TABLE 4 Structure of economically active population by age groups (2015)

Main age groups (Years)	Level (Thousands)	Percentage of active population
15 - 24	209.1	7.6
25 - 49	1805.8	65.9
50 - 64	703.8	25.7
<b>Older cohorts in details</b>		
40 - 44	374.3	13.7
45 - 49	324.0	11.8
50 - 54	322.1	11.8
55 - 59	294.4	10.8
60 - 64	87.4	3.2
65+	19.5	0.7
Sum 40+	1421.7	51.9

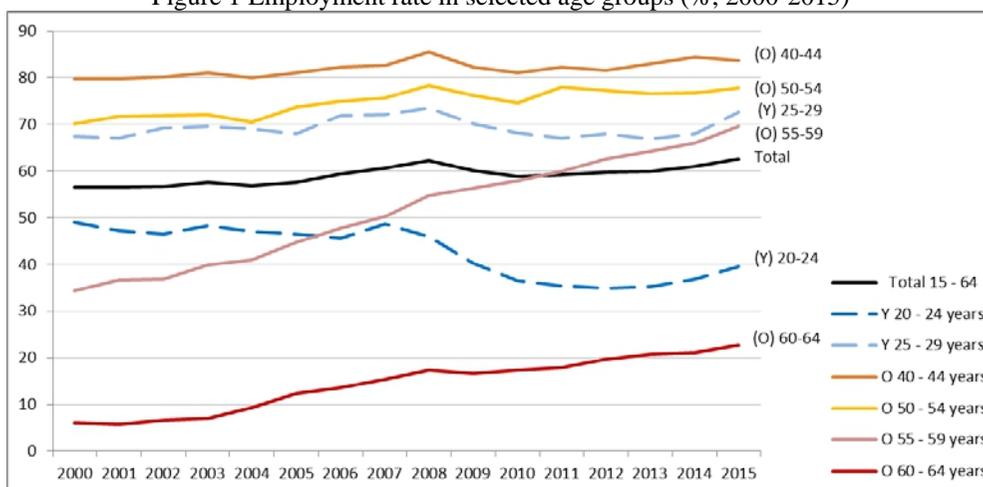
Source: Own calculation from data of the Statistical Office of the SR (database Slovstat).

This observation is important from the point of view of competition at the labour supply side – we can state that persons aged 40 and more who are willing to work comprise more than a half of labour supply in Slovakia and they are evenly distributed by age within the interval 40 – 60 years (considering the quantity, not specific skills or qualification, there is no

competition pressure caused by lack of sources which, in theory, has clear implication for cost of labour/wage rate).

Regarding the employment status of people in different age it is important to point to the fact that employment patterns differ across the age groups, most significantly when comparing the youngest and the oldest age cohorts. As it can be observed in time series for employment rate by various age groups, the development of employment varied from age to age, especially in difficult macroeconomic conditions. Next figure clearly illustrates divergent development of employment rate after past economic crisis (2008) in young (Y) and old (O) age cohorts.

Figure 1 Employment rate in selected age groups (%; 2000-2015)



Note: Y – younger than average/median age; O – older than average/median age.

Source: Based on data of the Statistical Office of the SR (database Slovstat).

