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**The Challenges of Youth Unemployment
In the European Union**

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1. INTRODUCTION

It is a well-known fact that most countries in the European Union face a serious challenge regarding youth unemployment. Many young people (aged 15-24) were unemployed already before the financial and economic crisis of 2007-2008, but their number increased dramatically during the recession. Like the European Union, the United States has also devoted particular attention to the phenomenon that young people leaving education face difficulties in finding jobs. Youth unemployment is increasing even in developing countries, so we can say that it is a global challenge.

Although the proportion of young people (under the age of 25) within the unemployed has gradually declined at a global level in recent years (from 41.5% in 2004 to 36.7% in 2014), it is still well above the proportion of young people within the total population (16-17%) (ILO, 2015). Youth unemployment is not only an interesting and important phenomenon because it is higher than total unemployment, but also because it is prolonged and because of its spill-over effects that affects not only young people (Caporale–Gil-Alana, 2014). The negative effects of youth unemployment on *individuals* such as the financial and psychological (health) problems increase with the duration of unemployment. Emphasis should be given to the scarring effect, which is the deterioration of future employment and wage prospects as a result of unemployment (Mroz–Savage, 2006). *Social consequences* of youth unemployment can be derived from the individual effects: overwhelmed health and welfare systems; crime (associated with crowded prisons); family issues; lack of democratic engagement and social participation; weakening of civil society and social cohesion (Bălan–Bălan, 2012; CDPS, 2001; Eurofound, 2012; Giugni–Lorenzini, 2012). Regarding the *economic impact* of youth unemployment, Eurofound (2012) estimated the annual cost of NEETs (young people neither in employment nor in education or training) in the EU at EUR 153 billion – representing 1.21% of the GDP of the EU. In addition, high youth unemployment reflects a failure to mobilize existing resources and thus shows a reduction in the competitiveness of economies (WEF, 2014). On this basis, it can be stated that the high level of youth unemployment in the long run can lead to serious macroeconomic problems and policy challenges.

The number of the unemployed young people is particularly high in the European Union: in 2007, 4.2 million people under the age of 25 were unemployed, their number reached its peak in 2013 at 5.6 million, and by 2016 it dropped again to approximately 4.2 million (Eurostat, 2017). In order to reduce youth unemployment, targeted employment policies in the Member States have been put in place and several EU level initiatives have been established and the

previously existing ones were given greater emphasis. Based on the experience gained so far, it seems that well-designed active labour market policies for young people and linking the education/training system and the labour market with apprenticeship programs have a major role at national level, while at EU level, the emphasis is on promoting mobility. These measures are related to the various aspects of labour market flexibility at several points. Therefore, *the current PhD dissertation focuses on examining the relationship between youth unemployment and labour market flexibility.*

Flexible labour markets are basically characterized by relatively low levels of state intervention, where employment is determined by market processes rather than the pressure of the state or trade unions, and part-time employment is widespread (Farkas, 2011; Hárás, 2013; Koncz, 2006).

Consequently, it is much easier to employ and dismiss employees in a flexible labour market. Labour market flexibility has different effects on the various actors in the labour market (employer, employee and unemployed). What is favourable for one group may adversely affect others. Surveys and existing literature are not uniform concerning the impact of flexibility on unemployment. Before and around the Millennium, flexible labour markets were considered desirable, but later, more and more research has been completed with the result that labour market rigidity is not necessarily the cause of higher unemployment (Bell–Blanchflower, 2010; Nickell et al., 2005; Vergeer–Kleinknecht, 2012). The background to the controversial results may be that flexibility has various aspects. Some of these are beneficial to those who want to work (for example, facilitate hiring for companies), while others have negative impact on employees (for example, facilitating dismissals for employers). When evaluating similar empirical studies, it should therefore be borne in mind that their results are fundamentally influenced by the selection of the examined countries and the indicators of flexibility. It can also help to draw more precise conclusions if we examine the effects of the dimensions of flexibility on the employment of a narrower social group. Therefore, the thesis focuses on youth unemployment. As labour market flexibility has several different aspects, it cannot be summarized in a single indicator, but a number of indicators are used together. Table 1 contains the indicators that cover the different dimensions of flexibility.

