THE EU LABOUR MARKET
(AS VIEWED THROUGH THE PRISM OF ELASTICITIES)

Head Assist. Prof. Atanas Vladikov, PhD in Economics
The University of Plovdiv,
Faculty of Economic and Social Sciences

Abstract: This paper discusses both theoretical paradigms and applications of labour market elasticities within the European Union of 28 member states. The paper is based onto a recent research (2014-2016), conducted by the author upon the effects on the EU-28 labour market, based on general models, explaining behaviour of elasticities of labour supply-demand sets of equilibriums. The paper employs the doctrine of employment-at-will, and therefore, the main theoretical framework for reasoning and explaining the effects on the EU labour market is an adapted Nash Bargaining Equilibrium on the labour market. Based on voluntary searching and matching of interests of employers and employees, the labour market is analyzed through the set of labour elasticities on micro- and macro-levels of the EU economy.

Key words: European Union, EU labour market, labour market elasticities.

JEL: J22, J23, J31, J32, J40.

Introduction

Explaining of single-economy labour market relations is always related to a set of conditionalities. From this point of view, analyzing the EU-28 labour market relations – which is a function of 28 integrated economies – is more than a challenge, as there are numerous factors to be taken into consideration in a single cohesive analytical set of models.

The pivotal line of reasoning is based on the free labour bargaining between the agents (employers and employees) on the EU labour market.
Method of Research

This Paper is based on a 3-year research study (2014-2016), which resulted into 230-pages monograph in Bulgarian language, published in 2016 by the author. The research is built upon few steps, followed by the author: (1) to collect enough publicly available statistical data and verify whether the theoretical concepts of labour market elasticities correspond to the reality of the EU labour market; (2) to question whether corresponding links – labour theory-EU labour market reality – confirm or refute theoretical lines of reasoning; (3) to track-down and synthesize whether theoretical dimensions of labour market framework of elasticities apply to the EU market; (4) to analyze the results and interpret them, utilizing the logic of the free market arguments taking into consideration labour market regulations; and (5) to explain in an understandable way the labour market phenomena, resulting from observation of behaviour of labour market elasticities.

Therefore, analyzing the single EU labour market is a multi-layer issue, evolving in a long-run one. And the analysis has led to some controversial results.

Generally speaking, EU labour market trends are shaped by a slow, but steady process of member-states following recommended policies by the EU public authorities, particularly in the recent years, which is not the case if the single EU labour market is compared to the Asian or Latin American economies. More specifically, there is an investigation module onto the EU institutionalized recommendations and public policies applied to the EU economy.

Next to the institutional recommendations, the EU intensively funds different policies for economic cohesion, based on social and labour market priorities, in contrast to other supranational or continental markets of labour force. Henceforth, the study of the problem is centered upon integration of separate labour markets in a single market space (EU economy), grounded on the doctrine of the employment-at-will. Furthermore, EU institutional interventions and recommendations for change of labour market policies are subject to systematic review, in order to harmonize the labour market rules and regulations within all member states. Another dimension of the method of study is the specific investigation of the single member-states policies, as some are striving for greater level of integration to the EU single market – such as the “new member states, NMS”, accepted in 2004, 2007, and 2013; while other countries demand that labour market integration be defined on certain common benchmark criteria; and also, third countries – such as the United Kingdom – do not accept fuller integration, follow their own way of reasoning, modify the overall EU labour market trajectory, and even strive for
exiting the EU. Hence, the research method is based on observing, quantifying, and typifying the trends and processes on the single EU labour market directly related to the sets of labour demand and labour supply elasticities. However, it has to be stressed that there is not enough available data or data are incomplete or not available at all for most of the EU member states. This is one of the main reasons different researches on labour market elasticities to be biased to some extent.

Furthermore, for the NMS of the EU-28 there is significant lack of studies to demonstrate what the behaviour of labour market elasticities is. And, it has to be added that the applied methods to collect data for the dynamics of wages, and perceptions to job switches and labour mobility are under serious discussions, at present. Hence, verification and evaluation processes are subject to further methodological and collection data refinement.

**Discussion**

Firstly, if specific attention is paid to behaviour patterns of labour demand elasticities, it is necessary to underline the fact that some early theoretical reasoning may be found in A. Pigou’s works. He demonstrates that the effect of substitution (substitution of a costly factor of production to a cheap factor of production) has asymmetric nature (Pigou, 1934).

Theoretically speaking, there are two central lines of reasoning in this respect – to keep constant the input factors of production, including labour as a productivity growth factor and account constant level of production; this is called Hicks Elasticity of Substitution (after J. Hicks). The other option is to change all factors of productivity – except one or two, and this shall result in a change of the overall level of production; this is called Pigou Elasticity of Complementarity.