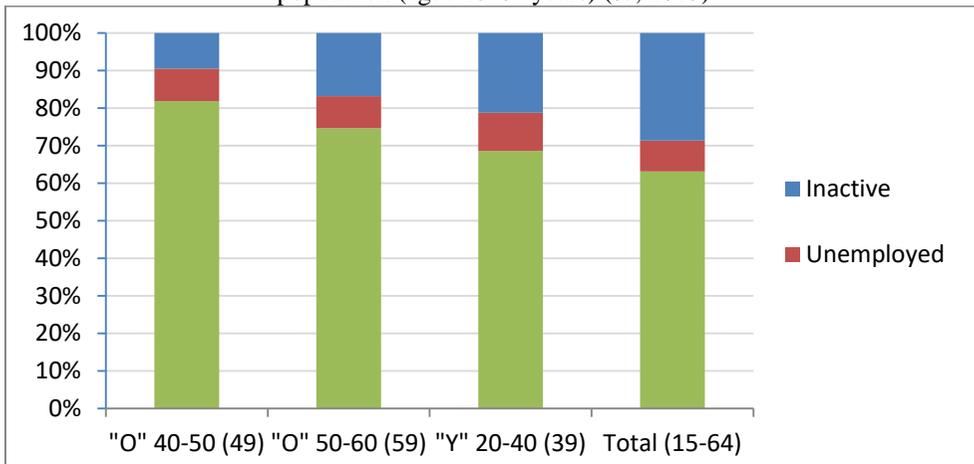
The highest employment rate in a long-run is attributed to the persons in age group 40-44 years, oscillating above 80 % (very similar development pattern can be observed in the next age cohort 45-49, thus we do not show this one in the figure). But not only people in the age 40 to 50 years belong to those with the highest labour force participation – also persons aged 50-54 still exhibit extremely high employment rate, more than 10 percentage points above average (average rate for 15 to 64 years). Looking at the change dynamics over the series, all three mentioned 5-year cohorts (i.e. persons 40 to 54 years old) basically copied the development tendency of total population. Interesting deviation can be noted in development curve of age group 55-59, where employment rate rose to the above average level: at the start of the series the rate in this group was 34 % and surpassed the total employment rate (60 %) in 2011, when total employment finally started to recover after the recession. The employment rate of people aged 55-59 more than doubled over the examined period. Partially it can be outcome of the

societal changes related to the pension reform (former pensionable age for women was 53-57 depending on the number of children). Together with age group 60-64 years, they comprise the group with the steep increase in employment rate (both age groups may have been influenced by the administrative increase in pensionable age; changes were effective gradually since 2004 pension reform).

The lowest employment rates were recorded in the youngest (20-24) and the oldest (60-64) age groups (the only groups with employment rate below total employment rate). However, looking at employment patterns since the start of the 2008 crisis, the employment in both groups developed in opposite direction. Employment rates have fallen especially in the youngest group, but very similar trend was observed when considering all people aged less than 34 years (and also in 35-40 category, although to a smaller extent). Older people fared better during the recession (and in the post-recession period) with respect to the employment dynamics.

We can summarize that in unfavourable economic conditions, particularly the youngest age groups become vulnerable and disadvantaged at the labour market (case of Slovakia). Employment rates in oldest age groups have risen almost constantly since 2000. The drop in total employment during recession in 2009 was notable and lasted until 2015 (when total employment rate recovered to the pre-crisis level), but did not influence the long-run trend of increase in employment rate in older age. Contrary to that, the crisis had profound impact on employment of young people.

Figure 2 Structure of economic activity in selected age groups (O and Y) and in total population (aged 15-64 years) (%; 2015)



Note: O “old groups” – older than average/median age; Y “young group” – younger than average/median age.

Source: Own calculation based on data of the Statistical Office of the SR (database Slovstat).

Besides being more resistant to unfavourable economic conditions (in terms of employment rate changes), older age groups prior retirement also exhibit higher share of employed persons to unemployed and inactive persons, compared to younger groups. In age group 40-50 years, only 9.5 % were inactive, as opposed to 21.2 % in age cohort 20-40 or even 28.6 % in total population aged 15-65 years (see figure 2). Higher portion of inactive population in young group is caused by the people 20-24 years old (where 45 % of population is inactive, including students) and in total population also by the age group 60-64 years (where pensioners represent major part of inactive persons). But also in terms of unemployment, only 8.7 % in age group 40-50 years were unemployed (8.5 % in case of 50-60 years), whereas the share of unemployed in age group 20-40 years reached 10.2 %. Only 18 % of persons aged 40-50 were workless (inactive and unemployed), as opposed to 31 % workless persons aged 20-40, or 37 % workless persons in total population.

