

## 10. The Role of Unemployment in the Regional Competitiveness

Bettina Martus

*By the emergence of the global competition regional competitiveness becomes more and more important. According to the Organisation for Economic Co-operation and Development and the European Union, the relative high rate of employment and incomes are necessary for competitiveness. Employment and incomes are very important but we must not forget that unemployment is one of the most significant problems within the European Union nowadays. Rising unemployment rates decrease regional living standards and competitiveness.*

*Unemployment may have many causes. Different enterprises have different reasons to pay higher salaries compared to the market clearing wage. This results in reduced employment and a move away from equilibrium. Higher wages may enhance labor productivity - another reason for companies to apply them. In my study<sup>1</sup> I will demonstrate different models to analyze corporate decisions which can be the reasons of wages being raised above the market clearing wage. My main aim is to study the role of the unemployment according to the regional competitiveness. Most of the competitiveness gradations contain unemployment as an indicator but what kind of role has it? Have the employment and unemployment a positive strong nexus on the regional competitiveness or not?*

*Keywords: unemployment, EU, competitiveness*

### 1. Introduction

Unemployment presents a significant issue in several developed and developing countries. The number of young as well as permanent unemployed people is remarkable in more countries of the European Union. Although several regional and interregional program and objective were established to resolve the problem, the desired effect has not been achieved. So why is this such an important question, why do we have to deal with it? Because it is not only the people's subsistence and standard of life that depends on it, but also the regional competitiveness which serves the regional economy development.

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<sup>1</sup> Present paper is supported by the European Union and co-funded by the European Social Fund. Project title: "Broadening the knowledge base and supporting the long term professional sustainability of the Research University Centre of Excellence at the University of Szeged by ensuring the rising generation of excellent scientists." Project number: TÁMOP-4.2.2/B-10/1-2010-0012

The regional differences became more pronounced in Hungary at the beginning of the 1990s – after the change of the political system. Many people could not find jobs, production relapsed, the economic structure was transformed (Rechnitzer 2000). Since the 2000s and since Hungary's entry into the EU in 2004, the concept of regionalism and regional competitiveness gathered more ground. Raising competitiveness and employment are among the main objectives of the European Union. Already the Lisbon strategy (to be accomplished by 2010) indicated: the European Union is to become the most competitive and most dynamically growing economy, increasing social efficiency and employment (EP 2010). Having failed to achieve this goal by the target deadline, and revisiting the plans, the EU 2020 Strategy was developed with the following objectives: intelligent growth (knowledge and innovation), sustainable development (resource efficiency, competitiveness) and inclusive growth which ensures high level of employment (EB 2010).

Thus we can see that competitiveness and employment constitute a crucial element of the international politics. But how do these two objectives link together? My study first presents the significance of competitiveness, one of its metric methods, and then I will look at unemployment and its causes which bear a close relation to competitiveness. The correlation between competitiveness and unemployment is studied through statistical methods in respect of the NUTS-2 level regions as defined by the European Union.

My research analyses economic activity, per capita GDP and unemployment. I aim to reveal the relationship between the three factors as supposing that the economic activity is high, the per capita GDP is also expected to increase and this will decrease the unemployment rate. But is this really the case?

## **2. Defining and measuring competitiveness**

The media talk more and more about competitiveness. No wonder, since with Hungary's entry into the EU in 2004, we have become the members of the EU and consequently we aim to achieve the common goals. With the establishment of the European Union, the member countries aim for the highest possible level of development which makes Europe competitive.

It is worth to get an insight into the history of the EU, because the member states have made several attempts to achieve national and international competitiveness since its

establishment. Raising the Structural Funds (previously ERDF) constituted perhaps one of the major milestones in the history of Europe because this resource ensures the realisation of the political goals (Farkas 2000, Lengyel 2003). With the establishment of the Fund the member countries were to moderate the notable regional differences thus balancing development and growth in respect of the member countries.

Further significant step towards competitiveness were marked by the Amsterdam Treaty, creation of the common single market as well as the Luxembourg Summit in 1997 for the amelioration of employment politics (Farkas – Várnay 2011). As formulated by the Union by 2010, the aim of the Lisbon Strategy is, as previously mentioned, to achieve the most competitive and most dynamically developing knowledge-based economy, which, unfortunately, could not be realised by the target date due to numerous reasons (EP 2010).

