

## Foreign migration and its regional dimension in Slovakia following EU accession\*

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## Executive summary

1. Like many other Central and Eastern European transition countries, Slovakia during 1990-ties exhibited sharp regional differences, particularly between the capital Bratislava and other regions, notably in the Eastern and Southern parts of the country. During the economic transition and in the run-up towards the EU accession, the Government has addressed the regional issues in several policy documents stipulating measures that were supposed to provide for relatively favourable treatment in districts with low living standards or high unemployment rate. However, towards the end of the first decade of the 21-st century, the strong differences among Slovak regions persist.

2. As the long-term population trend in Slovakia is set towards overall population ageing and increasing dependency ratios, it is interesting to look at how the foreign migration fits into the picture to eventually influence the total population change. A probe into various components of population change during decades 1999 – 2009 shows that total population growth rate was declining quite sharply during the first decade of the transition, hitting negative figures between 2001 and 2003 when the situation has stabilized. Afterwards the total population growth rate became positive again. Since 2004 the total population increase consisted of positive natural population increase and a positive net migration, the former one gaining more and more importance over time. However, the flows of migrants are small in relative terms compared to total population and also in comparison with other EU member states, notably the EU 15.

3. Following the EU accession and since 2005 annual stocks of residence permits have been constantly and significantly growing, reaching almost 60 thousand in 2009. Of these more than 60 per cent were held by EEA nationals. Foreign migration flows in Slovakia continue to be heavily dominated by migrants from Europe. Nationality-wise, the inflows are traditionally dominated by the nationals of the neighbouring or nearby countries: Czech Republic, Romania, Germany, Austria and Hungary. Traditionally inflows are dominated by males and outflows by females. Thus Slovakia is one of the few EU countries where majority of non-national population is represented by nationals of other EU countries and gender proportion amongst foreign population is shifted towards prevalence of males.

4. Slovak regions are characterized by relatively large disparities in terms of local labour market conditions, not only in terms of unemployment characteristics, but also in other indicators, such as economic activity of population and employment rates. However, so far the inter-regional differentiation in terms of unemployment rates has been most pronounced. Traditionally the Central and Eastern parts of Slovakia have higher unemployment rates than the Western part. The second half of the current decade was characterized by generally improving labour market conditions and falling unemployment rate. The recent economic crisis brought about a substantial worsening of the labour market situation as of 2009 in all the regions, but mainly in the originally better performing ones. Inter-regional variation in unemployment rates thus declined.

5. Relatively large regional differences in terms of unemployment rate are accompanied by little dynamics in internal migration. Absolute numbers of internal migrants in Slovakia were globally decreasing between 1980 and 2000. Furthermore, the share of inter-regional mobility is still low as compared to mobility within regions. The former represents only 25 per cent of all internal mobility: about 50 per cent of mobility takes place within the same district, and about 25 per cent among districts within the same region.

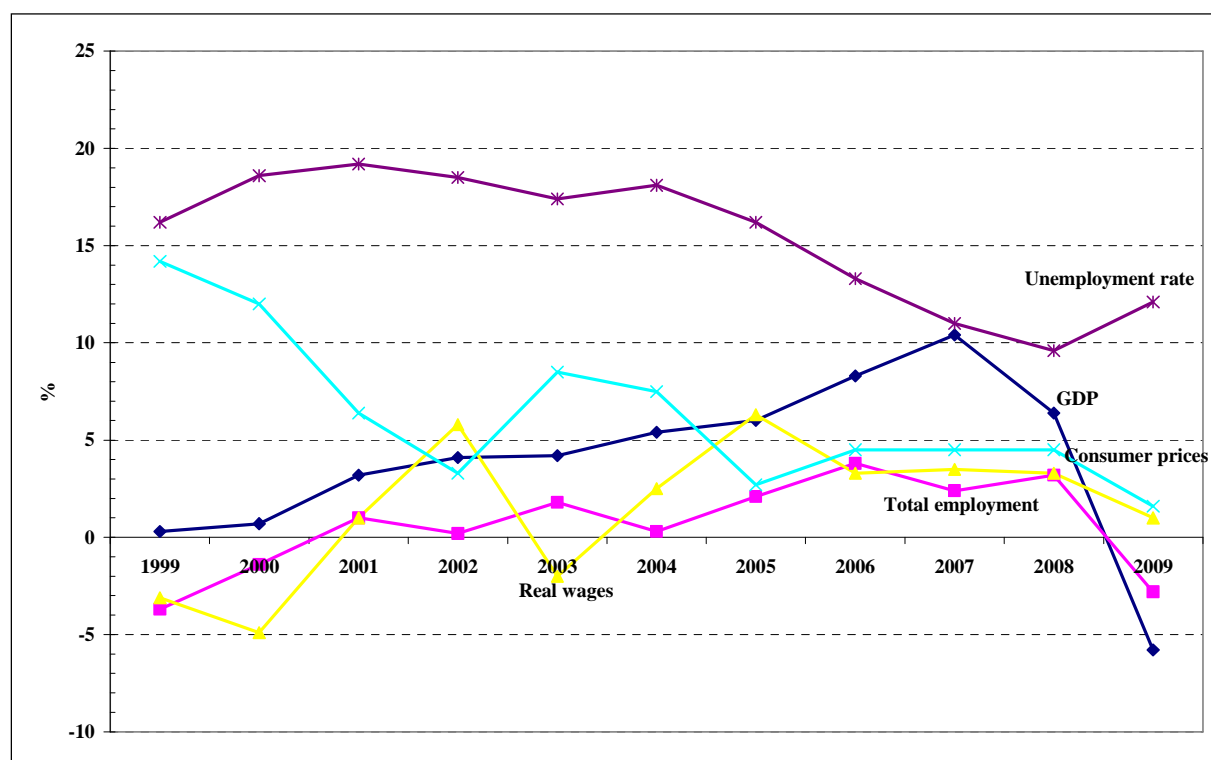
## Introduction

In this paper we look at the regional dimension of foreign migration in Slovakia through the prism of regional labour market differentiation, notably during the past few years following the EU accession. Slovakia is known for large regional differences, notably between the capital and the rest of the country, as well as between urban centres and rural areas. Given that the regional dimension of foreign labour force in Slovakia has not been thoroughly researched, in this paper we provide selected stylized facts and descriptive characteristics. Our main goal is to investigate whether and how the allocation of foreign labour reacts to the regional labour market conditions, thus eventually mitigating the regional disparities. This introductory discussion paper will serve as a basis for a more profound econometric analysis in the follow-up work.

## I. Regional development in Slovakia and foreign migration

Overall economic development in Slovakia during the second half of the current decade was in general positive and characterized by falling unemployment rate, positive and increasing GDP growth, and falling inflation. Joining the European Union, the European Monetary Union and Schengen area were amongst the main historical milestones for the country. The financial and economic crisis has reversed these trends (see Figure 1) and brought about negative developments at both national and regional levels.

**Figure 1** Development of main macroeconomic indicators in Slovakia, 1999 – 2010



Notes: Annual percentage changes. Real GDP in constant prices of 2000. LFS employment rate - annual average changes, LFS unemployment rate - annual averages

Source: Statistical Office of SR, Ministry of Labour, Social Affairs and Family of SR.

### *Regional development*

Like many other Central and Eastern European transition countries, Slovakia during 1990-ties exhibited sharp regional differences, particularly between the capital Bratislava and other regions, notably in the Eastern and Southern parts of the country. These regional

differences were among the problematic phenomena pointed out by the European Commission in the course of the EU accession negotiations. For example, towards the end of 90-ties in terms of adjusted GDP per capita the region of Slovak capital Bratislava reached the EU average, while Eastern Slovak regions were at the level of the most backwards regions in the EU. In the Joint Assessment of Employment Strategy for Slovakia it was estimated that in the case of joining the EU, the GDP-level of the Eastern Slovak region would reach about 43 per cent of the GDP produced by 25 member countries of the enlarged Union, which would mean approximately the 19-th position in the ranking of the most backwards regions. The level of GDP per capita in other Slovak regions (other than Bratislava) varied approximately between 29 and 44 per cent of the EU average.<sup>3</sup> A snapshot of the differences in adjusted per capita GDP, employment and unemployment characteristics amongst the Slovak regions in mid-nineties is provided in Table 1.<sup>4</sup>

During the economic transition and in the run-up towards the EU accession, the Government has addressed the regional issues in several policy documents, such as the Integrated Regional Development Plan of October 1999, the National Development Plan of March 2001 and Act on Regional Development Support. Support for small and medium enterprises (SMEs) as a way of boosting regional development was declared one of priorities for the economic policy of the Slovak government. New legislation regarding the state support for SMEs came into force in 2000. These another measures were supposed to provide for relatively favourable treatment in districts with low living standards or high unemployment rate. However, towards the end of the first decade of the 21-st century, the regional differences among Slovak regions persist.

