

# Sub Regional Disparities and Directions of Labor Migration in the Region of Vojvodina

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**Summary:** Changes in the period of economic transition in Serbia and Vojvodina region are leading to a significant disparities at regional and sub regional level on the labour market during the last decade. The purpose of this paper is to define the basic factors and directions of potential labour migrations in the region of Vojvodina among sub regions (counties) and cities, most of all towards Novi Sad as the centre of economic activity in the region and to compare the case of Vojvodina with other regions in some European countries (Spain, Bulgaria, Poland, etc). The sample of 2.000 respondents was formed and survey was conducted in the 7 counties of the region. The data were analyzed with methods of descriptive and multivariate statistical analysis (rank correlation and MDS analysis). Basic conclusions are that employment rate differences are increasing between sub regions and Novi Sad is by far the most desired destination for significant portion of working force in the region, especially of the most active population aged between 20 and 40 years because around 40% of that cohort wish to move to Novi Sad.

**Key Words:** Sub regional disparities, Labour migration, Vojvodina, Demographic transition, Multivariate analysis

**JEL:** R23

## Introduction

Changes in the period of economic transition in Serbia and Vojvodina region are leading to a significant disparities at regional and sub regional levels on the labour market during the last decade. Kis and Csileg (2007, p. 135) argue that Serbia in comparison with Europe is one of the countries where regional development disparities are at the highest level. Region of Vojvodina represents one of the most developed part of Serbia with 840.825 economically active inhabitants which is approximately 26% of all active inhabitants in the country according to the latest available data (Statistical Office of the Republic of Serbia, 2008b, p. 3). One of the main features of the working force in Vojvodina during the last decade is increased level of labour migrations with significant migrations between seven sub regions (counties) and towards larger cities.

Migrations in Vojvodina are evidently oriented to largest cities in the region (Novi Sad and Subotica) increasing the sub regional disparities. Significant fact is that total migrational balance in Vojvodina is negative with 32.736 immigrants and 34.661 emigrants but larger cities have positive migrational balance of 21.370 immigrants and 18.614 emigrants (Statistical Office of the Republic of Serbia, 2009, p. 301). Huber (2008, p. 3) discovered that regional disparities increased in almost all transition countries in the early years of transition, the regional distribution of labour market indicators has been relatively stable and there is some indication of regions diverging into two groups: a small group of well to do regions and a larger group of poorer regions.

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There are substantial disparities in labour market conditions in counties and cities of Vojvodina which support statements from Huber. Some counties are economically depressed with high unemployment rates, like North-Banat county (larger cities Kikinda, Ada, Kanjiža, and Senta) with 22,7% and South-Banat county (cities Pančevo, Vršac, Kovin, etc.) with 23,5% unemployment rate in 2007. These counties are coupled with low labour force participation rates and, consequently, low employment rates (35,5% and 40,5% respectively). In the cities of these regions the job creation and hiring rates are low, severely limiting the chances to escape unemployment. At the same time, in a small number of expanding sub regions unemployment is relatively low, the job creation rate is higher, and employment opportunities are plentiful, like in South-Bačka county, where the largest city of Vojvodina - Novi Sad is placed. Table 1 illustrates a particular dimension of labour market imbalances: differences in the unemployment and employment rates across counties.

Table 1: Unemployment and employment rates in the counties of Vojvodina (Statistical Office of the Republic of Serbia, 2008c, p. 22)

Sub region (county)	Unemployment rate 2005.	Unemployment rate 2007.	Employment rate 2005.	Employment rate 2007.
North-Bačka	27,4	19,2	35,1	42,8
Middle-Banat	20,3	20,8	44,6	39,6
North-Banat	11,0	22,7	41,6	35,5
South-Banat	17,7	23,5	45,1	40,5
West-Bačka	23,3	17,6	39,0	35,9
South-Bačka	18,3	16,1	45,3	44,1
Srem	22,1	18,2	44,1	39,7
Vojvodina	19,9	19,1	43,1	40,8
Serbia	20,8	18,1	42,3	41,8

Figure 1 illustrates the differences in employment rates in the years 2005 and 2007 between the most developed region of South-Bačka and other counties. We can see that differences are increasing with only one exception of North-Bačka county.