The means hereby listed renders only a small segment of the EU's instruments of competitiveness, however, they all intend to achieve development, to increase employment, to help enterprises as well as to increase the number of enterprises, to lift the standard of life of local habitants, to encourage R&D activity and to integrate equity. The EU 2020 Strategy is the most recent objective of the European Union which sets similar goals with the deadline of 2020 to achieve competitiveness. We can see that competitiveness is indeed the major aspect of the different provisions, but what does this concept really mean?

In Lukovics's terms (2008, p. 8.), competitiveness is *„the capability of enterprises, industries, nations or supra-national regions to permanently establish relatively high factor-earnings and relatively high employment level while being exposed to global competition.”* *“The competitiveness of the regions means the ability to generate products and services which can be sold at the national as well as at the international markets while the citizens reach a an increasing and sustainable standard of life”* (Lengyel 2010, p. 118.). Regional competitiveness means the acceleration of endogenous development which provides support for the enterprises and reinforcement for their innovation potential (Lengyel 2009, Lengyel 2010).

Several concepts of competitiveness use the expressions „standard of life,” „income,” „sustainability” whose base is certainly the utilization of endogenous resources. Such definitions are embedded in the EU's sixth regional report, in the European Competitiveness Reports, in Enyedi's concept of competitiveness, Török's and Botos's definitions (Botos 2000). These also show that per capita GDP, labour productivity and employment rate bear strong emphasis when

measuring competitiveness since these factors significantly influence the regional welfare (Lengyel 2010).

After completing the empiricism of my study, I proceed with the Huggins-model (2003) which is a three-level regional competitiveness model. The first level includes the factors that represent the inputs that are those which influence competitiveness in the long run (enterprise density, knowledge-based companies, economic activity). The second level contains productivity (with which we measure competitiveness) and the third level represents the results of the competitiveness (salaries, unemployment). But are these factors really the ones that determine the level of unemployment? Hereinafter, I will demonstrate unemployment and its reasons, furthermore, I will examine to what extent economic activity and per capita GDP correlate and how these relate to unemployment. As the factors hereby examined are included in numerous indicators of competitiveness, these data are supposed to bear a strong interaction with each other. Most indicators of competitiveness utilise unemployment as well when examining the competitiveness of the regions, therefore it is not this indicator that define the level of unemployment but it serves as a basis for it. Nevertheless, in the present case unemployment is not considered as an indicators defining unemployment but as an output defined by competitiveness.

The statistical data were collected for the NUTS-2 regions of the European Union. This planning and statistical region includes areas with population between 800 000 and 3 millions, out of which there are currently 273 in the European Union. Data were downloaded from the EU's official website, the Eurostat. I have examined three indicators during my research: GDP/capita (productivity), activity rate and unemployment rate. As for the time periods, I have surveyed three years: 2000, 2005 (years before the crisis) and the post-crisis 2010. The statistical data for 2000 and 2005 are sometimes incomplete, therefore these years do not yield a clear image in my research, however, the 2010 statistical can be considered complete. My study analyses the 10 supposedly most competitive and the 10 supposedly least competitive regions per annum, along with their activity and unemployment rates. According to Huggins's model, productivity will be defined by enterprise density, by the number of knowledge-based companies and by the number of economically active people. My study takes only the activity rate as a basis, looking at the effects of this indicator on the GDP produced (that is on competitiveness). To Huggins, the output is (the decrease of) unemployment and the increase of salaries. The activity

rate and the unemployment rate hereby examined refer to age group 15 and above because there is no data available at the Eurostat website for the age group 15-64 prior to 2007.

Table 1 indicates the correlations between GDP/capita, activity rate and unemployment rate in 2000, 2005, 2010. As we can see, there was no relation between GDP and activity rate in 2000 and 2005 but in 2010 there was a relative strong relation between these two indicators. We can see the correlation of the GDP/capita and the unemployment rate too. In examined years there were strong negative relations between these two indicators which means when the GDP/capita increased the unemployment rate declined.

Table 2 indicates that the 10 most competitive regions (based on GDP/capita) have not changed a lot during the past years. Their high GDP rate (around 60%) links with relatively low unemployment rate. In 2000, there were only 2 regions among the best 10 which had an over 10% unemployment rate and in 2010 there are no such regions among the best 10, what's more, the unemployment rates of the previous years have become lower while the activity rates, similarly to the GDP produced have become higher in these regions. This means that more economically active people could contribute to increasing competitiveness and decreasing unemployment. The indicators examined could certainly be influenced by further factors but we can detect their interaction.