Table 1 Indicators related to labour market flexibility

Dimension of flexibility	Name of the indicator
Wage flexibility	Real minimum wages relative to median or mean wages
	Tax wedge
	Trade union density
Flexibility of working time	Share of part-time employment in total employment
	Share of involuntary part-time employment in part-time employment
	Average usual weekly hours worked on the main job
	Share of temporary employment in total employment
Mobility	Employment rate of women
	Employment protection legislation
	Public expenditure on labour market policies (% of GDP)

Source: own construction based on Urbánné Mező–Udvari (2016, p. 437).

2. OBJECTIVES OF THE RESEARCH

Based on the above *the aim of the present doctoral dissertation is to examine whether there is a significant relationship between the degree of labour market flexibility and the level of youth unemployment in the EU member countries; and to determine whether the various dimensions of labour market flexibility have generation-specific impacts*. Based on the conclusions drawn from the theoretical review, we have formulated three hypotheses that were tested in the research:

Hypothesis 1: In the European Union, the employment of young people is higher in labour markets with more flexibility.

Hypothesis 2: In the EU member countries there is no generation-specific effect of the labour market flexibility, in other words, the employment of young and older generations is not affected differently by the dimensions of flexibility.

Hypothesis 3: In the EU member states there is no clear relationship between the amount of public expenditure on labour market policies and youth unemployment.

3. STRUCTURE OF THE DISSERTATION

The dissertation can be divided into two major parts. The first larger part (Chapters 2-5) gives a theoretical framework for the research. The second part (Chapter 6) presents our own empirical analysis. The structure is the following: the *second chapter* details the concept of unemployment and describes the major economic theories related. The *third chapter* describes the results of the literature on labour market flexibility.

In the *fourth chapter*, we focus specifically on young people. We present the evolution of total and youth unemployment in the European Union in recent decades and especially in the

years of the Great Recession. Based on the related literature, we provide a brief overview of the characteristics of the labour markets of the European Union, and illustrate the development of employment in the EU using descriptive statistical tools. In doing so, we pay special attention to the situation of the young generation, as well as to the role of the 2007-2008 crisis. Then we highlight the individual, social and economic consequences of high youth unemployment. The severity and timeliness of these clearly justifies the importance of our choice of topic. The reasons behind youth unemployment and the findings of the relevant literature are also presented here, highlighting the importance of labour market flexibility.

Since the policies of the Member States are complemented by the EU-wide objectives and policies, we also consider it important to describe these. Therefore, in the *fifth chapter* of the dissertation we present the measures that the European Union has implemented at Community level to increase the employment of young people. Then we present the successful youth employment policy elements of seven EU Member States (the Netherlands, Denmark, Germany, United Kingdom, Sweden, Lithuania and Hungary), and their steps taken to alleviate the negative effects of the crisis on the labour market situation of young people. The nature and effectiveness of these measures show the need for the practical use of theoretical links between labour market flexibility and employment.

In the *sixth chapter*, using econometric analysis (panel regression), we examine the extent to which different aspects of labour market flexibility affect the development of youth unemployment in the countries of the European Union. We also examine the relationship between the dimensions of flexibility and the unemployment rates of the young and the older generations. This way we can compare the differences between the different age groups. At the same time, we try to find out how much public expenditure on labour market policies influences the development of youth unemployment. The dissertation is closed in the *seventh chapter*, in which we evaluate the hypotheses raised earlier.