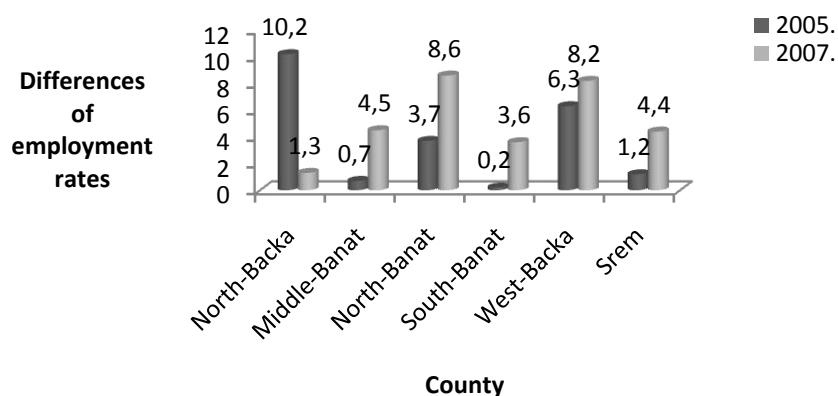


Figure 1: South-Bačka county vs. other counties in Vojvodina - Differences of employment rates in 2005 and 2007.

Rutkowski (2006, p. 28) argues that dispersion in unemployment rates in the European transition economies is substantial. The unemployment rate in the highest unemployment region is in most cases at least twice as high as in the lowest unemployment region (with Poland being

an exception). For example, in Bulgaria the unemployment rate in north-west region is 32 percent, compared with 16 percent in the south-western region. Rutkowski states that differentials increase with the level of regional fragmentation, i.e. when the analysis concerns a larger number of smaller regions. In Poland unemployment rates in 2001 ranged from a low 4,1% to a high of 35,7% at sub regional level (Ingham, Ingham, & Herbst, 2008, p. 4). In the case of Vojvodina the largest difference in the year 2007 is in the case of South-Banat where the unemployment rate is 1,46 times larger than in South-Bačka county. The conclusion is that differences are significant but not so dramatic as in the case of other transition countries, especially Bulgaria and Poland.

Unemployment inequality of sub regions and cities in Vojvodina is the consequence of strong regional concentration of job creation and employment growth. It is only a few counties where the job creation rates exceeds the job destruction rate and where the jobless face relatively good employment prospects. In most counties the rate of job destruction still exceeds that of job creation implying net employment loss. For example, Rutkowski, (2006, p. 29) discovers that in Bulgaria it is only the capital region where employment expands, in Croatia employment grows only in 4 out of 21 regions, and in Poland in 3 out 16 regions. The conclusion is that employment creation in regions of high unemployment has not picked up.

According to some authors (Kasanko, Barredo, Lavalle, Sagris, & Genovese, 2005), cities in developing countries are more dynamic and with more unpredictable growth comparing to cities in developed countries of Western Europe. Rutkowski (2006, p. 39) states that in countries of Central and Eastern Europe job creation and employment prospects are heavily concentrated around urban agglomerations with diversified economic structure and in particular with an expanding service sector. These centers are surrounded by economically depressed regions, often with situation one company – one town, where job opportunities are scarce and unemployment is high. Equilibrating forces are too weak to make the balance. Labour mobility in Central and Eastern Europe is relatively low and one of the many reasons is underdeveloped housing market.

The purpose of this paper is to define basic characteristics and to predict intensity of internal labour migrations of Vojvodina population toward most developed sub regions and its largest cities, most of all towards Novi Sad in South-Bačka county as economic, political and cultural centre of Vojvodina.

In the last decade in Vojvodina there were very significant migrations and concentration of population in larger cities of the region as prominent economical centers (Novi Sad, Subotica, Zrenjanin, etc.). According to latest census from the year 2002, in Vojvodina currently live around 2.032.000 inhabitants, from that number in city of Novi Sad (not municipality) is around 300.000 citizens or 14,77% of Vojvodina population. Ten years before the percentage was 13,16% (Vojvodina – 2.014.000 inhabitants and Novi Sad – 265.000). It is obviously that population is concentrating in Novi Sad. Because of that fact one segment of research is dedicated to relations of Novi Sad and other cities in Vojvodina and one of the goals is to explain why the city of Novi Sad is so much preferable in comparison with the rest of the region.