Table 3 shows interesting data. Although Romania and Bulgaria joined the European Union only in 2007, I could obtain data also for these countries from the Eurostat website and thus we can see how these two countries developed before and after the EU entry (if they have). Examining the three years clearly shows that approximately the same NUTS 2 regions occur among the least competitive regions. These data of 2000 indicates regions with relatively high activity rate and low unemployment rate and vice versa. The year 2005 seems more balanced, productivity increased in the regions, the activity rate is around 50-55% and the unemployment rate around 10%, or in most cases even more. By 2010 these figures render an even clearer image. The weakest of the 10 regions has the lowest activity rate and it links with relatively high unemployment rate, compared to the other nine regions. We can see that it is not necessarily the area with the least number of economically active people which will be the least productive, however there interaction with each other, as well as with the unemployment rate can be demonstrated. In the first half of the 271 NUTS 2 regions, we can often trace unemployment rates of 3-4-5% which naturally couples with high competitiveness. On the other hand, quarrying the

second half of the hierarchy, we see decreasing competitiveness and 9-10% or even higher unemployment.

Table 1 Correlation between GDP/capita, activity rate and unemployment rate

		2000 GDP/capita	2000 Activity rate	2000 Unemployment rate
2000 GDP/capita	Pearson Correlation	1	-,032	-,465**
	Sig. (2-tailed)		,606	,000
	N	265	265	265
2000 Activity rate	Pearson Correlation	-,032	1	,272**
	Sig. (2-tailed)	,606		,000
	N	265	265	265
2000 Unemployment rate	Pearson Correlation	-,465**	,272**	1
	Sig. (2-tailed)	,000	,000	
	N	265	265	265
		2005 GDP/capita	2005 Activity rate	2005 Unemployment rate
2005 GDP/capita	Pearson Correlation	1	-,024	-,415**
	Sig. (2-tailed)		,702	,000
	N	265	265	265
2005 Activity rate	Pearson Correlation	-,024	1	,249**
	Sig. (2-tailed)	,702		,000
	N	265	265	265
2005 Unemployment rate	Pearson Correlation	-,415**	,249**	1
	Sig. (2-tailed)	,000	,000	
	N	265	265	265
		2010 GDP/capita	2010 Activity rate	2010 Unemployment rate
2010 GDP/capita	Pearson Correlation	1	,445**	-,349**
	Sig. (2-tailed)		,000	,000
	N	270	270	270
2010 Activity rate	Pearson Correlation	,445**	1	-,298**
	Sig. (2-tailed)	,000		,000
	N	270	270	270
2010 Unemployment rate	Pearson Correlation	-,349**	-,298**	1
	Sig. (2-tailed)	,000	,000	
	N	270	270	270

Source: Eurostat (2013)

Table 2 Order of the 10 most competitive regions based on GDP/capita (Euro) with the respective (over 15, %) activity and (over 15, %) unemployment rate for 2000, 2005 and 2010

2000				2005				2010			
NUTS 2	GDP/ inhabitant	Economic activity rate	Unemployment rate	NUTS 2	GDP/ inhabitant	Economic activity rate	Unemployment rate	NUTS 2	GDP/ inhabitant	Economic activity rate	Unemployment rate
Inner London	69 100	63,12	9,4	Inner London	83 500	62,08	7,8	Inner London	81 100	62,39	9,7
Luxembourg	50 300	53,41	2,3	Luxembourg	65 000	55,56	4,5	Luxembourg	78 600	57,70	4,4
Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest	50 000	51,56	14,9	Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest	57 300	53,86	16,3	Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest	61 300	55,47	17,3
Dresden	43 700	59,16	15,9	Dresden	51 100	58,77	18,3	Hovedstaden	52 300	67,61	7,8
Hamburg	42 100	58,90	7,8	Hovedstaden	46 700	:	:	Hamburg	52 200	61,32	7,1
Stockholm	42 000	74,48	3,2	Hamburg	46 000	59,88	10,4	Stockholm	50 700	75,01	7,1
Hovedstaden	39 200	:	:	Stockholm	45 900	74,42	6,7	Île de France	49 800	61,03	8,9
Île de France	37 100	61,66	8,7	Eastern	43 400	62,66	4,3	Groningen	48 700	62,94	5,3
Oberbayern	36 400	61,82	3,0	Île de France	42 300	61,62	9,0	Helsinki-Uusimaa	45 400	66,63	6,4
Wien	35 900	60,20	7,5	Buckinghamshire and Oxfordshire	40 400	68,95	3,5	Wien	44 300	59,99	7,3