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<sup>3</sup> Joint Assessment of Employment Strategy for Slovakia by Ministry of Labour and Social Affairs of SR and the European Commission.

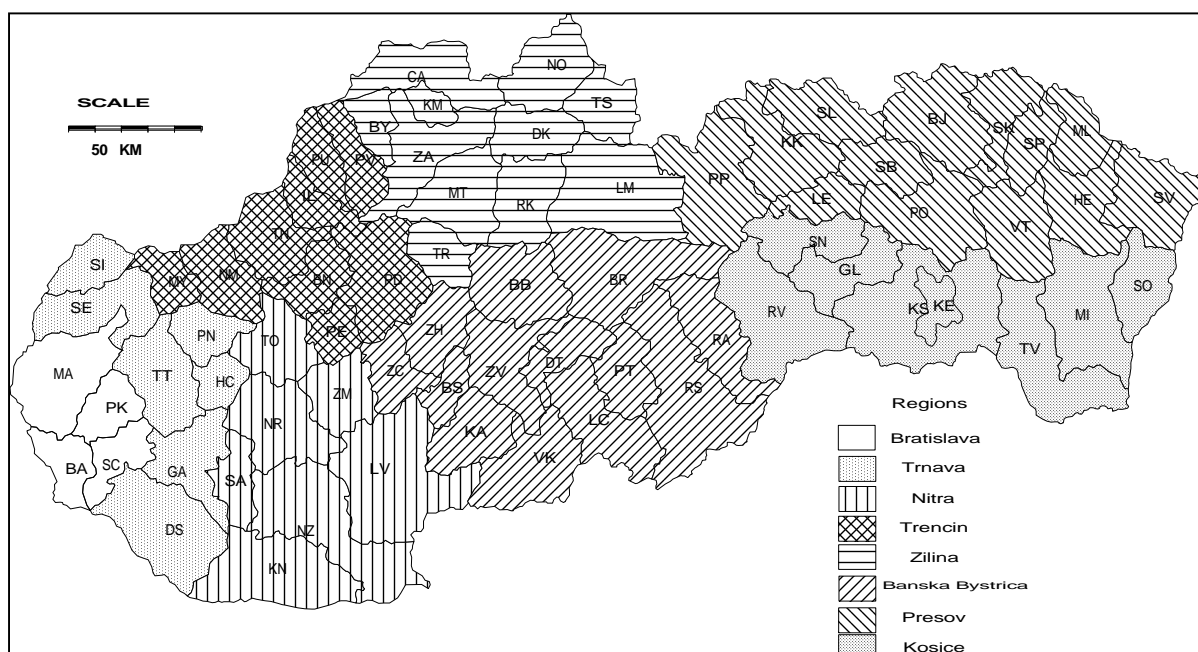
<sup>4</sup> Prior to 1996 the country was administratively divided among four large regions: Bratislava (the capital), Western, Central, and Eastern Slovakia. The administrative reform of 1996 established 8 regions (named after their administrative centers): Bratislavsky, Trenčiansky, Trnavsky, Nitriansky, Žilinský, Banskobystrický, Košický and Prešovský (see Figure 1 and Annex 1 for more details).

**Table 1** Development of selected regional characteristics

Region	GDP/capita (PPS), EUR15=100			Employment by sector (%), 2000			Unemployment (%), 2000				Employment (% population)		
	1995	1999	Average 1997-1999	Agriculture	Industry	Services	Total	LTU as % of total U	Females	Males	Total	Females	Males
SR total	44,1	48,1	48,1	6,9	37,3	55,8	19,1	53,8	18,6	36,9	56,4	51,2	61,8
Bratislava	87,9	95,4	98,0	2,5	22,5	75,1	6,6	34,1	7,0	17,8	70,7	65,8	76,0
West	41,4	44,8	44,2	9,0	40,5	50,6	17,8	52,6	17,8	34,9	56,4	50,7	62,2
Central	38,0	41,5	41,6	6,5	41,1	52,4	20,6	55,5	20,3	35,5	54,8	47,8	62,0
East	35,0	39,2	38,6	7,2	37,8	55,0	25,1	56,2	24,0	47,1	51,8	48,5	55,1

Notes: Before 1996 here were 4 administrative regions: Bratislava, Western Slovakia, Central Slovakia, Eastern Slovakia. These were replaced by 8 new administrative regions. For comparison purposes in this table the new regions were aggregated as follows: West: Trenčiansky and Trnavský region; Central: Nitriansky a Žilinský region; East: Banskobystrický, Košický and Prešovský region (See the map of regions at Fig. 2).

Source: Monitoring of EU Accession, Slovak Republic, ed. by Lubyova and Marcincin, 2002, Friedrich Ebert Stiftung Bratislava.

**Figure 2** Map of Slovak regions


Notes: Regions correspond to NUTS 2 level, districts to NUTS 3 level. For more details see Annex 1



### *Population dependency ratio and total employment*

Slovakia is also subject to population ageing. Although dependency ratio has been declining over the transition period and it continued to decline also in 2008 mainly due to the increasing working age population (which is a result of the strong population growth recorded in 1970-ies), the age structure of population exhibits dramatically decreasing share of pre-working age cohorts and increasing share of working and post-working cohorts. Although increasing the pensionable age in Slovakia helped to improve the dependency ratios, the long-term demographic trend is set towards overall ageing.

Revised results after the 2001 Population Census showed the population shares of pre-working age, working-age and post-working age groups being 18.7 per cent, 63.2 per cent and 18.1 per cent, respectively. In the inter-census period population data are updated annually using the record of births and deaths. In 2006 the share of pre-working age group declined to 16.1 per cent, and the share of post-working age group increased to 19.7 per cent. However, these dependency ratio figures were based on the relatively low statutory retirement age in Slovakia (15 to 54 F, 59 M).

In order to illustrate the impact of changing retirement age on dependency ratio, one can look at Table 2, which employs a definition of working age 15-64 years<sup>5</sup>. Expansion of the working age category to 15-64 leads to a substantially higher share of working age population: for example, in 2008 it was 72.4 per cent (as compared to 63.9 per cent under the previous definition), and lower share of post-working age group - in 2008 12.1 per cent (as compared to 20.6 per cent under the previous definition). This results in a pronounced reduction of the dependency ratio to some 38 per cent (as compared to almost 56 per cent under the previous definition).

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<sup>5</sup> These age brackets are suggested also with the view on comparability with Labour Force Survey data that employ the same working age definition.

**Table 2** Age structure of the Slovak population, 1999-2009

% shares (a)	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Pre-working	19.8	19.2	18.7	18.1	17.6	17.1	16.6	16.1	15.7	15.5	15.3
Working	68.8	69.3	69.9	70.4	70.9	71.3	71.7	72.0	72,3	72.4	71.4
Post-working	11.4	11.5	11.4	11.5	11.5	11.6	11.7	11.9	12.0	12.1	13.3
Ratio: (Pre- and post-working age) / (Working age)	45.4	44.2	43.1	42.0	41.0	40.2	39.5	38.9	38.4	38.0	40.1
Ratio: (Post-working age) / (Pre-working age)	57.5	59.8	60.8	63.2	65.7	68.1	70.7	73.5	76.0	78.3	86.9
Average age	35,7	36,0	36,2	36,5	36,8	37,1	37,4	37,7	38,0	38,2	38,5

Notes: (a) Pre-working 0 to 14 years, **working 15 to 64, post-working 65**. 2001 = after including the results of the Population and Housing Census of 2001 (26. 5. 2001).