On the basis of theoretical background and previous research results, the following hypothesis were tested in this research:

1. In the region of Vojvodina labour migrations from one city to another will be intensified.
2. City of Novi Sad is by far the most preferable destination of internal labour migration in the region, both permanent and cyclical.

## Scientific Methods

The field work was conducted in the first half of the year 2008, in the 7 counties in Vojvodina. Data were gathered through questionnaires. The size of the sample was 2.000 respondents, aged between 20 and 40 years, because the people of that age are the most mobile cohort in the population. The theoretical background for this sample selection we can find in many scientific papers. Vojković, Devedžić and Penev (2006) argue that migrations are characterized by significant age selection and the most mobile population is in their twenties and thirties. In addition, Bover and Arellano (2002, p. 367) argue that a person aged 20 to 29 has between 15 and 20% higher probability of doing a short distance move than a person aged 30 to 44. The questionnaire had 11 questions about the quality of life in the cities and about propensity to migrate and find the job into another city. The questionnaire with additional questions was made for the citizens of Novi Sad for more detailed observation.

Why in the questionnaire is used the term „city“ instead of „county“? Population is not very familiar with the definition of counties in Vojvodina and they don't know what is the territory of every sub region. Secondly, real target of labour migrations are the cities, because they are the centers of economic activity and development. The usual situation is that in the county one or two cities are much more developed in comparison with the rest of the same sub region. Unfortunately, the majority of statistical data are available only on the sub regional level.

After the data collection, methods of descriptive statistics were used for grouping and graphical presentations. Spearman's rank correlation coefficient was used for testing the hypothesis. Multidimensional scaling technique (MDS analysis) was used to make the graphical presentation of population's perception about which cities in the region are similar from their preference point of view.

## Results

The respondents were asked to name the three cities in the region that are, according to their opinion, the best for living. Figure 2 is showing the graphical presentation of the answers.

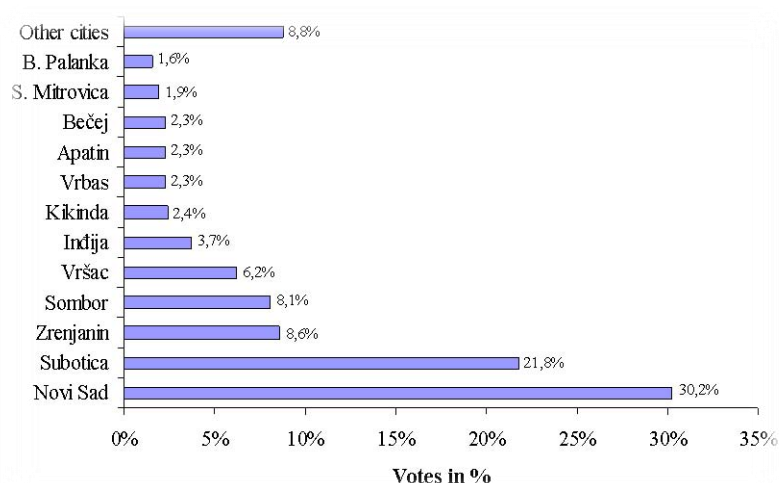


Figure 2: Percentage of the answers to the question: “Which city is the best for living in Vojvodina?”

In the case of intra-regional migrations in Spain (Bover & Arellano, 2002, p. 367), the probability of migrating is higher for people living in small towns than for people living in medium or large cities. In the case of Vojvodina, at the first sight it seems that order of cities by preference is the same as the order by size, but it is valid only for the first three cities on the list (Novi Sad, Subotica, and Zrenjanin). The fourth city by the number of citizens is Pančevo with 77.000 inhabitants but it is not on the list of the most preferable cities at all. In Pančevo is located petrochemical industry and it has difficult ecological situation with high level of pollution which has strong impact on the respondents' opinion.

