employment permanently decreases as a result of a poor labour market entry situation. (See Box 4.1 for more information.)

Table 4.1.1: The effects of early-stage unemployment on wages

	Total Sample	Vocational school	Secondary	Tertiary educated
Unemployment rate (year or entry)	–0.007576**	–0.01099*	–0.006326	–0.01395***
	(0.003562)	(0.006086)	(0.004918)	(0.004507)
Unemployment rate× 2–3 experience	0.004923*	0.007763	0.007343*	0.004012
	(0.002521)	(0.005978)	(0.004131)	(0.003403)
Unemployment rate × 4–5 experience	0.002816	0.006745	0.006205	0.003514
	(0.002554)	(0.005959)	(0.004015)	(0.003353)
Unemployment rate × 6–7 experience	0.001162	0.009388	0.002933	0.001706
	(0.002616)	(0.005953)	(0.004070)	(0.003462)
Unemployment rate × 8–10 experience	6.973e–04	0.009268	0.005014	0.001634
	(0.002711)	(0.005974)	(0.004160)	(0.003595)
R^2	0.469	0.295	0.228	0.252
N	204,057	46,132	65,462	76,668

Note: The basic equation included educational attainment (7 categories), categories of experience, the country, the calendar year. Clustered (at the level of the firm) standard errors are displayed in brackets.
Significant at the ***1 percent level, **5 percent level, *10 percent level.
Source: Own calculation based on the *NES* Wage Survey data 2002–2016.

K4.1 What are the consequences of young people entering the labour market during an economic crisis? International outlook

ENDRE TÓTH

The *scarring effect* refers to those negative consequences which affect young people who begin their careers with a potential period of unemployment. In labour economics, two different issues are examined under this term. First: whether young people who leave school during a recession and start their career therefore face higher risks of early-stage unemployment are permanently "scarred" by these circumstances. Second: for those young people who experience lasting unemployment when starting their career, does this episode have long-term negative effects on their later career? This topic re-emerged in the literature due to the severe economic and financial recession in 2008, and in order to eliminate these negative consequences, the European Union introduced their Youth Guarantee Programme in 2013.[1]

The majority of research on the scarring effect examines this phenomenon via regression model building, analysing young people belonging to different cohorts, where the key independent variable is the labour market situation of the youth's place of residence at the time of leaving school. In

1 For the implementation of this Hungary, see Subchapter 5.2.

their analysis, the researchers do not only have to properly filter out differences of other origins between the individuals, but they also have to deal with potentially distorting effects such as the endogenous relationship between unemployment and the place and year of graduation, and migration. In order to remedy the potentially distorting effects, researchers are including new control variables (for example: place of birth, unemployment measured at the start of the training). Every research paper[2] we examined drew the conclusion that young people entering a labour market in a recession with high unemployment must face lasting negative consequences. In their case, lower wages, fewer hours worked, lower quality job and higher risk of unemployment can be detected even 7–15 years after starting their career, compared to their counterparts who started working at a more fortunate time (*Kahn,* 2010). When the initial unemployment rate that is one percentage point higher, the rate of loss of income is estimated at 6–10 percent in the year of graduation by studies examining higher education degree-holders, which then slowly decreases, but stays around 2–3 percent even ten years later. (*Kahn,* 2010, *Altonji et al, 2014*). Several studies have pointed out that the negative effects may be more significant in the case of less educated young people, who experience a more significant decrease of employment (*Schwandt–von Wachter,* 2018, *Cockx*, 2016), and amongst graduates, those with lower abilities (*Oreopoulos et al,* 2012). It seems that stricter labour market regulation increases the persistence of the scarring effect, with young people getting "stuck" in low-paying jobs that do not match their qualifications in a more rigid labour market structure (*Kawaguchi–Murao*, 2014). Research based on individual-level data not only analysed the effect of early-stage unemployment,[3] but also the consequences of a young person accepting a job for which they are overqualified. Studies examining data from European countries with a relatively inflexible labour market show that accepting a job not compatible with their qualifications presents a trap for young people, because it has a long-term negative impact on most the careers of most young people (similar to unemployment).[4] Young people from vulnerable backgrounds experience lower upward mobility and slower wage growth that those who began their careers in jobs which match their qualifications.[5] There can be two main explanations for the lasting negative effects of early-stage unemployment or overqualification. The first is the negative signalling function of early unemployment, i.e., employers view it as a signal of lower productivity, which seriously affects the perception of job-seekers (*Cockx–Pichio*, 2011). Another possible explanation is the decline of professional knowledge and skills due to cognitive decline, or that the acquisition of new skills is rare in low-skilled jobs.

2 On the topic of the scarring effect, most of the research is based on North American data (*Schwandt–von Wachter,* 2018, *Kahn,* 2010, *Altonji et al,* 2014, *Speer,* 2016, *Oreopoulos et al,* 2012). But several excellent studies used data from European countries (*Cutler et al,* 2014, *Liu et al,* 2016, *Cockx–Ghirelli,* 2016), and there are also studies examining multiple continents and larger groups of countries (*Cutler et al,* 2014, *Liu et al,* 2016, *Cockx–Ghirelli,* 2016). Most research based on North American data analyses exclusively newly graduated young people (*Kahn*, 2010, *Altonji et al,* 2014, *Oreopoulos et al,* 2012), but there are also studies which exclusively include those with lower education (*Speer*, 2015), or those that examine all young people, regardless of their education.

3 This can have very significant negative consequences, for example, *Gregg–Tominey* (2005) found that young people who experienced long-term unemployment early in their career, had earnings around 12 percent lower than their luckier counterparts, even twenty years later.

4 See for example, *Büchel–Mertens,* 2004, *Mendes de Oliveira et al,* 2000, *Baert et al,* 2012, *Liu et al,* 2012.

5 This is in contrast to previous North American results, where accepting positions that did not match qualifications might have been a good choice in terms of subsequent higher than average mobility opportunities (i.e., it provided a kind of "springboard function"). See for example: *Sicherman* (1991) and *Rubb* (2003).

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