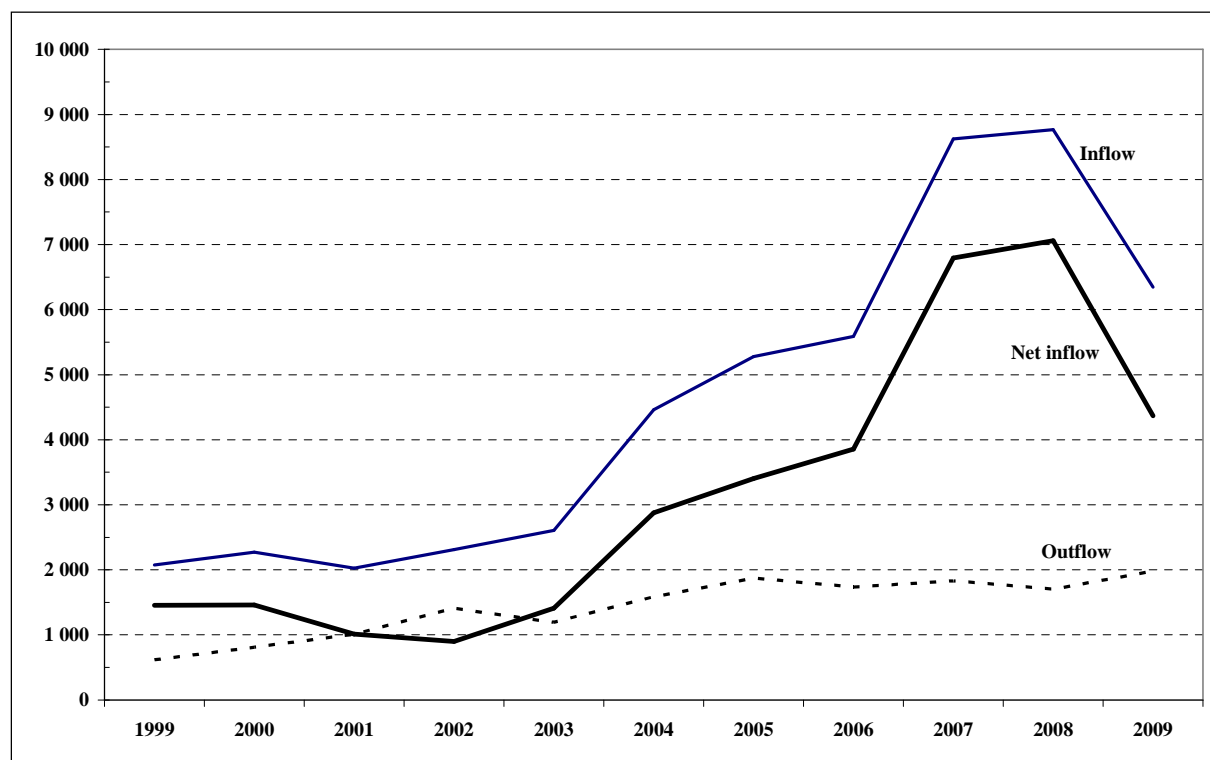
Source: Statistical Office of the Slovak Republic

### ***Foreign migration as a component of total population change***

As the long-term population trend in Slovakia is set to the overall population ageing and increasing dependency ratios, it is interesting to look at how the foreign migration fits into the picture to eventually influence the total population change. In this section we describe overall migration characteristics for Slovakia and their development over the past decade. We then turn to the regional dimension of migration and foreign labour force in the following section dedicated to regional dimension of the Slovak labour market.

Net migration figures have been always positive over the past decade. In absolute terms the transitional peak was between the years 1993-94, when the Czech-Slovak Federation was split into two separate republics (as of 1 January 2003) and in 1994 the net migration reached almost 5 thousand persons. Gross inflow of migrants has also picked up during the past years, reaching close to 8.8 thousand persons in 2008 and 6.3 thousand in 2009 (Figure 3).

Population development of the last two decades shows that the total population of Slovakia has been still slightly increasing until the year 2000, mainly due to the effect of strong generations born in 1970-s. The years 2001-3 have already witnessed a natural population decline. Since 2004 the total population started to pick up again and the natural increase has reverted into positive figures, mainly thanks to pick up in birth rate and continuous decline of death rate.

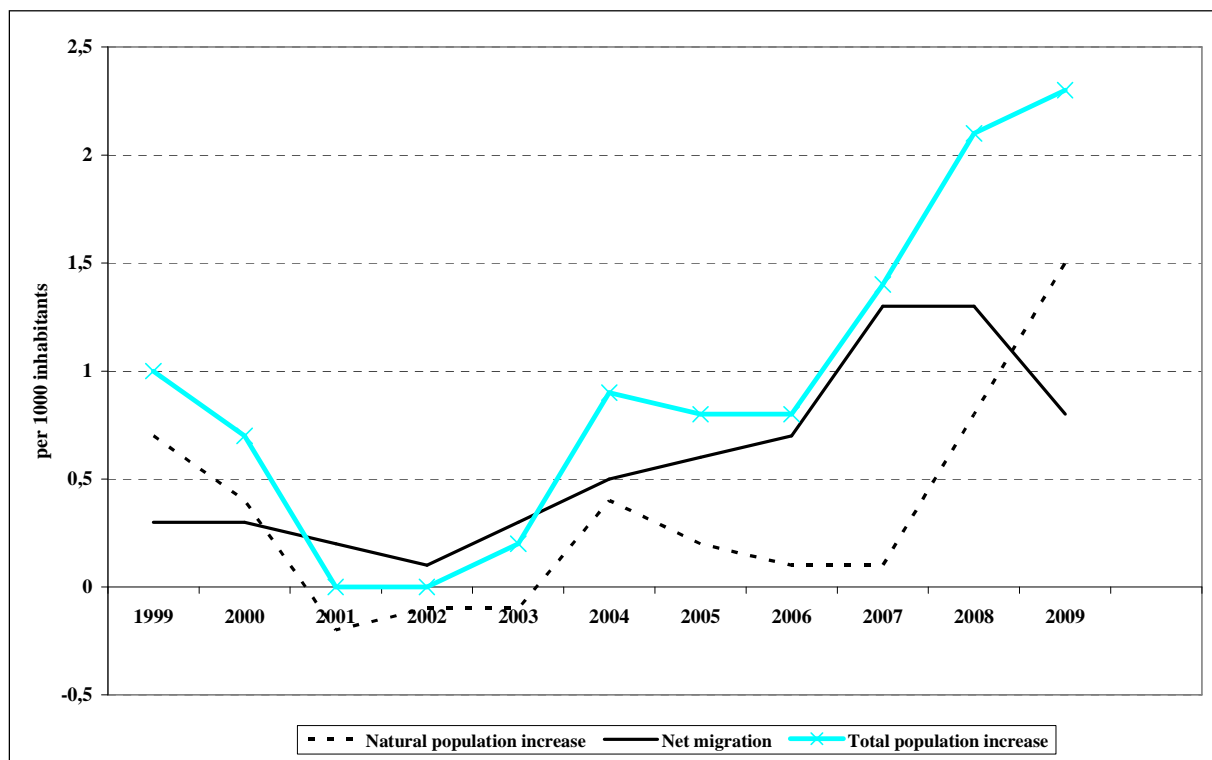
**Figure 3** Gross and net migration flows in Slovakia, 1999 – 2009

Source: Statistical Office of SR

Detailed development of the various components of population change during the period 1999 – 2009 are depicted at Figure 4. Total population increase was declining quite sharply during the first decade of the transition, hitting negative figures between 2001 and 2003 when the situation has stabilized. Afterwards the total population growth rate became positive again. In 2004, for the first time since 2001, the natural population increase was positive at 0.4 per thousand inhabitants. Thus the total population increase since 2004 consisted of positive natural population increase and a positive net migration, the former one gaining more and more importance over time.

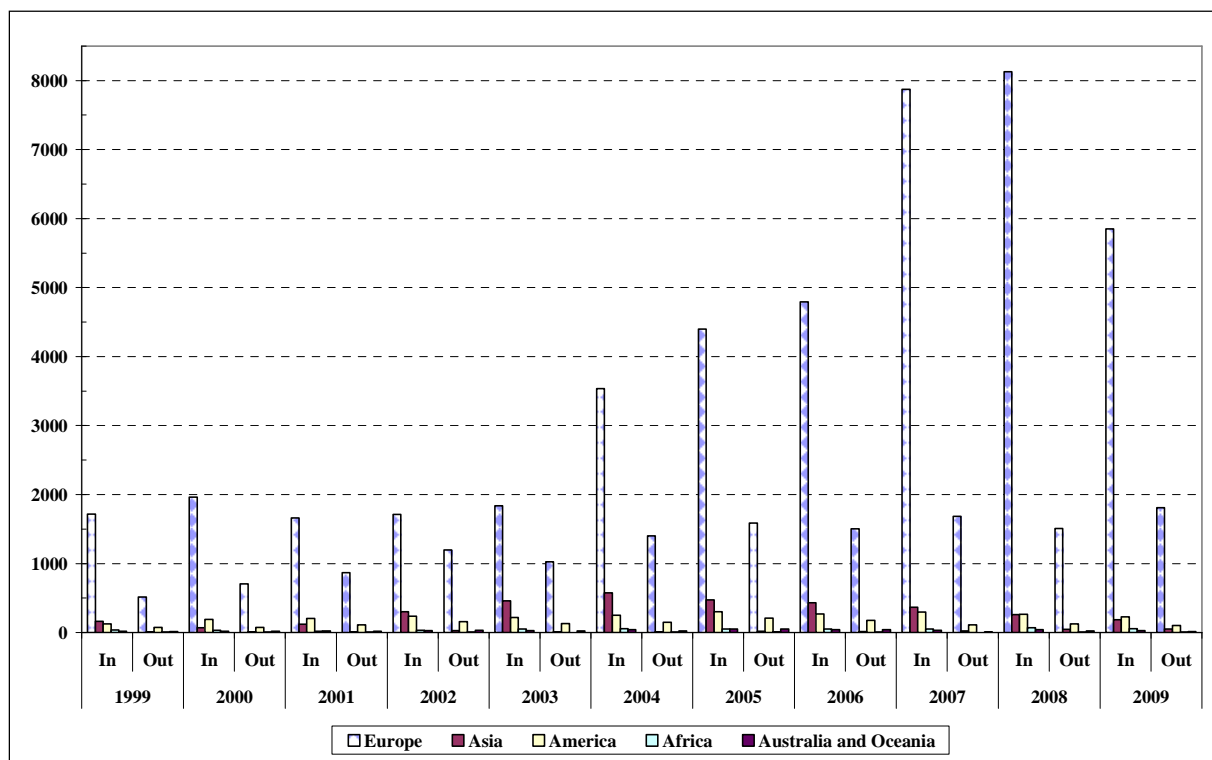
It is also interesting to note that migration flows in Slovakia continue to be dominated by migrants from Europe (see Figure 5 for breakdown migration flows by region of origin and destination). Asian and African migrants still represent a small share of the total inflow. Asia is the second most significant region in terms of immigration; however, the inflows are rather small (around 400 persons annually). Inflows from Americas account for about 300 persons annually.