Having in mind that numerous analysts focus their researches onto the end-effects of productivity, there may be utilized a classification of the “family” of elasticities. Such a classification is delivered by D. Stern (Stern, 2011), where Allen Elasticity of Substitution, Antonelli Elasticity of Complementarity, Morishima Elasticity of Substitution, Morishima Elasticity of Complementarity, Hicks Elasticity of Substitution, and others are presented.

When elasticity analysis is applied to real data, there could be found that the effect of substitution of labour is significant – over 0.30 in some cases (Hamermash, 1993).
This stands to mean that in small changes of the price of the input labour resource, companies may demonstrate propensity to change it with other input factors. However, this does not relate to substitution of labour with energy resources – the values are close to zero and this is interpreted as high degree of inelasticity. Based on the theoretical framework and investigation of elasticities behaviour, it shall be underlined that economic integration of the EU is driven by higher degree of interdependencies of labour markets of separate member states; henceforth, demonstration of coefficients of labour demand elasticities are greater.

Comparing the elasticity model of M. Slaughter (Slaughter, 2011) for the US economy and the suggested model of Andersen, Holdrup, and Siorensen (Andersen, Haldrup, Sorensen, 2000) for the EU economy, it may be seen that not only EU-wide integration, but international integration changes significantly the elasticity of demand of labour.

In other researches such as the study of A. Adam and T. Moutos (Adam, Moutos, 2014) the elasticities of companies’ demand of labour are computed as weighted average for 23 industry sectors for 16 EU member states and these elasticities vary within the range 0.26 – 0.43. The authors conclude that when wages diminish within the periphery states of the Eurozone, this would trigger comparatively negative effect on the economic growth of these countries; and this effect is statistically significant. Speaking broadly, in macroeconomic perspective – decrease of wages would exacerbate the macroeconomic stability in the EU periphery member-states.

In addition, there are some other researches, such as those of L. Katz (Katz, 1998) and those of D. Card, J. Kluve, and A. Weber (Card, Kluve, Weber, 2009) who also discuss the problem. In the light of those researches it should be assumed that liberalization of trade regiments among the EU member-states to mark some greater degree of elasticity in labour demand, this is not the case. A possible explanation for the lack of theoretical causalities is that labour markets are subject to numerous legal and institutional regulations.

In addition, as a result of the last economic crisis and some sector frictions there are enterprises, which are totally business loaded, and others which do not load the productive capacity to the extent they are capable of. Hence, in some sectors rates of unemployment will be available, in others – there will be deficits of qualified professionals, particularly in the high-tech and high-advanced sectors. Here is why, to the traditional pool of factors composing labour force characteristics, such as: age, gender, educational levels, employers think over factors, such as technological change, job image, intellectual level of organization and execution of work, and others, which create additional costs to employers. For example, these cost factors result in
very high job offers at developed labour markets, such as the labour market of Netherlands, where the average gross pay rates approximate at 46,000 Euro per year for 2011; the German market job offers approximate at 43,000 Euro (2011), in Sweden – 41,000 Euro (2011). In other – less developed economies, such as Hungary these rates are about 9,900 Euro per year, in Latvia – 8,400 Euro, and in Bulgaria – 4,600 Euro (Eurostat, 2012). These figures may be translated as indicators that the potential of employers within different labour market realities of the “single” EU labour market is different.

Moreover, not only productivity of labour within different European enterprises is different, but also cost levels of employers to create and maintain jobs are different.

These factors unconditionally reflect into wage rates in more and less developed EU member-states.

On the other hand, the drive of employers to combine different proportions of labour and capital into their businesses results in greater dynamics of the EU labor market, particularly when it comes to high-end high-paid sectors of intellectual labour, such as the IT sector, the pharmaceutical sector, the financial and banking sector, and other leading economic sectors. Consequently, from employers’ viewpoint the family of elasticities, which would reflect similar type of behaviour would increase, as the question of quantifying and measure intellectual labour input per employed is an open one to a great share of the EU employers.

Furthermore, unresolved remains the issue on clear disbalances between the capital and labour resources on enterprise level within the European Union. Additional complexity to this topic brings the question on how acquired labour skills, knowledge, and habits in one EU member-state by an individual are applied and correspond to expectations of employers from other EU member-states. Here is why, the central issue for productive labour turns to be the issue whether labour force of an individual (or group of individuals) is taken to stand as “normal”, “inferior”, or “superior”. This opens a totally new field of labour market researches on the single EU market.

Results

The EU-wide economy is characterized as an economic block where labour contracts are signed purely on the free will of economic agents (both employers and employees), as the employment-at-will doctrine is applied by legal definition, as explained by Clarkson, Miller, Jentz, and Cross (Clarkson, Miller, Jentz, Cross, 2004). Hence, labour mobility within the EU single labour market is taken as a “collective good”, which would not exist if it
weren’t the main freedom of the EU for movement of goods, services, capitals, and people. From this point of view, the EU-28 labour market is very dynamic as economic integration promotes free searching and matching of interests of the parties on the labour market.