Even if we ignore that Pančevo is not on the list, some smaller cities are much more preferred comparing to the larger ones. For example, the city of Vršac (36.600 inhabitants) and Indija (26.000) are on the better position in comparison with Kikinda (42.000) and Sremska Mitrovica (39.000). There are also Vrbas (26.000), Apatin (19.000), and Bečej (14.400) as better evaluated than Sremska Mitrovica and Bačka Palanka (29.000). Statistical analysis confirms that, because the Spearman's correlation coefficient is  $r = 0,69$ . That means that correlation between rank of cities by size and rank of cities by preference is significant, but we cannot say that it is very strong or functional. In other words, size of the city can tell us something about how much it is preferable destination for immigration, but it is just the part of the story because there are some other factors included.

Respondents were asked to name three the least preferable cities for living in Vojvodina (Figure 3).

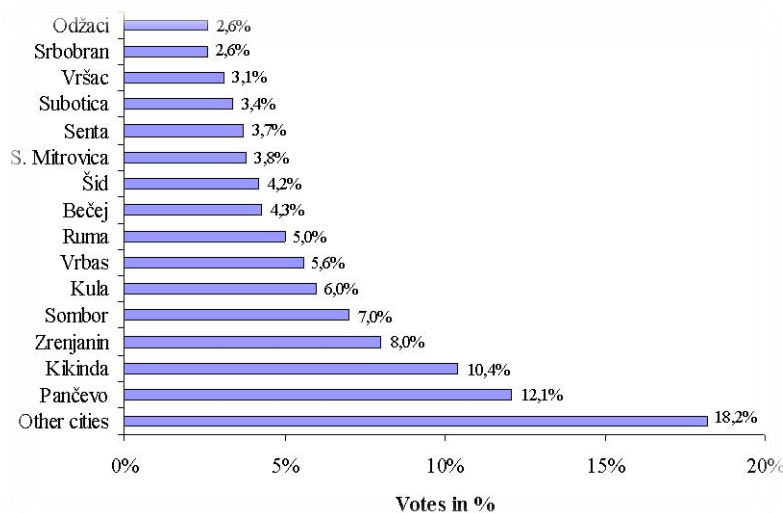


Figure 3: Percentage of the answers to the question: "Name three the least preferable cities for living in Vojvodina"

From the Figure 3 we can conclude that city of Pančevo is the least preferred city. It is not surprise that some cities are present on the both lists, as the best and as the worst cities. For example, Zrenjanin and Sombor are highly evaluated on both lists. Different respondents have different opinions and criteria and there is significant disagreement about these two cities. It is interesting that Novi Sad is not on the second list which only shows that opinions about job opportunities, wages, high quality of life and living standard in Novi Sad is undivided. This is circumstantial evidence that majority of respondents would migrate to Novi Sad if it is possible.

The following results were gained from respondents not living in Novi Sad, but in other 14 cities in the region. The goal was to discover what is the opinion of the population about the Novi Sad and what are the main reasons for moving to Novi Sad.

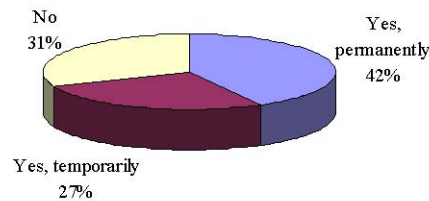


Figure 4: Percentage of the answers to the question: “Would you leave your town and come to live in Novi Sad if you can?”

On the basis of Figure 4 we can conclude that great portion of population aged between 20 and 40 years would move to Novi Sad if it is possible. In the future we can expect significant inflow of immigrants into Novi Sad. If we now the fact that according to latest census in Vojvodina live 546.000 citizens between 20 and 40 years old, and from that number outside of Novi Sad live 459.000, with probability of 95% we can expect that number of young people aiming to move to Novi Sad permanently is between 178.700 and 206.800, and additionally to move temporarily is between 111.300 and 136.600 new inhabitants!

What could be the main factors of slowing down the migration process and preventing people from moving to Novi Sad in such numbers? Clearly the same factors as in the case of Hungary, where the key factors which discourage migration are marital status, housing costs and schooling prospects for family members. People who consider labour migration as a solution to a problematic employment situation may have to face increased costs when moving, such as higher housing costs (Polyacsko & Balogh, 2007). For example, on the housing market, in January 2007, the price of m<sup>2</sup> in Novi Sad, in new building, was around 2.500 euro while in Subotica it was 650 euro.