Figure 4 Components of population change, 1999 – 2009



Source: Statistical Office of the Slovak Republic

Figure 5 Migration flows in Slovakia by region of origin/destination, 1999 – 2009



Source: Statistical Office of SR

The prevalence of inflows from Europe leads to the situation when majority of foreign residents in Slovakia are nationals of European countries (and even EU/EEA). This makes Slovakia special within the EU, as there are only few EU countries where the majority of non-nationals are EU-citizens.<sup>6</sup> Traditionally, inflows are dominated by males and outflows by females. This leads to unbalanced gender proportion amongst migrants. Recently released data by Eurostat confirm that Slovakia is among the few EU countries where the gender distribution of foreign residents is dominated by males (EC Eurostat, 2010).<sup>7</sup>

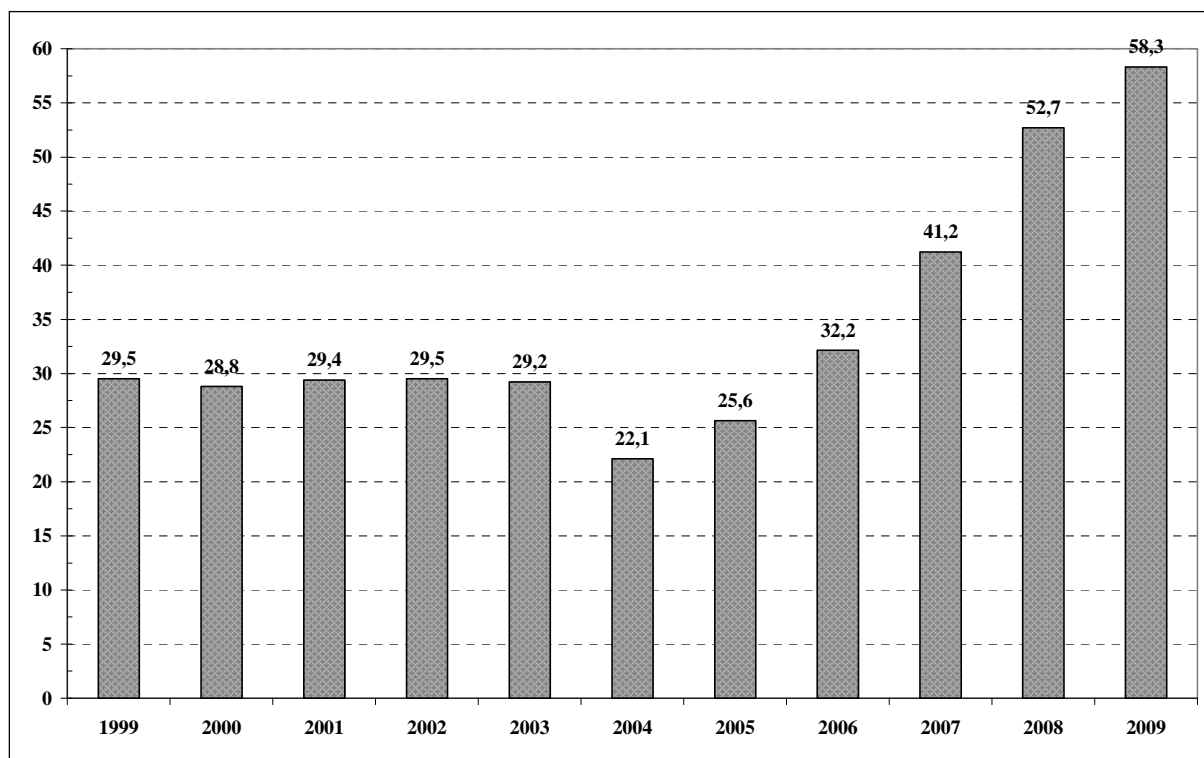
Nationality-wise, the inflows are traditionally dominated by the nationals of the neighbouring or nearby countries: Czech Republic, Romania, Germany, Austria and Hungary. In 2007 an interesting increase occurred for inflow of 2 465 Romanian nationals (as compared to only 98 during the previous year) and in 2008 the inflow from Romania was again the largest in absolute terms (2 133 persons). Foreign investment from Asia (notably automobile industry around KIA) has brought a new inflow from South Korea. Among Asian immigrants, more significant groups are represented by Vietnamese and Chinese.

The population and migration dynamics as described so far was based on the surveys and monitoring by the Slovak Statistical Office. Another source of data about foreign residents in Slovakia is the registry of residence permits administered by the Police Corps. Long-term trend in the number of permits is depicted at Figure 6 and its recent dynamics by region of origin at Table 4. During the first half of the current decade the stocks were stabilized around 30 thousand annually. After a small “dip” during the pre-accession year 2004, the annual stocks of residence permits have been constantly and significantly growing, reaching almost 60 thousand in 2009. Of these more than 60 per cent were EEA nationals. Data about newly granted (flows) of permits show that permanent residence permits are granted mainly to EEA nationals and temporary residence permits mainly to the third country nationals (Table 3).

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<sup>6</sup> “In most Member States the majority of foreigners are third-country nationals, i.e. citizens of a non-EU country. Citizens of other EU Member States represent the majority of non-nationals only in Luxembourg, Ireland, Belgium (2008 data), Cyprus, Slovakia and Hungary.” (EC Eurostat, October 2010)

<sup>7</sup> “The distribution by gender of the non-nationals resident in the EU is fairly balanced with a slight prevalence of men over women, 51 % versus 49 %. The gender distributions are relatively balanced also for the non-national populations in the individual Member States: men exceed 55 % of the total population in six countries only (Greece, Lithuania, Czech Republic, Romania, Slovakia and Slovenia) while women exceed 55 % only in Bulgaria.” (EC Eurostat, October 2010)

**Figure 6** Total numbers of foreigners with residence permits in Slovakia 1999 - 2009

Notes: EU accession as of 1 May 2004, Schengen as of 21 December 2008

Source: Presidium of Police Corps

**Table 3** Newly granted permits and stocks by type in 2007-2009

By type	Newly granted			Stocks 31. 12.		
	2007	2008	2009	2007	2008	2009
<b>Permanent residence</b>	10 558	9 689	6 871	33 258	40 594	44 782
<i>Third-country nationals</i>	1 306	1 074	820	7 319	7 694	8 246
<i>EEA citizens</i>	9 282	8 615	6 051	25 939	32 900	36 536
<b>Temporary</b>	4 199	6 615	4 646	7 646	11 832	13 217
<i>Third-country nationals</i>	4 199	6 615	4 646	7 343	11 553	12 986
<i>EEA citizens</i>				303	279	231
<b>Tolerated residence</b>	372	249	273	310	280	323
<i>Third-country nationals</i>	339	219	245	250	225	260
<i>EEA citizens</i>	33	30	28	60	55	63
<b>Total</b>	<b>15 159</b>	<b>16 553</b>	<b>11 790</b>	<b>41 214</b>	<b>52 706</b>	<b>58 322</b>
<i>Third-country nationals</i>	<b>5 844</b>	<b>7 908</b>	<b>5 711</b>	<b>14 912</b>	<b>19 472</b>	<b>21 492</b>
<i>EEA citizens</i>	<b>9 315</b>	<b>8 645</b>	<b>6 079</b>	<b>26 302</b>	<b>33 234</b>	<b>36 830</b>

Source: Presidium of Police Corps

## II. Regional differentiation of the Slovak labour market and regional dimension of foreign migration and foreign labour force