### **Implementation of the seniority principle in income in the Slovak labour market**

Analysis of the statistical characteristics presented below confirms existence of the relatively high wage differentiation between individual employees based on their age, also when looking at the various aspects of the national economy structure (by economic activity, type of ownership, or size of the entity).

Wage variability across economic sectors as well as emphasize on the particular age groups is certainly given by the nature of the prevailing type of work in a sector, but is also largely influenced by differences in labour demand in economic activities. The most lucrative sector in terms of income in a long run is information and communication activities sector, where average nominal monthly wage in 2015 rose to 1,751 Euros (in which particularly telecommunication industry drives the wage growth the most, with the average nominal wage reaching 2,019 Euros in 2015). The next most lucrative sector is financial and insurance activities sector (with average wage 1,686 Euros). In the first mentioned, the top highest-earning age group (with the monthly wage at the level of 2,333 Euros) is the one aged 40-44 years (note: the last accessible decomposition by age groups is available for 2014). For the second most payed sector, persons aged 45-49 years belong to the most priced. In both cases, people in middle age and slightly above average/median age are those awarded the most. After 45 and 50 years of age in both sectors respectively, average wage decreases with age notably.

On the opposite side of the scale we can find accommodation and food services activities, where average nominal wage is more than three times lower than in two most payed sectors (533 Euros; to compare, average

wage in Slovakia in 2015 was 883 Euros). In this sector, wage distribution by age is uneven, the wage level fluctuates from age to age group. Special focus should be paid to manufacturing, this part of industry employs 600,000 persons, representing one quarter of total employment in Slovakia. This largest sector has special importance particularly in unfavourable economic cycle phase (it was a driver of employment recovery in 2015 as well). The average wage in manufacturing represents 945 Euros, and the highest wage gains by age are attributed to the persons aged 35-39 years. There are no pay increases with age in manufacturing after reaching average/median age in Slovakia.

Table 5 Wage index by age and economic activity (20-24 years = 100; 2014)

Economic activity sector	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60+
Agriculture, hunting, forestry	100	109	115	121	117	116	122	116	127
Mining and quarrying	100	109	131	121	129	127	118	123	120
Manufacturing	100	120	140	147	139	133	130	129	149
Electricity, gas, steam and air conditioning supply	100	135	174	179	171	158	165	160	154
Water supply, sewerage, waste management and remediation	100	123	140	149	147	142	143	144	147
Construction	100	125	149	148	147	154	151	140	156
Wholesale and retail trade, repair of motor vehicles...	100	132	151	159	156	153	149	145	143
Transport and storage	100	118	137	136	128	127	131	131	139
Hotels and restaurants	100	115	122	124	115	135	113	132	132
Information and communication activities	100	139	197	235	254	220	197	173	152
Financial and insurance activities	100	136	192	232	235	241	218	206	256
Real estate, renting	100	128	167	160	152	144	133	155	150
Professional, scientific and technical activities	100	149	196	202	203	184	160	162	152
Administrative and support service activities	100	124	133	143	155	127	121	117	115
Public administration and defence, compul. social security	100	124	148	158	160	147	137	130	146
Education	100	126	142	151	152	153	153	150	161
Health and social work	100	136	155	147	156	143	139	141	168
Arts, entertainment and recreation	100	117	128	146	137	131	137	136	127
Other activities	100	123	128	119	112	119	125	129	120

Note: Calculated from the average gross monthly wage.

Source: Own calculation based on the Information system on labour cost (ISCP), Trexima.