Another dimension of reasoning is whether the Intra-EU market is “open” or “closed” for the labour force mobility and companies’ production facility migration within the EU single market. It has been discussed by different analysts, such as Ed. Leamer (Leamer, 1995), D. Rodrik (Rodrick, 1997), and A. Wood (Wood, 1995), for example, who defend the point that in open economy individuals without qualification would demonstrate greater degree of elasticity rather than in closed economy. Therefore, if employing this viewpoint in the framework of elasticity reasoning, it could be stated that jobs, which are created in a closed economy do not foster enough active labour supply and do not inspire bearers of labour force to be more initiative. Besides, employers in a closed economy have a greater level of confidence that they would search and find successfully employees in comparison to employers acting in an open economy.

Taking into consideration the globalization factor and “opening” of more and more countries to trade with one another, it is easier to comprehend why the process of labour migration from the “New Member States” (NMS) of EU (those accepted in 2004, 2007, and 2014) towards “elder” states of EU was extremely intensive in poorly educated, non-educated and marginal groups of individuals in comparison to well-educated, and well-qualified. In this sense, greater degree of integration of EU member-states shall be taken along with greater degree of labour force mobility, and particularly the labour force mobility in individuals with lower educational and work background profiles.

Here is the place to underline that Bulgaria’s labour market reality is characterized with specific market strategies of employers, which are predominantly neoliberal in terms of perception of what is right and what is wrong on the labour market. To a great extent, employers’ perceptions in Bulgaria oscillate onto the idea of labour force homogeneity, although this is not the case. This is why more profound researches are particularly needed for Bulgaria to distinguish behaviour of national labour market elasticities, and sector elasticities.

Furthermore, it has to be clearly stated that for more than a decade Bulgarian employers’ associations and their representatives demonstrated ultra-neoliberal attitude as they resisted and strongly opposed, firstly, introduction of the minimum wage, and secondly, its increase in time adjusting to inflation differentials. Also, in 2016 there were serious public actions of some associations to boycott the minimum wage. It must be added
that still, there is not officially approved methodology or detailed analyses of
the effects of the minimum wage on employers and employees behaviour.
Although there are some statistical difficulties and lack of data for elasticities’
behaviour, there are data which demonstrate that there is some elasticity of
labour demand on macroeconomic level. It was demonstrated by Pl. Petkov
(Petkov, 2009) that at 1% increase of the overall level of employment, the
GDP of Bulgaria would increase by 0,58% per quarter. Clearly, there is a
diminishing returns-to-scale trend for a 10-year period, according to Pl.
Petkov. However, recommended rates of elasticities for developed market
economies is about 0,7% (Beeby, Hall, Henry, 2000).

Although there are some data to analyze labour market elasticities on
macroeconomic level, a common trait for most of the EU member-states is the
lack of enough reliable time-series data.

This is a comparatively new issue for the EU-wide economy and there
is no single methodology synchronized among prominent analysts of the EU
labour market. No matter there are some difficulties in collecting data about
this issue, there are some researchers, such as B. Koebel (Koebel, 1998), A.
Hijzen and P. Swaim (Hijzen, Swaim, 2010), G. Aguilar and S. Rendon
(Aguilar, Rendon, 2008), and L. Arnone, C. Dupont, B. Mahy and S. Spataro
(Arnone, Dupont, Mahy, Spataro, 2005) who have worked extensively on
labour market elasticities issue. In addition to theoretical researches, it is
valuable to mention that there are some recent figures (2014) on elasticities
coefficients, which are result of the research of A. Lichter, A. Peichl and S.
Siegloch (Lichter, Peichl, Siegloch, 2014), which provide the following table
of elasticities of aggregate demand of labour.

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Values (sorted by descending order)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Countries of Continental Europe</td>
<td>0,299</td>
</tr>
<tr>
<td>USA; Canada</td>
<td>0,169</td>
</tr>
<tr>
<td>Countries of Eastern Europe</td>
<td>0,102</td>
</tr>
<tr>
<td>United Kingdom; Ireland</td>
<td>0,075</td>
</tr>
<tr>
<td>Countries of North Europe</td>
<td>0,038</td>
</tr>
<tr>
<td>Countries of South Europe</td>
<td>0,022</td>
</tr>
</tbody>
</table>

Source: (Lichter, Peichl, Siegloch, 2014, p. 8)
This table illustrates the correlation that to 1% change in wages, there will be 0.30% change in employment in countries of Continental Europe, such as France, Austria, and Germany, for example.