The city of Novi Sad will be exposed to strong migrational pressure and that can cause serious urban, social and economical problems. These problems will hit not only Novi Sad, but also the counties where the outflow of population and especially labour force happens. We must have in our mind that the scope of this work is only the region of Vojvodina. There are some neighboring regions outside Vojvodina and their population also gravitate towards Novi Sad. For example, the region of Southwest Serbia (Mačva county) with more than 300.000 people.

The work from Vojković, Devedžić and Penev (2006, p. 46) confirms the previous conclusions because they state that relatively positive population flows in Serbia were strongly connected only for the most developed areas with large mechanical inflow of population, as in urban agglomeration such as Belgrade and primarily developed centers as Novi Sad.

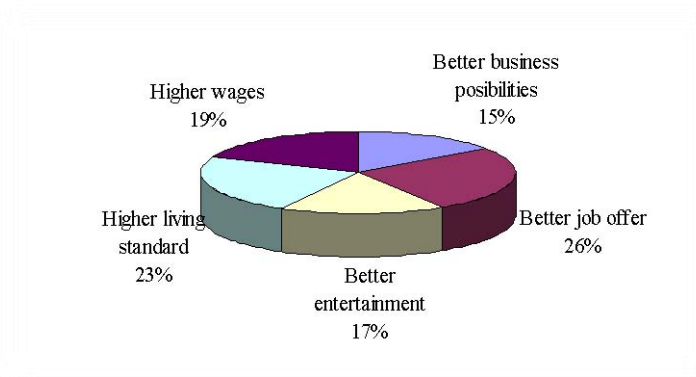


Figure 5: Percentage of the answers to the question: “What would be your motives for moving to Novi Sad” (multiple answers allowed)

Figure 5 is clearly showing the reasons for migrations and the main reasons have the economic nature. Between Novi Sad and other cities in Vojvodina there is a great difference in wage and living standard. In the year 2007, the average net income per employee in city of Novi Sad was 32.860 dinars. Only Apatin (34.825) and Beočin (40.127) have higher average incomes, while Kanjiža (31.143), Vršac (32.067) and Pančevo (32.180) are close. Other cities are well below the Novi Sad average, some of them even twice as much (Plandište – 14.948 dinars). If we look at the list of most preferable cities for living, through statistical analysis is concluded that there is a weak correlation between the place on the list and average wage (Spearman’s rank coefficient is  $r=0,275$ ), which means that we cannot simply explain the labour migration directions through wage difference among cities. The same conclusion is if we correlate the list of least preferable cities and the level of wage (Spearman’s rank coefficient is  $r=0,115$ ).

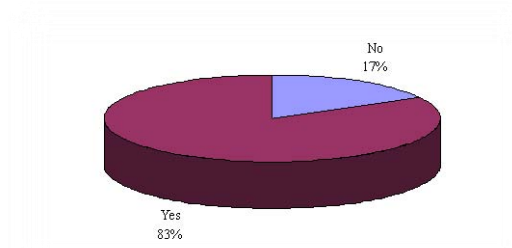


Figure 6: Percentage of the answers to the question: “Do you think that it is easier to find a job in the Novi Sad in comparison to your city?”

When it comes to offer of new jobs on the labour market in Vojvodina, the significant fact is that in January 2008 job offer in South-Bačka county (Novi Sad is in South-Bačka county) was 6.851 working places, and that is 37,38% of total job offer in the region (18.327) (National Employment Service, 2008, p. 48). Survey showed that participants were very familiar with that fact.

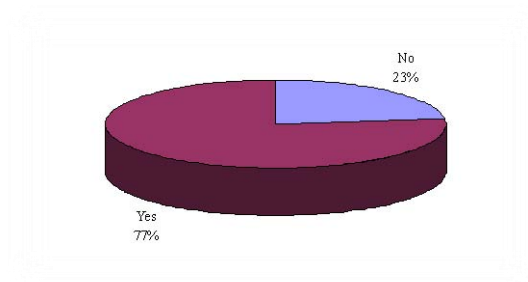


Figure 7: Percentage of the answers to the question: “Are the wages in your city to low in comparison with Novi Sad?”