There are also some sector-specific features considering wage rate of older workers – e.g. in agriculture, hunting and forestry, the biggest wage increases are in place after reaching age of 50 and 60 years. The example of the most constant increase in wage with the age is education sector, where computed index has almost continuous upward trend. This is given by administrative wages guaranteed by the law, where the wage tariffs increases with the years of experience. Positive deviation in some sectors at the highest age group is influenced by the fact, that in age group 60+, large share of

highly specialized experts stays in employment, preferring to keep a job than to retire.

Implementation of the seniority principle in wages varies also when looking at the enterprises/public entities by type of their ownership. Surprisingly, even in public sector entities, the wage is not rising with age constantly; although here the employees of older age are those to enjoy the biggest wage gains if compared to private sector. In this context, the steep growth rate of average wage in foreign private companies cannot be omitted; the wage rises by 85 % before reaching 39 years. In the Slovak private businesses, average wage increases to its top also in age group 35-39 years, but unlike in foreign companies, it stays almost at this level over the next life and increases again at the oldest age.

Table 6 Wage index by age and type of ownership (20-24 years = 100; 2014)

Ownership	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60+
Domestic private	100	129	146	149	146	145	146	150	159
State	100	124	147	152	153	146	141	140	151
Foreign private	100	133	167	185	180	166	155	146	157

Source: Own calculation based on the Information system on labour cost (ISCP), Trexima.

Closer analysis of the earnings by age groups, economic activity and type of ownership indicates that the system of remuneration has changed in a relatively short period of time and negatively affected older people, when particularly foreign companies favour employing youth, or the middle generation of employees, who soon after beginning a career gain experience and enjoy relatively high wages.

Table 7 Wage index by age and size of company (20-24 years = 100; 2014)

Size by no. of employees	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60+
1 - 9	100	130	150	155	174	145	144	164	165
10 - 19	100	136	147	160	150	148	156	158	160
20 - 49	100	128	153	152	150	149	142	137	145
50 - 99	100	129	152	159	154	148	142	138	147
100 - 249	100	131	159	169	159	148	140	135	145
250 - 499	100	134	164	166	159	150	145	138	150
500 - 999	100	136	169	171	159	151	144	142	161
1000+	100	131	159	169	164	153	146	140	151

Source: Own calculation based on the Information system on labour cost (ISCP), Trexima.

In Slovakia, micro-businesses (1 to 9 employees) and small enterprises (10 to 50 employees) are employing 550,000 persons, creating one quarter of total employment in the country. However, wage level in this category of companies is lower when compared to any other company size category. The average wage in companies with less than 19 employees is 709

Euros (2015 data) and in small enterprises with 20 to 50 employees it reaches 829 Euros. The average wage rises with the size of the company; it surpasses 1,100 Euros in enterprises with 1,000 and more employees.

The comparison of average gross wage by age and size of company adds another aspect. First, people with the highest average wage are those aged 35-39 years (in previous survey from 2011, the group with the highest average earnings were 30-35 year-olds, which means that the shift is related to the natural process of ageing). Second, when focusing on the seniority principle, only in small businesses up to 20 employees the wage rises with old age again (after reaching 55 years in micro-businesses and after reaching 50 years in small businesses up to 20 employees). The biggest relative drop in wage related to older age is observed in medium sized companies (100-249 employees), where average wage decreases by one half between its top level achieved in 35-39 age category and reaching 55-59 years.

## **Conclusion**

The results of presented international comparison suggest that, in terms of earnings, the system based on seniority has weakened in the European Union countries (especially in the old member states). In some of them, we can list Germany or Finland, older people approaching retirement age became disadvantaged in the context of relative income/pay. To some extent, it could have been influenced by the unfavourable macroeconomic development in the recent years, since the seniority principle, among others, relies on economic growth associated with the creation of new jobs, including senior's positions.