4. METHODOLOGY

In order to achieve the research goal, we conducted literature analysis and empirical analysis. Taking into account the conclusions drawn from the theoretical review, we sought answers to three questions in the empirical analysis:

1. Is there a clear link between labour market flexibility and the magnitude of unemployment among young people (aged 15-24) in European Union countries? (Our first hypothesis was the following: *"In the European Union, the employment of young people is higher in labour markets with more flexibility".*)

2. How does the impact of labour market flexibility on youth unemployment differ from its impact on total unemployment and the unemployment in older age groups? (So we test the second hypothesis of the dissertation, which said: *“In the EU member countries there is no generation-specific effect of the labour market flexibility, in other words, the employment of young and older generations is not affected differently by the dimensions of flexibility”*.)
3. Is there a clear link between the level of youth unemployment in the Member States of the European Union and the amount of public expenditure on labour market policies? (The third hypothesis: *“In the EU member states there is no clear relationship between the amount of public expenditure on labour market policies and youth unemployment”*.)

The selection of indicators and countries

The sample of the analysis is the 28 Member States of the European Union, the period of the investigation covers 16 years between 2000 and 2015. The sources of the data are the databases of Eurostat (2017) and OECD.Stat (2017).

The indicators used are given in Table 2. In relation to youth employment, we have included several indicators in the analysis. The reason is that these indicators represent different segments of youth unemployment, so we believe that it is more likely to catch the phenomenon if more indicators are taken into account.

When selecting the indicators, we sought to include several different indicators describing the extent of flexibility, as one of the important lessons learned from our literature analysis is that every dimension of labour market flexibility can affect labour market outcomes. Accordingly, we used the indicators described in Section 3.2. It should be noted in connection with these, that within the dimension of mobility, both indicators of employment protection legislation (EPL) (protection of regular and temporary workers against individual and collective dismissals) are indices, and their score is measured on a 0-6 scale, with higher values representing stricter regulation.¹ Public expenditure on labour market policies are given in the proportion of the national GDP and were divided into two groups: active labour market policies (training, employment incentives, supported employment and rehabilitation, direct job creation, start-up incentives) and passive labour market policies (out-of-work income maintenance and support, early retirement).

¹ <http://www.oecd.org/els/emp/EPL-Methodology.pdf>

Table 2 Dimensions and indicators of the analysis (and their sources)

Labour market outcomes		
Youth	youth (15-24 years) employment rate (%)	<i>OECD</i>
	youth (15-24 years) unemployment rate (%)	<i>OECD</i>
	youth (15-24 years) unemployment ratio (%)	<i>Eurostat</i>
	NEET (15-24 years) rate (%)	<i>Eurostat</i>
Total	total employment rate (%)	<i>OECD</i>
	total unemployment rate (%)	<i>OECD</i>
Adults	25-54 years employment rate (%)	<i>OECD</i>
	25-54 years unemployment rate (%)	<i>OECD</i>
Older people	55-64 years employment rate (%)	<i>OECD</i>
	55-64 years unemployment rate (%)	<i>OECD</i>
Labour market flexibility		
Wage flexibility	Minimum relative to average wages of full-time workers (%)	<i>OECD</i>
	Tax wedge on labour costs (%)	<i>Eurostat</i>
	Trade Union Density (%)	<i>OECD</i>
Flexibility of working time	Share of part-timers as % of total employment (%)	<i>OECD</i>
	Share of involuntary part-timers as % of part-time employment (%)	<i>OECD</i>
	Average usual weekly hours worked on the main job (hours)	<i>OECD</i>
	Share of temporary employment as % of dependent employment (%)	<i>OECD</i>
Mobility	Strictness of employment protection – individual and collective dismissals (regular contracts) (index)	<i>OECD</i>
	Strictness of employment protection – individual and collective dismissals (temporary contracts) (index)	<i>OECD</i>
	Total LMP measures (categories 2-7) as a % of GDP (%)	<i>Eurostat</i>
	Total LMP supports (categories 8-9) as a % of GDP (%)	<i>Eurostat</i>
Macroeconomic environment		
	GDP per capita (euro)	<i>Eurostat</i>
	GDP growth (chain-linked volumes, 2010=100)	<i>Eurostat</i>
	Harmonised Indices of Consumer Prices (2005=100)	<i>Eurostat</i>

Source: own construction.

Finally, the dimension of the macroeconomic environment was captured by three indicators: gross domestic product per capita and GDP growth along with consumer price index. We considered it necessary to analyse the role of macroeconomics, even if only partially, as we have seen before, the economic situation affects employment (including the employment of young people).