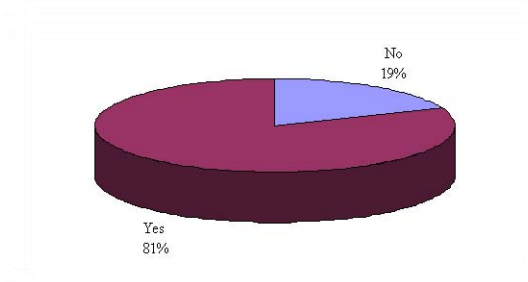


Figure 8: Percentage of the answers to the question: “Would you accept the job in Novi Sad if you get an offer?”

Figures 7 and 8 are the best illustration what the respondents think about economic and labour market advantages of Novi Sad because 77% of respondents think that their wages are to low in comparison with wages in Novi Sad and 81% will accept the job offer in Novi Sad.

On the basis of the table of distances and MDS analysis the conceptual map was constructed. Conceptual map represents the visual presentation of respondent’s perception about how much individual cities in Vojvodina are similar to each other from the respondent’s preference point of view. MDS analysis offers graphical solutions in several dimensions. If certain solution has low level of stress, then the theoretical data are well adjusted to original data and solution is acceptable. Because the 3D solution has stress level of 0,1233, we can conclude that 3D solution is acceptable way to represent the original distances among cities in the region. The solution include only cities with more than 25.000 inhabitants in order to gain clearer view at the map. The solution is presented in the Figure 9.



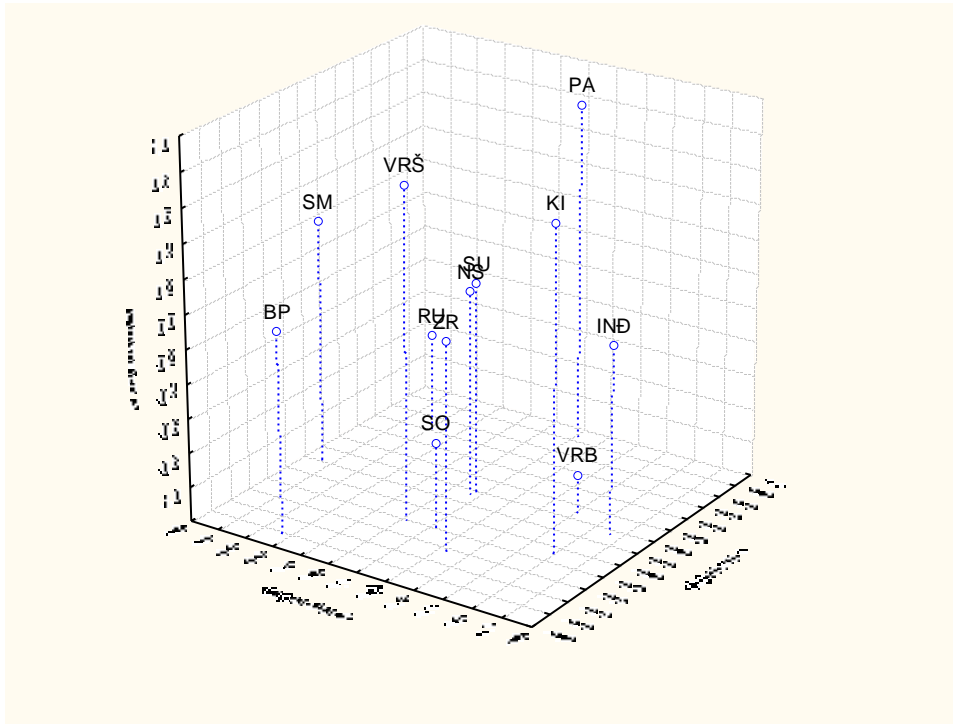


Figure 9: Three-dimensional disposition of cities according to respondent's preferences

For the clearer view the abbreviations of names were used. Novi Sad (NS on the map) has the central position on the picture because it is the most favorable city and the first choice for migration. The closest city is Subotica (SU), then Zrenjanin (ZR) and Ruma (RU). Other cities are significantly further from the centre. On the basis of MDS solution we can conclude that if we have to look for the “competition” to the city of Novi Sad it is only Subotica in the North-Bačka county as the second largest city in the region and only 10 km from Hungary which confirms the findings from Huber (2008, p. 3) about closeness of EU borders.