Source: Eurostat (2013)

Table 3 Order of the 10 least competitive regions based on GDP/capita (Euro) with the respective (over 15, %) activity and (over 15, %) unemployment rate for 2000, 2005 and 2010\*

2000				2005				2010			
NUTS 2	GDP/ inhabitant	Economic activity rate	Unemployment rate	NUTS 2	GDP/ inhabitant	Economic activity rate	Unemployment rate	NUTS 2	GDP/ inhabitant	Economic activity rate	Unemployment rate
Yugoiztochen	1 800	48,35	21,4	Nord-Vest	3 500	51,94	5,9	Nord-Vest	5 200	53,75	6,8
Nord-Vest	1 700	63,01	7,0	Sud-Est	3 200	51,55	7,9	Sud-Est	4 800	52,23	8,8
Severoiztochen	1 600	51,90	21,9	Sud - Muntenia	3 100	54,95	9,2	Sud - Muntenia	4 800	55,62	8,3
Sud-Est	1 600	63,57	8,9	Sud-Vest Oltenia	2 900	57,10	6,6	Sud-Vest Oltenia	4 500	56,96	7,5
Severozapaden	1 500	43,23	27,9	Yugoiztochen	2 800	48,31	8,3	Severoiztochen	3 900	53,63	14,5
Sud - Muntenia	1 500	67,37	6,6	Severoiztochen	2 600	51,98	12,1	Yugoiztochen	3 900	50,49	10,6
Sud-Vest Oltenia	1 500	71,12	5,0	Nord-Est	2 500	58,59	5,7	Nord-Est	3 600	58,49	5,8
Severen tsentralen	1 400	48,32	16,7	Severozapaden	2 300	42,88	12,6	Yuzhen tsentralen	3 300	50,90	11,4
Yuzhen tsentralen	1 300	49,44	13,0	Severen tsentralen	2 300	47,37	12,5	Severen tsentralen	3 100	47,43	11,5
Nord-Est	1 300	70,57	6,8	Yuzhen tsentralen	2 300	48,83	11,0	Severozapaden	2 900	44,96	11,0

Source: Eurostat (2013)

Note: \* The 10 least competitive regions are only authoritative in 2010, because in 2000 and 2005 the Eurostat database indicated the lowest per capita GDP for Romania and Bulgaria among the NUTS 2 level countries whilst these countries were not yet EU members in 2000 or 2005.

Therefore Huggins's three-level competitiveness model does show regularity in respect of the NUTS 2 level regions of the European Union. Although this tendency does not necessarily appear in case of the first to tenth member of the order, on the whole, the more competitive regions had high activity rate in 2010 and low unemployment rate in most cases. The exceptions show regularity because of the presence/absence of the other factors – which were not examined by me. But if competitiveness means low unemployment, then how can this phenomenon emerge in the most competitive countries/regions? The following chapters examine the possible reasons behind the evolution of unemployment.

### **3. Development and concepts of unemployment**

These days unemployment presents one of the biggest problems all over Europe. Although Hungary is among the member countries of Europe and applies the principle of the “four liberties”, the local labour force is often caught in a difficult situation. The economist politicians failed to confine the increasing unemployment, either via the Hungarian economic politics, or via the EU objectives and programs. Similar problems arise in several countries of the Union, for example in Spain where youth unemployment poses the biggest issue, but we can find this phenomenon worldwide. This growing problem has negative effects also on the regional competitiveness. The relatively high incomes and relatively high unemployment fail to supervene. But how can these conditions and competitiveness achieved, if the relatively high incomes result in a shift from the equilibrium income? If market-clearing wages need to be applied, then sooner or later involuntary unemployment evolves. Can we talk about unemployment at all?

The neoclassic school within the economic paradigms says no claiming that prices and wages are perfectly flexible at the labour market, the market balance is achieved and there is no involuntary unemployment (Blahó 2012). However, this is contradicted by Keynes. Followers of the neoclassic theory believed in the automatic fulfilment of full employment. On the other hand, Keynes aimed to find what determines the level of employment if automatisms of the capitalist economy do not entail full employment (Mátyás 2003, Deane 1997, Hansen 1965, Blahó 2012, Szentes 1995). Operation of the market does not satisfy demand and hence unemployment

unfolds (Keynes 1965). Thus we can find ourselves in thinking in Keynes's terms when talking about unemployment which, in turn, has unfavourable effects on competitiveness.