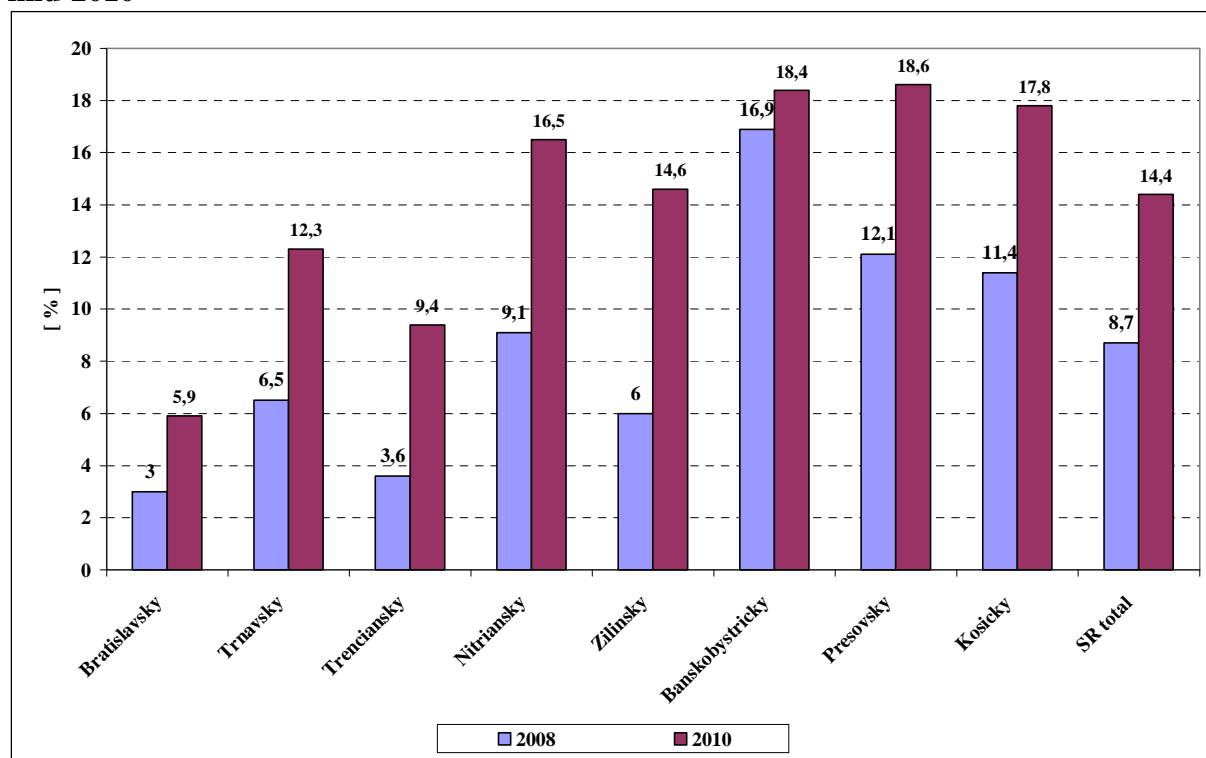
### *Differentiation of regional labour market conditions*

Regional development in Slovakia has been always uneven, accompanied by relatively large regional differences in terms of unemployment rate and little dynamics in internal migration. Slovak regions are characterized by relatively large disparities also in terms of local labour market conditions. Traditionally the Central and Eastern parts of Slovakia have higher unemployment rates than the Western part.

The second half of the current decade was characterized by generally improving labour market conditions and falling unemployment rate. In 2007 the registered unemployment rate was consistently falling across all regions and for both men and women. However, this trend was reversed by the start of the new crises: in 4 out of 8 Slovak regions the LFS unemployment rate has gone slightly up already during the first half of 2008 and the overall LFS unemployment rate for men was also slightly higher as of mid 2008 compared to the end of 2007 (still, at the end of 2008 the LFS-based unemployment rate was down to 8.7 per cent from the peak of 17.4 per cent as of 4Q 2003). Thus 2008 marked a reversal to the previously positive record when overall labour market situation continued to improve for several years in a row. However, the crisis brought about a substantial worsening of the situation as of 2009 in all the regions.

Figure 7 provides comparison of LFS- based unemployment rate as of end 2008, and mid-2010 (last available figures) amongst the regions. As can be seen, the crisis brought about substantial worsening of unemployment situation in all regions, including that of capital Bratislava. At the same time, the uneven development continued: in 2008 when the region of capital Bratislava exhibited LFS-based unemployment rate of 3 per cent, while in the region of Banská Bystrica (Central Slovakia) and Košice (Eastern Slovakia) the rates were 17 and 12 per cent, respectively. Worsening of the labour market situation was manifested in across-the-board increase in LFS unemployment rates towards the end of 2009: in Bratislava region to almost 6 per cent and in Banská Bystrica region to almost 21 per cent. By mid-2010 the unemployment rate further increased in all but one region.

**Figure 7** Development of unemployment rates in Slovak regions as of end 2008 and mid-2010



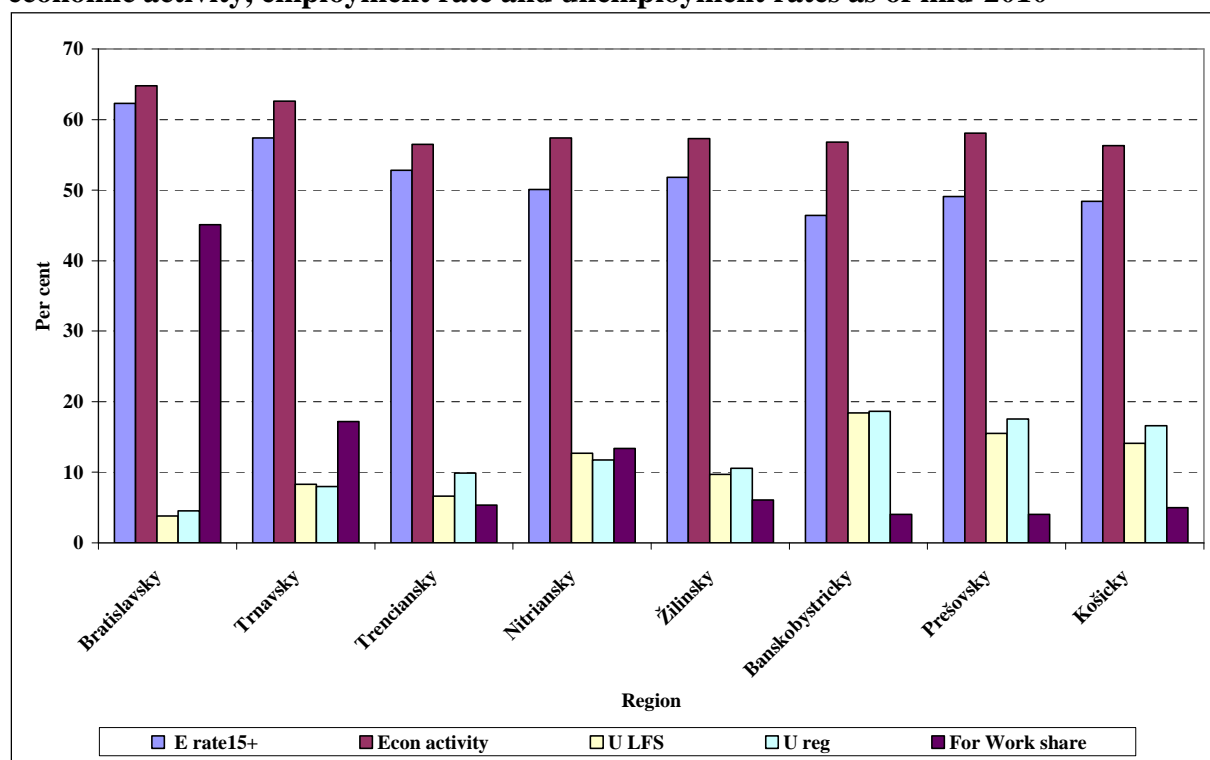
Source: Statistical Office of SR (LFS), Centre of Labour, Social Affairs and Family (registered unemployment)

Regional differences are present not only in terms of unemployment rates, but also in other characteristics, such as economic activity of population and employment rates. Figure 8 depicts these regional differences along with the regional shares of foreign workers. In order to measure more rigorously the regional dispersion of the main labour market characteristics we employ the coefficient of variation<sup>8</sup>.

<sup>8</sup> Coefficient of variation is defined as the standard deviation of a distribution divided by its mean value. Given that the size of the mean value can influence the value of the coefficient, it is sensible to compare standardized distributions of variables. In our case the compared indicators are rates whose distributions are limited to interval from 0 to 100 per cent, it is suitable to use the coefficient of variation for comparison.