## Discussion

On the basis of the results we can draw the following conclusions about internal labour migrations in the region of Vojvodina as the answers to hypotheses from the beginning of the research:

1. On the territory of Vojvodina internal migrations will be intensified, most of all from one city to another, which is completely in context with late demographical transitional phase. Vojvodina is typical example of demographic transition theory and theory of transitional migration.
2. City of Novi Sad is by far the most favorable destination when it comes to internal labour migrations from one city or sub region to another on the territory of Vojvodina. Novi Sad is the goal of both permanent and cyclical migrations in the region.

Results from the analysis gave us some additional information, for example that North-Bačka county and city of Subotica are the only area in the region that are capable to compete with Novi Sad as the most favorable labour migration destination. This result confirms the conclusions that larger cities like Novi Sad and regions closer to EU borders have experienced higher growth and lower unemployment (Huber, 2008) because Subotica and North-Bačka county is the closest sub region to EU, near the border with Hungary.

If we define the typology of migration in the region of Vojvodina, we can conclude that it is intensive internal, voluntary, mostly economic and spontaneous with tendency to intensify in the following decade, while from the aspect of time as a criteria we can speak about both basic types: permanent (definite) and temporary (mostly cyclical) migration.

Demographic picture of Serbia and Vojvodina is inevitably changing and we can expect that in the following decade, with this pace of migrations, Novi Sad will have over 20% of total population in the region. The main reason for this is that economic differences are increasing during the last few years.

This paper is trying to fill the hole in the research literature about migrations and urban development in the region of Vojvodina as one of the most developed regions in Serbia and Balkans. Analysis of basic migrational characteristics has the great significance from many aspects of every society, most of all for social and economic development, especially in the area of labour market. For example, Serbia belongs to the group of East European countries with two digits unemployment rate with Albania, Bulgaria, Croatia, Macedonia, Poland, Slovakia, Estonia, etc. and migrations will cause the great inflow of labour force into the large cities and also the serious outflow from smaller cities and underdeveloped regions and sub regions.

Differences on the regional labor markets are not exclusively present in transition economies but occur also in developed market economies. However, there are two major differences between transition economies and developed economies in Europe. First, the degree of variation in unemployment rates is generally higher in transition countries. For example, the coefficient of variation of unemployment for France is approximately half the variation in Czech Republic and one third of variation in Hungary (Bornhorst & Commander, 2004). Large differences in regional unemployment rates are followed by strong concentration of net job creation in few relatively economically dominant regions and by job destruction in other, economically depressed regions. Second, differences on the labor market in transition economies are present for longer period of time and the ranking of regions by the unemployment rate and economic development rarely changes over time. Regions with higher unemployment rate at the beginning of transition are in most cases still in the same position comparing with other regions in the country. That means the regional policies in transition countries are not efficient enough in order to lower the current regional imbalances (Fidrmuc, 2003), (Bornhorst & Commander, 2004). Josifidis and Supić (2007, p. 42) state that great number of experts in the field of regional economy, including the leaders of regional policy in EU, argue that market and regional policy have opposite influence on the regional inequalities. Usually, market is increasing the divergence while regional policy is trying to reduce it. In most of the cases the net result depends on the relative strength of these two factors.

On the other hand, Supić and Bojović (2007, p. 49) state that in the last few years neoliberal attitude prevails that regional disparities are unavoidable consequence of market system and they should be tolerated as such. Market forces (labour migration, investments, and trade expansion) should bring to the revitalization of depressed regions in long term.

Serbian government is well aware of European experience with labor mobility and migration. In the national employment strategy (Ministry of Labour, Employment and Social Protection, 2005) the main goal is to improve the employment prospects in high unemployment regions and at least to keep the differences at the current level until the process of privatization is over in the year 2007-08. After that period the priority will be to reduce differences and make balance among regional labour markets with implementation of different measures such as development of regional development and employment strategies, development of infrastructure at the local level, etc. Of course, world's economic crisis is on its way and it will worsen the situation on the labour market and postpone the implementation of predicted measures for a few more years.