But why is this important from the aspect of competitiveness? Because according to the universal concept of competitiveness, high standard of life can be reached by maintaining high employment rate, therefore the unemployment rate should remain low and the economic activity should be raised as much as possible, as employment of inactive people could also contribute to development. On the whole, decreasing unemployment can help in achieving the aim of competitiveness. But then why do not companies concede this and aim for higher employment since this could provide more opportunities to companies? With the increase of the employment rate, they could gain in an environment which could ensure higher growth (profit) and larger market for them. Then why do not they apply market-clearing wages? In the following chapter I will present the reasons behind increasing the numbers of the unemployed and thus decreasing the ratio of the employment level.

#### **4. The reasons behind unemployment**

There can be several reasons behind companies increasing wages over the market-clearing wages in their most rational way and thus they take a negative effect on movement of the unemployment rate. Makdissi (2011) counts the following reasons which could result in a shift from the equilibrium income: long-term contract model, efficiency wage model, nutritional model, labour turnover model, shrinking model and social model.

The *long-term contract model* – as its name shows - is based on the long-term collective agreements. The theory claims that the parties (employer and employee) agree on common issues and a sort of negotiation process commences between them which sets the level of future nominal wages (Fischer 1977, Barro 1977). Since these contracts are for long term, the parties have to wait for their contract to end before renegotiating the nominal wages. Estimates for the future price level are crucial in this process, because in case the price levels take different directions (the actual and the estimated), unemployment might evolve. The reason why pre-defined wages can result in unemployment in this case is that for example a time of recession might present active people who are willing to undertake the same job for lower wages. Wages remain in effect for long term but gradual salary adjustment techniques are applied during the contract which

observes the effective price and wages at the competitors (Taylor 1979, Taylor 1980). This serves as a sort of information to the workers and to the enterprises, and also as one of the factors of defining the new level of nominal wages at the end of the contract, the other being the labour market.

This model shows us that the rigidity of wages extruded the unemployed out of the labour market because real wages' rigidity along with wages over the equilibrium results in the labour force supply exceeding demand (Mankiw 2005), thus estimates play a crucial role in the negotiation process. Mankiw (2005), Hall and Taylor (2003) also highlights the crucial role of the trade unions. They may have a significant role in the negotiation position of the employees and thus they often receive more money from their employees to discourage them from joining the unions.

The next model is the efficient wages' model which contradicts the standard micro-economic theory. According to the micro-economic theory, wages equal the border productivity of the labour force, but here it is the salary level that defines the border productivity of the labour force. This means that if we increase the employees' wages, their productivity will also increase, that is the salary appears as a motivating factor here. This manner encourages companies to pay more to the employees to make them more productive, says this model. However, the increase shift the wages from the level of the market-clearing wages which means that supply and demand will not meet at the labour market, which will then result in unemployment (Makdissi 2011). This model may explain why employers do not decrease their employees' wages there is oversupply at the market (Mankiw 2005).

The *nutritional model* explains unemployment in the developing countries. The theory supposes that market-clearing wages are not sufficient to supply the third world's habitants with healthy / appropriate food that is to take in alimentary substances that are able to ensure concentration and effort during work all day. However, if we increase these wages and shift from the market-clearing wages, then quality of the consumed nutriment will also increase which raises the whole, consequently also the labour productivity. Similarly to the efficient wages model, shift from the market-clearing wages (increase) results in unemployment in this case, too (Makdissi 2011, Mankiw 2005). Naturally, we have to add that there are several other factors in the developing countries that contribute to the development of this process, since insufficient number of jobs, lack of qualification, etc. are also factors that obstruct development. The

employees' demands have to be fulfilled not only in physical terms but also mentally which is often difficult, as the developing world is characterised by brain drain, migration of the qualified (Wouterse 2011, Urbán 2011, Akokpari 2006), along with lack of demand for the unqualified.