**Figure 8 Regional shares of foreign workers and regional differences in the rate of economic activity, employment rate and unemployment rates as of mid-2010**



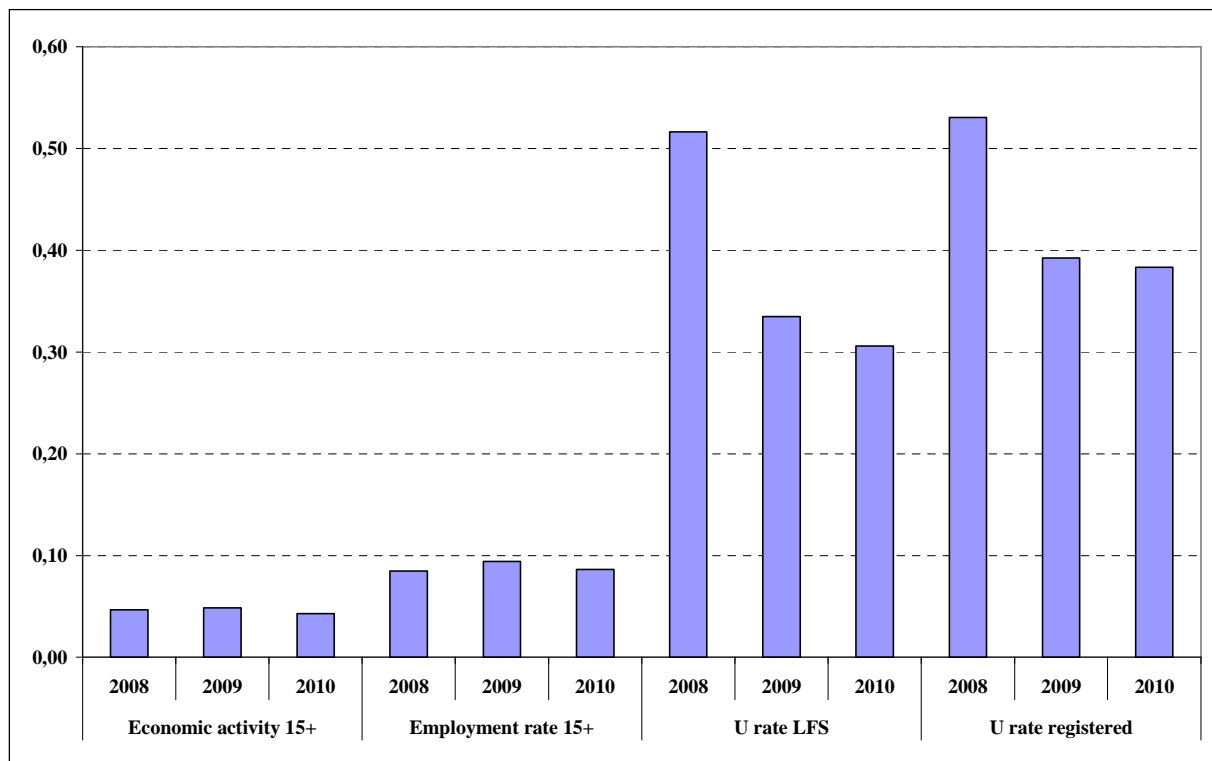
Notes: Employment rate and economic activity rates of population older than 15 year.

Regional share of foreign workers (sum over all regions = 100%)

Source: Statistical Office of SR (LFS), Centre of Labour, Social Affairs and Family (registered unemployment).

Figure 9 compares the regional coefficient of variation for the main labour market characteristics: economic activity rate, employment rate, and unemployment rate. It also illustrates how the coefficient developed during the recent crises. Two observations are obvious from the Figure. Firstly, the regional variation is relatively small for the economic activity rate and rather high for the unemployment rates. This implies that the inter-regional differentiation of labour market conditions is concentrated predominantly in the unemployment field. Secondly, in 2008 the regional variation was relatively large, but during 2009 and 2010 it continued to fall quite significantly for all variables, but notably for unemployment rates. Combined with the observation of generally increasing unemployment rate, this implies that the progressing crisis brought about smaller inter-regional variation in unemployment rates and worsening of the unemployment situation in all regions, but mainly in the originally better performing ones.

**Figure 9 Regional coefficient of variation for basic LM characteristics as of end 2008, 2009 and mid-2010**



Source: Own calculations based on data from Statistical Office of SR and Centre of Labour, Social Affairs and Family.

### *Internal mobility*

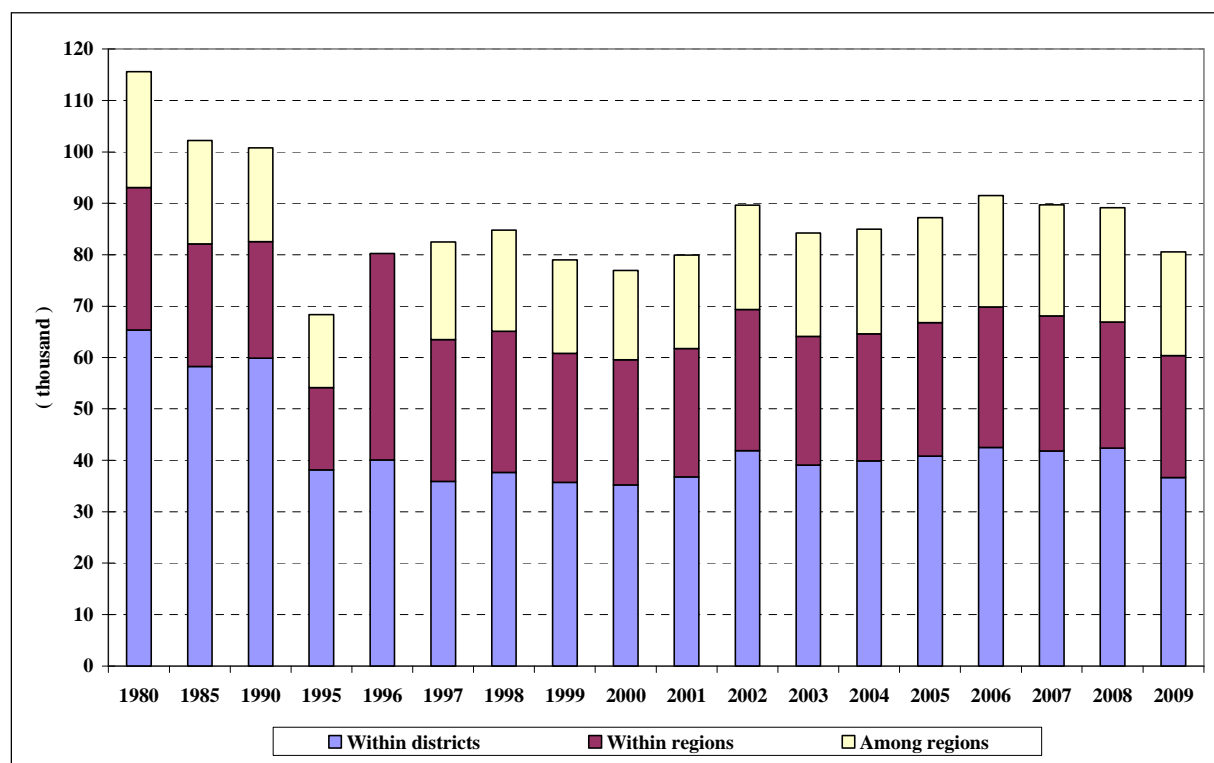
Following the observation that the inter-regional differentiation of unemployment rates in Slovakia continues to be high, it is natural to examine the extent of internal mobility as one of the possible means of mitigating the regional disparities. Figure 10 thus presents the development of internal mobility of population over the past three decades. It can be seen that the extent of internal mobility has been relatively low and it was even decreasing over the first transition decade when regional labour market differences started to grow. One would expect that the internal mobility would increase during the transition, as people were trying to look for jobs in better off parts of the country. Paradoxically, absolute numbers of internal migrants were globally decreasing between 1980 and 2000 (with only a small upswing during the second half of the nineties). During the past decade the annual numbers of internal migrants fluctuated around 80 – 90 thousand persons (as compared to for example 115 thousand in 1980), which represents rather negligible share of total population (less than 2 per cent).

Furthermore, the share of inter-regional mobility is still low as compared to mobility within regions. The latter represents about 75 per cent of all internal mobility: about 50 per cent of mobility takes place within the same district, and about 25 per cent among districts within the same region. Only about 25 per cent of the total mobility is inter-regional. In terms of numbers of migrants per 1000 inhabitants, the figures for inter-regional mobility, inter-district mobility and within-district mobility in 2008 were 4, 4.5, and 8, respectively. Women are more represented among the internal migrants than men. Among the most frequently quoted reasons for low internal mobility are the housing barriers, transportation costs, and also traditional attitudes of people.