On the other hand, the data shown for countries from South Europe, such as Greece, Italy, and Spain, where only 0.022% change will be registered at 1% change in wages, that is – the countries from South Europe demonstrate totally inelastic behaviour on aggregate labour demand. This table confirms the hypothesis of heterogeneity of labour and the intuitive assumption that there will be significant differences in labour market elasticities. In this sense, induced employers’ initiatives to offer higher wages will trigger different effects in different EU member-states.

**Conclusion**

Taking into consideration the labour market dynamics of EU-28, it is scientifically correctly to underline the fact that statistical and panel data on labour market elasticities are subject to refinement. For a large number of member states of the EU such data is not available. The prevailing sets of collected data are valid for the 70s, 80s, and late 90s.

It is worth underlining that the single EU labour market brings more options for labour mobility and this is coupled with longer periods of adaptation and matching of the bearers of labour force, who also need to remodel their labour habits. Hence, although there is greater labour mobility on the single EU labour market, the productivity growth by sectors is not at the levels that companies expect it to be.

It has to be clearly stated that companies’ demand of labour is a function of numerous variables within the great sense of the word “employers’ interests”.

Employers in EU utilize specific and complex approaches in labour market matching of interests – it is not only the wages as the main driver they utilize, it is also the wide range of motivators, such as flexible working shifts, part-time jobs, monetary and non-monetary incentives, job switches, and other factors that they use.

In advanced economies in the EU, such as Sweden, Finland, and France – employers utilize the approach for social adaption and integration along with accommodation policies and packages for financing or co-financing schooling of children of the employed. This is particularly valid for the market of professionals. In other countries, such as Germany and Austria, for example, employers may finance specialized language courses for the employed. Therefore, one of the main arguments on the labour market is
heterogeneity of the labour force and nature of labour load on a company level.

To summarize, heterogeneity of the EU labour force produces a unique model of multiple labour market equilibria in different EU member states, and single EU labour market is far from existence yet.

References


CONTENTS

Delcho Poryazov
Economy and Society: Highlights / 3

Andrey Zahariev
Financial Science in Changing Europe – Challenges and Perspectives / 16

Dimitar Kanev
Why Trump Won the Elections – in View of the Prospect Theory / 27

Atanas Vladikov
The EU Labour Market (as Viewed through the Prism of Elasticities) / 40

Kalina I. Durova
Cohesion Policy of the European Union: Evolution, Challenges and Prospects / 50
Economy and Society: Highlights

Financial Science in Changing Europe – Challenges and Perspectives

Why Trump Won the Elections – in View of the Prospect Theory

The EU Labour Market (as Viewed through the Prism of Elasticities)

Cohesion Policy of the European Union: Evolution, Challenges and Prospects
Requirements to be met when depositing articles for Narodnostopanski arhiv journal

1. **Number of article pages:** from 12 to 25 standard pages
2. **Deposit of journal articles:** one printout (on paper) and one in electronic form as attached file on E-mail: NSArhiv@uni-svishtov.bg
3. **Technical characteristics:**
   - performance Word 2003 (minimum);
   - size of page – A4, 29.31 lines and 60-65 characters on each line;
   - line spacing 1,5 lines (At least 22 pt);
   - font – Times New Roman 14 pt;
   - margins – Top - 2.54 cm; Bottom - 2.54 cm; Left - 3.17 cm; Right - 3.17 cm;
   - page numbering – bottom right;
   - footer text – size 10 pt;
   - graphs and figures – Word 2003 or Power Point.
4. **Layout:**
   - title of article, name of author, academic position and academic degree – font Times New Roman, 14 pt, with capital letters Bold – centered;
   - workplace, postal address, telephone and E-mail;
   - abstract in Bulgarian up to 15 lines; key words – 3 to 5;
   - JEL classification of publications on economic topics (http://ideas.repec.org/j/index.html);
   - main body (main text);
   - tables, graphs and figures are software inserted in the text (they should allow linguistic corrections and translation in English). Numbers and text in them should be written with font Times New Roman 12 pt;
   - formulas are inserted with Equation Editor.
5. **Rules for footnote:** When citing sources, authors should observe the requirements of APA Style at http://www.apastyle.org/ or at http://owl.english.purdue.edu/owl/resource/560/01/ or at http://www.calstatela.edu/library/guides/3apa.pdf.
   Each author is responsible for promoting ideas, content and technical layout of the text.
6. **Manuscripts of lecturers without an academic rank** should be accompanied by a transcript of the minutes of the Department meeting at which the proposed paper was discussed.

From 1st of January 2017 the English language title of the journal is changed from “Narodnostopanski archiv” (transliterated from Bulgarian) to “Economic Archive”.

Authors of papers published in Narodnostopanski arhiv journal are responsible for the authenticity of the materials.

From the Editorial Board

www.uni-svishtov.bg/NSArhiv