However, it seems that in Slovakia, with wider packet of experience or skills, in general there are no extreme barriers for older persons to keep their employment in open competition at the labour market. In fact, the employment rate in the latest age groups prior retirement increases in a long-run in Slovakia. Also during/and after the recession, older people fared better with respect to the employment dynamics than the younger cohorts (35-). Considering their employment status, people aged 40-60 years also exhibit lower share of inactive persons as well as unemployed persons when compared to both, young or total population. (However, the picture based on the average values does not reveal the regional or occupational divergences, which are quite high in some cases.)

But as it comes to earnings, seniority principle is hardly applied in any aspect or comparison – preference of young or middle age employees (in terms of work compensation) in some sectors is striking, even in public sectors the state employees aged 45 to 60 years cannot expect to benefit from the life-cycle experience. But this may be influenced also by higher claims by “economy’s post-transition” working generation. Also outcomes of our

examination of earning in manual and non-manual professions proved that Slovakia, together with the Czech Republic, belongs to the group of countries where people aged 30-39 years attain the highest level of earnings. The structural changes, which Slovak economy experienced during its transition, have markedly worsened position of older people in the labour market in terms of relative income.

Empirical data for Slovakia confirmed that seniority rarely brings any wage increases, what may reflect the fact that older generation has attained education and collected working experience under the different economic conditions and is not able to overcome this handicap. But if this is the trend also in more developed European economies (as data suggest), either the middle age generation should not expect its pay to keep rising with age.

NOTE: The paper was supported by national grant projects VEGA 2/0109/16 Institutional Competitiveness in the Light of Changes of External Environment and VEGA 2/0070/15 The Dynamics and Nature of Changes in the Slovak Economy in the Phase of Expected Stabilisation of Economic Growth.

### **References:**

Allinger, Bernadette. Austria - Study examines seniority principle in the labour market. In European Observatory of Working Life EurWORK, Eurofund EF publications, February 2016.

Accessible online at:

<<http://www.eurofound.europa.eu/observatories/eurwork/articles/labour-market-industrial-relations/austria-study-examines-seniority-principle-in-the-labour-market>>.

Bútorová, Zora - Cimermanová, Katarína - Dovál'ová, Gabriela – Filadelfiová, Jarmila - Košta, Ján - Štefánik, Miroslav - Šumšalová, Sylvia. Analysis of the exogenous and endogenous factors influencing labour market participation of elderly. Bratislava: Centrum vzdelávania MPSVaR, 415 p., May 2013.

Accessible online at:

<[https://ia.gov.sk/cv/images/projekty/strategiaaktivnehostarnutia/NPSAS\\_Aktivita3\\_Analyza.pdf](https://ia.gov.sk/cv/images/projekty/strategiaaktivnehostarnutia/NPSAS_Aktivita3_Analyza.pdf)>.

European Commission. Special Eurobarometer 437. Discrimination in the EU in 2015. ISBN 978-92-79-50342-9, 2015.

Eurostat. Database of the European Commission. 2016.

Accessible online at: < <http://ec.europa.eu/eurostat/data/database>>.

Morvay, Karol - Frank, Karol - Hudcovský, Martin - Hvozdíková, Veronika - Jeck, Tomáš - Šikulová, Ivana. Economic Development of Slovakia in 2015 and Outlook up to 2017. 1 edition. Bratislava: Institute of Economic Research SAS, 134 p, ISBN 978-80-7144-261-5, 2016.

Pudelko, Markus. The seniority principle in Japanese companies: A relic of the past? *Asia Pacific Journal of Human Resources*. Australian Human Resources Institute. London, Thousand Oaks, CA and New Delhi: Sage Publications, Volume 44(3), pp. 276–294, 2006.

Slovstat. Database of the Statistical Office of the Slovak Republic. 2016.

Accessible online at: < <http://www.statistics.sk/pls/elisw>>.

ŠÚ SR. Štatistická správa o základných vývojových tendenciách v hospodárstve SR 4/2015. Bratislava: Štatistický úrad SR (Statistical Office of the SR), March 2016.

Trexima. Information system on labour cost (ISCP). Database (not published) by Trexima, 2016.