Thus one can conclude that despite relatively large regional differences in terms of labour market conditions, internal mobility does not seem to play a more substantial role in mitigating these differences. Monitoring by the Statistical Office shows that the overall share of migrants in total population is low and that internal migration prevails within districts rather than among districts or among regions. It also shows that the prevailing reasons for

internal migration (changing the place of permanent residence) are connected to finding a place to live, following a family member, or marriage, rather than looking for a job.<sup>9</sup>

**Figure 10 Internal mobility - migration among districts and regions, 1980-2009**



*Note: Numbers of migrants in thousands. Migration defined as the change of permanent address. “-” data for regions for 1996 are not available (administrative reform was enacted in 1996).*

*Source: Statistical Office of SR*

<sup>9</sup> [http://spravy.pravda.sk/slovakom-sa-do-zmeny-bydliska-nechce-d7h-/sk\\_domace.asp?c=A101023\\_203019\\_sk\\_domace\\_p23](http://spravy.pravda.sk/slovakom-sa-do-zmeny-bydliska-nechce-d7h-/sk_domace.asp?c=A101023_203019_sk_domace_p23)

### *Regional dimension of foreign migration and foreign labour force*

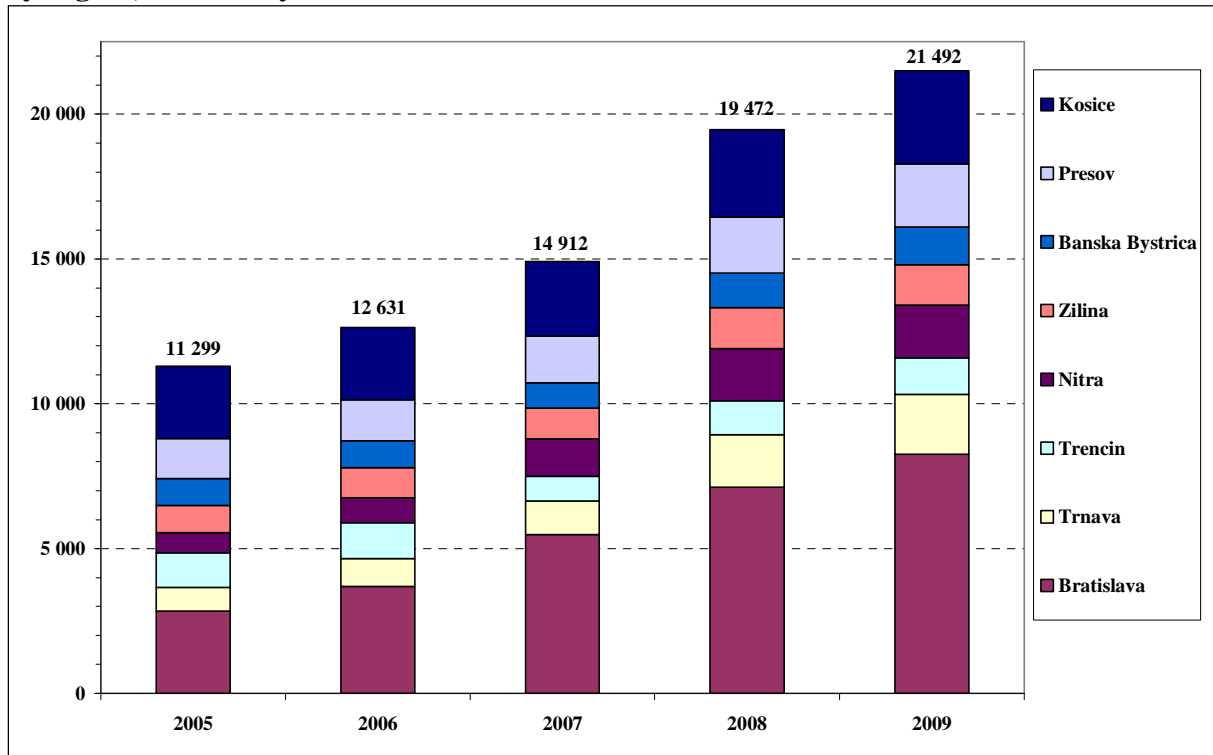
Regional dimension of total foreign migration flows and stocks following the EU accession as captured by the numbers of residence permits is illustrated at Figures 11 and 12. One has to note that the numbers of foreigners with residence permits represent around 1 per cent of total population. In the recent development in this group of population two tendencies are obvious. Firstly, the stocks have been generally increasing every year since the accession and this path was uniform for all the regions. In absolute terms Bratislava and Kosice region attracted the largest groups of foreign migrants.

Secondly, following the EU accession, the cumulative intake of migrants during 2005-9 as measured by newly granted residence permits was by far largest in Bratislava region (over 10 thousand persons) followed by Kosice region (about 3.5 thousand persons) and Trnava region (about 2.8 thousand persons). In other regions the inflow was smaller and in general fluctuated around 2 thousand persons. We do not go that far to compare the regional differentiation in inflow with unemployment figures on annual basis, but the situation depicted at Figure 12 once again documents the vast concentration of inflows in the region of capital Bratislava.

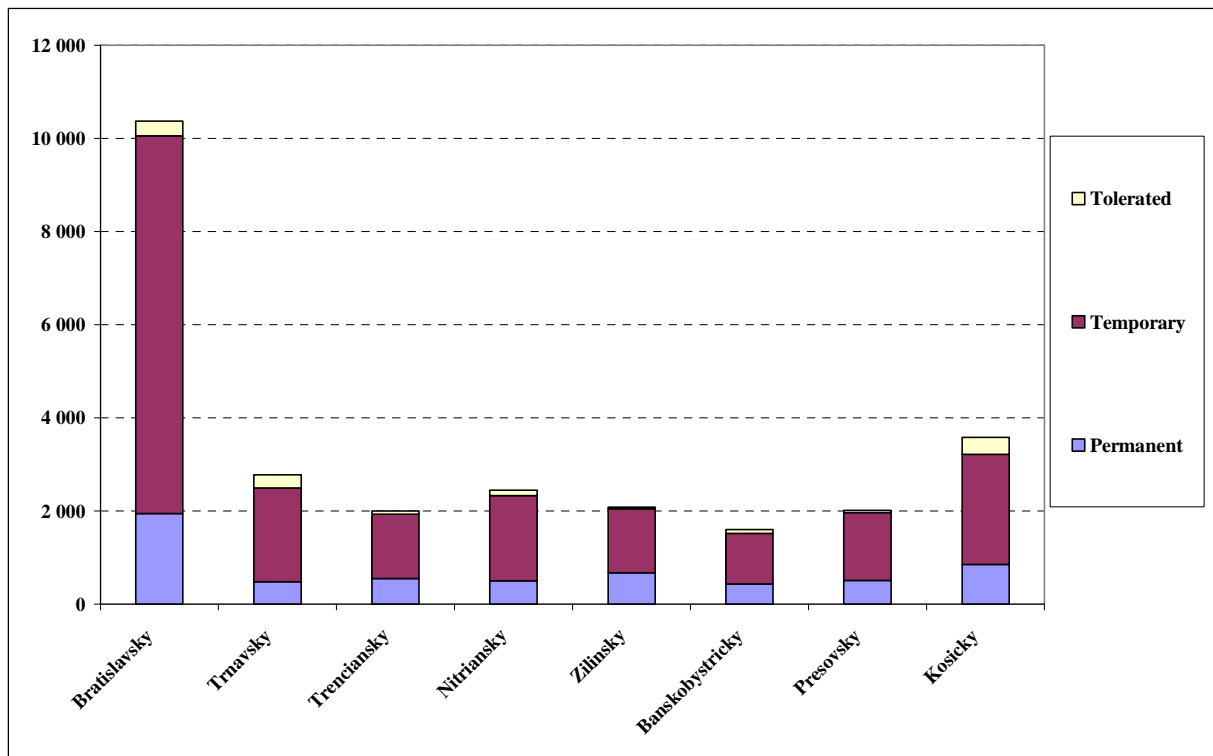
In terms of foreign labour force the situation is similar to that of foreign residents. Foreign workers legally employed in Slovakia (either on the basis of work permits or the so-called information cards) form a negligible part of the total labour force - typically less than 1 per cent. For example, as of mid 2010 there were some 17 thousand such foreign workers, while the total labour force had the magnitude over 2.3 million persons.

Finally, the scope of foreign presence in Slovak schools is also relatively small. Divinsky (2005) states that the overall number of foreigners in Slovak schools was slowly increasing and was in the range from 3.1 to 5 per cent (doctoral students).

**Figure 11 Stock of residence permits for third-country nationals in Slovakia by region, as of end year 2005-2009**



**Figure 12 Cumulative inflows of new residence permits for third-country nationals into Slovak regions by type of residence, 2005-2009**



In order to assess whether foreign workers represent a geographical complement or a substitute to the domestic ones, one could look at the regional allocation of employed, unemployed and foreign workers. These are depicted at Figure 13 as regional shares in total employment, unemployment, and number of foreign workers. By eye-balling the chart one can conclude that there seems to be an inverse relationship between the share in total unemployment and the share in total number of foreign workers.