The key to balanced economic growth and development in the region of Vojvodina and thus better labor market conditions in depressed regions is investment and the consequent job creation. The challenge facing depressed sub regions and cities is to attract investment, which requires creating incentives for firm entry, developing infrastructure, and investments in human capital to improve labor productivity.

Further research will be conducted and oriented to the research of labour migrations in Vojvodina region under the pressure of world economic crisis and the comparison of the regional labour market in Vojvodina with the EU regional labour markets.

## References

1. Bornhorst, F., & Commander, S. (2004). Regional Unemployment and its Persistence in Transition Countries. *IZA Discussion Paper No. 1074* .
2. Bover, O., & Arellano, M. (2002). Learning About Migration Decisions From the Migrants: Using Complementary Datasets to Model Intra-Regional Migrations in Spain. *Journal of Population Economics* (15), 357-380.
3. Fidrmuc, J. (2003). Migration and Regional Adjustment o Asymmetric Shocks in Transition Economies. *CEPR Discussion Paper No. 3798*.
4. Huber, P. (2008). *Regional Labour Market Disparities in an Enlarged European Union*. Wiena: Austrian Institute for Economic Research (WIFO).
5. Ingham, H., Ingham, M., & Herbst, J. (2008). *Why do Local Unemployment Rates in Poland Vary so Much*. The Department of Economics. Lancaster: Lancaster University Management School.
6. Josifidis, K., & Supić, N. (2007). Dilemmas of Old Europe Regional Convergence. U K. Josifidis, *European Regional Policies with Reference to Vojvodina Perspectives* (str. 19-43). Novi Sad: University of Novi Sad, Faculty of Economics in Subotica.
7. Kasanko, M., Barredo, J. I., Lavalle, C., Sagris, V., & Genovese, E. (2005). Towards Urban Un-sustainability in Europe? An Indicator-base Analysis. *45th Congress of the European Regional Science Association*. Amsterdam: European Regional Science Association.
8. Kis, T., & Csileg, M. (2007). Comparative Analysis of Development Level and Competition Position of Vojvodina and European Regions. U K. Josifidis, *European Regional Policies with Reference to Vojvodina Perspectives* (str. 135-160). Novi Sad: University of Novi Sad, Faculty of Economics in Subotica.
9. Ministry of Labour, Employment and Social Protection. (2005, April). *National Employment Strategy for period 2005-2010* . Belgrade, Serbia: Government of Republic of Serbia.
10. National Employment Service. (2008, January). *Unemployment and Employment in the Republic of Serbia*. Preuzeto April 1, 2008 sa National Employment Service Home Page: <http://www.nsz.sr.gov.yu/axd/index.php>
11. Polyacsko, O., & Balogh, K. (2007, July 30). *Trends in Labour Migration Between Regions*. Preuzeto 03 15, 2009 sa Eurofund: <http://www.eurofound.europa.eu/ewco/2007/02/HU0702069I.htm>
12. Rutkowski, J. (2006, April). Labour Market Developments During Economic Transition. *World Bank Policy Research Working Paper 3894, April 2006* .

13. Savić, M. (2008). Consequences of Demographic Transition on European Population in XXI Century. *Anali Ekonomskog fakulteta u Subotici* , 19.
14. Statistical Office of the Republic of Serbia. (2009). *Demographic Yearbook 2007*. Belgrade: Statistical Office of the Republic of Serbia.
15. Statistical Office of the Republic of Serbia. (2008c). *Working Force Survey - October 2007*. Belgrade: Statistical Office of the Republic of Serbia.
16. Statistical Office of the Republic of Serbia. (2008b). *Working Force Survey - October 2008*. Belgrade: Statistical Office of the Republic of Serbia.
17. Supić, N., & Bojović, V. (2007). Regional Disparities of Old Europe. U K. Josifidis, *European Regional Policies with Reference to Vojvodina Perspectives* (str. 45-63). Novi Sad: University of Novi Sad, Faculty of Economics in Subotica.
18. Vojković, G., Devedžić, M., & Penev, G. (2006, June). Serbia Among Demographically Oldest Countries. *Naše teme* , 1.