Methodology of the analysis

Given the need to draw causal conclusions, *panel regression* was used for the empirical analysis. Panel data combines both cross-sectional and time series data and shows how the situation of countries change over time (Tarnóczki et al., 2015). Within this we used the *fixed effects model*, which is suitable to determine the effect of independent variables (the indicators of labour market flexibility) on the dependent variable (employment and unemployment rates).

„The basic assumption of the fixed effect (FE) model is that variables differ from each other, but are constant in time. The coefficients are estimated using the least squares method²” (Kiss, 2017, p. 104).

The panel regression was executed using the Gretl program³. Missing data (9.89%) were replaced using *imputation* (Oravecz, 2008; Sávai–Kiss, 2016; Udvari et al., 2016). We used the MATLAB program for this process.

The dependent variables of the models used in the analysis are the ten indicators of labour market outcomes, the explanatory variables are the indicators of flexibility and the macroeconomic environment (Table 2). Given that the 2007-2008 crisis had a very strong impact on labour market outcomes, we thought that it would be useful to examine the 16-year period (between 2000 and 2015) as it is and also divided into two periods. Thus we have run regression for a total of three periods: the whole period (2000-2015), the years before the crisis (2000-2006), and the years of and after the crisis (2008-2015).

5. SUMMARY OF THE RESULTS

In the following we describe the three theses based on the purpose of the dissertation, the hypotheses formulated and the results of the research.

Thesis 1: Youth unemployment is typically lower in the EU countries where there is greater flexibility in terms of wage flexibility and flexibility of working time, i.e. atypical forms of employment are more widespread.

The results of our survey clearly supported the fact that in the EU Member States the increase in the wage flexibility and the flexibility of working hours has been coupled with declining youth unemployment, i.e. increasing labour market flexibility in these countries is indeed contributing to the improvement of the labour market situation of young people. (However, the role of the dimension of mobility is not so obvious.) In other words, youth unemployment is typically lower in those countries of the European Union where atypical forms of employment are more widespread. This was true in the years preceding the economic crisis (2000-2007), as well as during and after the crisis (2008-2015). The analysis is limited by the fact that the findings on the quality of employment cannot be deduced from it.

² The least squares method (Ordinary Least Squares, OLS) is used to obtain parameter estimates in a way that minimizes the summed square of residuals i.e. the sum of the squared differences between the actual value of the dependent variable for each observation and the value predicted by the function. Of all the linear estimation functions, OLS estimates will have the smallest standard errors. And it is not even necessary for the dependent variable to follow a normal distribution (Sajtos-Mitev, 2007).

³ <http://gretl.sourceforge.net/>

Thesis 2: While some characteristics of flexible labour markets have a different impact on employment of younger and older generations, it cannot be said that greater flexibility would lead to a more favourable position for a given age group on the labour market.

Although the theoretical approach suggests that young people are more likely to benefit from flexible labour markets than adults, our empirical analysis has not substantiated this. In other words, in general, for all age groups (15-24, 25-54, 55-64, and 15-64 years), it is true that increasing wage flexibility and working time flexibility mostly results in improving labour market outcomes, while the effects of the indicators of mobility are mixed. It is also worth noting here that the quality of employment was not taken into account during the analysis – so there may be differences between the age groups in this regard.

Thesis 3: There is no clear link between the amount of public expenditure on labour market policies and youth unemployment in the Member States of the European Union.

According to our findings, increasing public expenditure on active labour market policies (given in the proportion of GDP) has a positive impact on employment rates, but the expansion in spending on passive labour market policies has raised unemployment. This suggests that basically it is not the amount of money spent that is important, but quality of the (active) labour market instruments used.

The *novelty* of the research and dissertation is that it deals with a problem of the economic policy of today, both from theoretical and practical point of view. There has so far been few research specifically focusing on young people's employment in the context of labour market flexibility, moreover, the economic crisis at the beginning of the millennium has also highlighted fundamental structural problems that may change the previously adopted theoretical framework.

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