When we employ a new employee, there are certain costs for the company. The expenses related to their orientation and training are significant for the employers, since once the employee is trained for the position, they will be considered as qualified, internal labour force which is valuable for the company. The *labour turnover model* disunites the external (that is inexperienced) employees and the trained, experienced colleagues (Salop 1979). In case the more senior employee leaves the company, the expenses incurred during in connection with his training and orientation are a loss for the company, in addition, recruitment of the new colleague also raises uncertainty. The employer has to assume more responsibility to avoid this uncertainty which can mainly be achieved by increasing the wages because the employee with low wages (for example market-clearing wages) may believe that they could easily find a job at another place with their knowledge and skills (Salop 1979). The labour turnover model confers an important role on the unemployment. Prior to quitting, the employees first "examine" the labour market opportunities, because if they have little chance to find a new job, they rather stay with their current employers or they may become voluntary unemployed. Increasing the wages may also extrude the active job-searchers who would work for lower wages while companies can employ less people with the increased labour costs. Nevertheless, it is often necessary for the employers to raise the wages because the new employee pertains to lower productivity, even by starting the training immediately, their inexperience withdraws their productivity (Salop 1979).

The employees use their discretion in deciding on the efforts made in order to complete their tasks. Although it is rather difficult to measure the employees' performance, in case the company thinks that the employee does not perform their work well, they may be sacked. If we calculated with the market-clearing wages at the labour market, then practically the employees would not have any motivation to perform more than the minimum in their work. If the employee is sacked, it will be easy to find a new job because these wages establish the balance, the new job will offer the same wages than the previous one.

In *the shrinking model*, the companies increase wages to avoid employees who are not performing well and thus provide more motivation. Certainly more people would like to avoid this sort of labour force and therefore their reaction will also be the salary increase and increase

of the labour cost will result in unemployment. If the unemployment rate is high, wages play less significant role because it would be difficult to find another job. This model also provides explanation for why different employers pay different wages to the employees despite the nearly identical work they perform (Shapiro – Stiglitz 1984).

The last model that provides reason for the unemployment is rather sociological (psychological), as suggested by the name: *social model*. In this theory, rewarding has a central role which can be realised by promotion or higher wages. The employer grants higher remuneration for the employee as a gift which then increases productivity. The employees receive higher salary if their performance exceeds the minimum requirements defined by the employer. The company is willing to pay additional amount to its employees which they could receive at another company for their work. It is important to highlight that we cannot consider the labour force simply as a production factor, but as a person with whom we have to work together; promotion and rewarding must be given prominence (Hyman 1942). It is also to be noted that rewarding should not be too frequent to make it pleasant. At the outset of the application, common conditions are established and expected by both parties, if the employer motivates the labour force with additional factors, productivity will increase. Certainly the gift cannot be defined individually, only for groups. Working in teams may help the employees, certain team norms will evolve and the sense of belonging somewhere may facilitate the employees' contribution towards the company and their colleagues. Increasing the teams' wages may of course also lead to the development of unemployment because we shift from the market-clearing wages (Akerlof 1982).

The models above present the micro-economic bases of the development of unemployment. Certainly the factors listed above all increase the unemployment rate which serves as a base for several competitiveness index, therefore competitiveness will expectedly decline being aware of this factor. The Huggins-model may eventually provide explanation for the development of unemployment in the most competitive regions.

## 5. Conclusion

Unemployment is an important tool of economic politics. Many companies/regions aim to keep the unemployment rate at a low level in order to improve competitiveness because the main goal is to permanently establish relatively high wages and relatively high employment level.

Huggins's model provided the basis for my research in which I have examined the relationship among activity rate, per capita GDP and unemployment rate. The economically active people serves as the output, to measure competitiveness, I have considered productivity as basis and changes of the unemployment rate as output. The subjects of my study were the NUTS 2 level regions of the European Union which proved the relationship among the three factors. Several competitiveness index considers unemployment as the determining indicator of competitiveness but on the whole we end up with the same results at Huggins. Low unemployment rate yields higher competitiveness and higher competitiveness links with lower unemployment rate.

If the ultimate goal is keep the unemployment rate at a low level in both cases, why do not economist politicians establish the conditions of full employment? Can they do it at all? The answer is: no. The involuntary unemployment emerges in any case as it is the situation between employers and employees that define the shift from the equilibrium wages. My study presented the unemployment models that resulted in a shift from the market-clearing wages.

To conclude, the importance of keeping the employment rate permanently at a high level has become evident in establishing regional competitiveness. This can be achieved by increasing the ratio of economically active people and by trying to keep the unemployment rate at the lowest possible level.

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