In order to better illustrate the relationship, we plotted at Figure 14 the relative ranking of regions based on these characteristics (ranking from 1 to 8 where 1 denotes the highest share, 8 the lowest share). We ranked the regions systematically in terms of increasing unemployment shares: Bratislava region has the lowest share in total unemployment and Presov region the highest. The ranking in terms of foreign workers share goes approximately in the opposite direction (Bratislava region the highest and Presov region the lowest share). In 6 out of 8 cases the two rankings are strictly monotonously opposite to each other. This implies that regionally the foreign workers seem to substitute rather than complement the domestic ones: in the regions with more vibrant labour markets the shares of foreign workers tend to be larger while in the regions with higher unemployment shares where the mass of domestic workers cannot find jobs, there are also fewer foreign workers.<sup>10</sup> One possible explanation could be linked to the fact that substantial majority of foreign workers in Slovakia are EU/EEA citizens. For example, as of mid-2010 out of about 17 thousand foreigners legally working in Slovakia more than 13 thousand were EU/EEA nationals.

The fact that depressed regions attract less foreign workers is in line with the findings of Nemcova (2009) who suggest that the depressed regions have also lower capacity to absorb structural funds, foreign investment, or technological innovations, pointing to a “vicious circle” situation there.

It is also very interesting to note that the Slovak labour market over the past few years started to exhibit shortages of workers for certain professions, notably for skilled workers for industries (such as automotive and electro-technical industry), as well as for lower skilled workers in construction and agriculture. However, against the background of

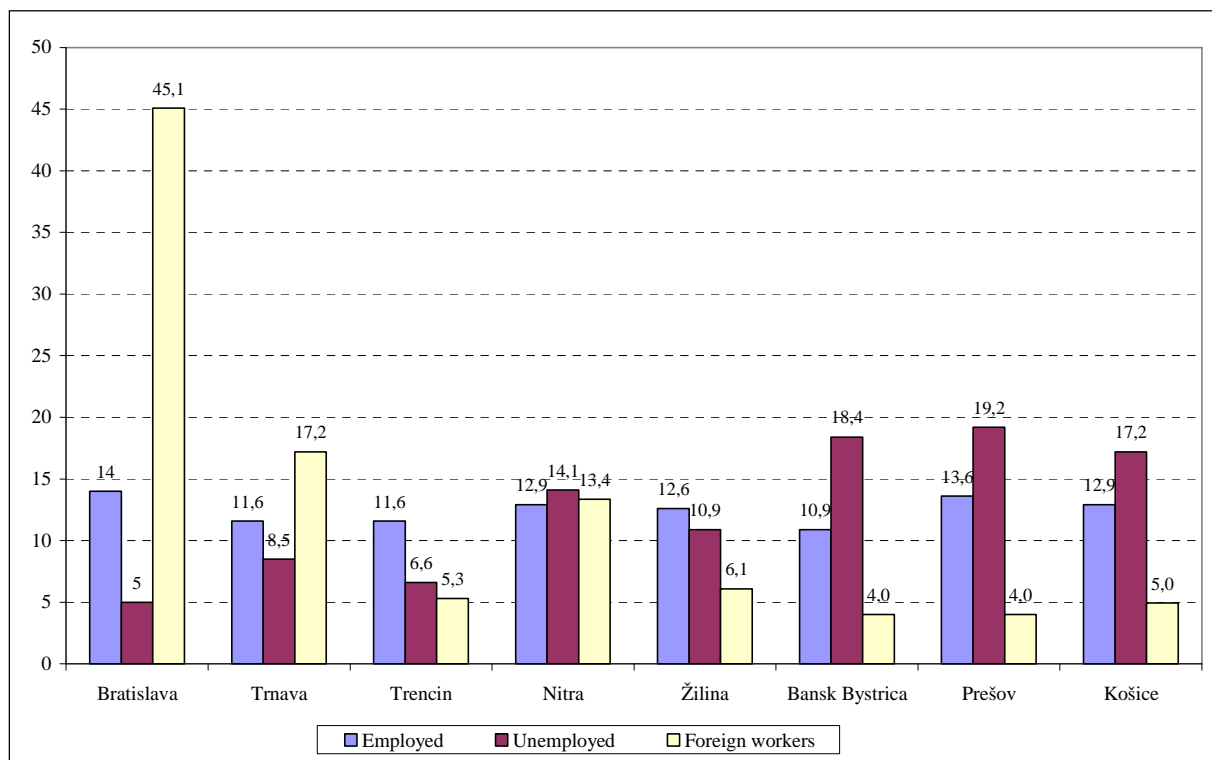
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<sup>10</sup> This argumentation is based on the fact that shares of foreign labour force in total labour force is rather negligible, thus the overall regional employment and unemployment shares are determined by the geographical allocation of domestic workers only.

high unemployment, the authorities do not seem to plan undertaking measures aimed at encouraging immigration of foreign workers. Rather, they see potential in reforming of education and training systems and recently also starting a campaign for return of Slovaks working abroad.



**Figure 13 Regional shares in total Slovak employment, unemployment, and foreign workers**



**Figure 14 Relative ranking of regions according to their shares in total Slovak employment, unemployment, and foreign workers**

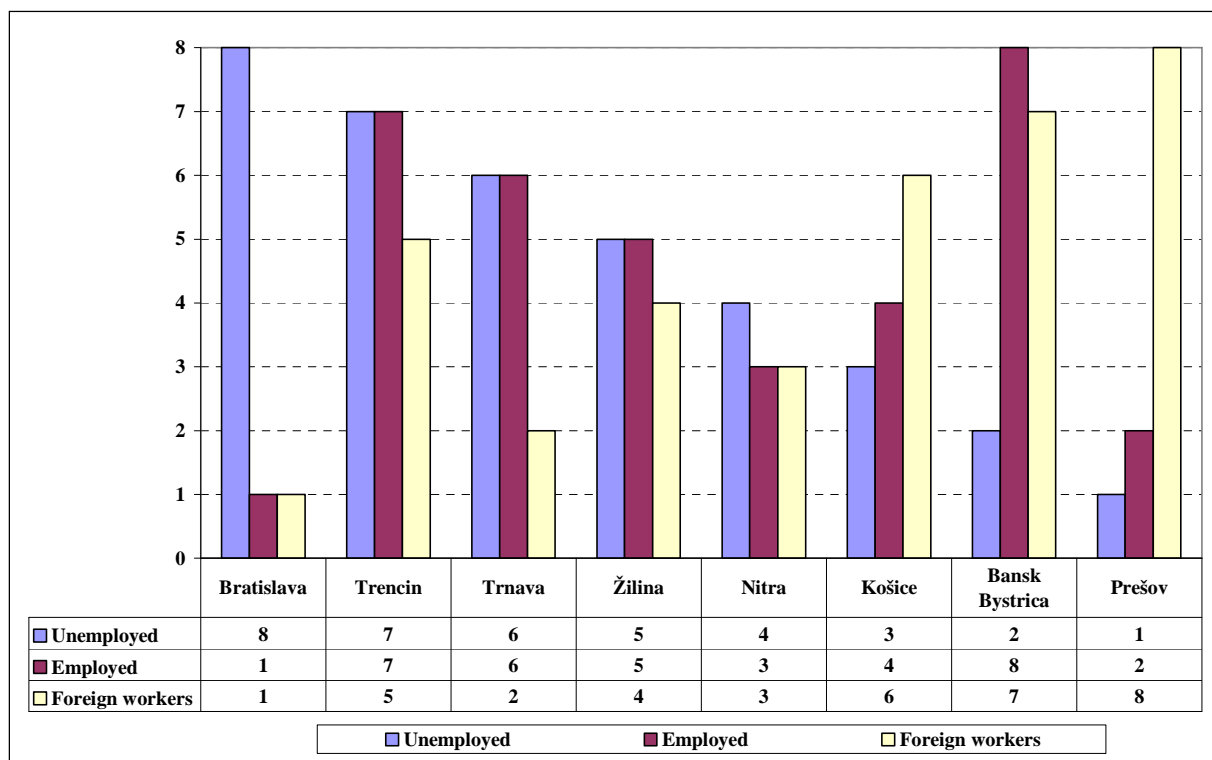


Table 23 Valid work permits in SR by region<sup>(a)</sup>

End of Period	SR total	Region							
		Bratislava	Trnava	Trencin	Nitra	Zilina	B. Bystr.	Presov	Kosice
1996	3 294	1 707	189	136	388	102	164	403	205
1997	3 822	2 286	146	159	452	140	170	290	179
1998	3 722	2 171	120	133	445	110	156	284	303
1999	2 563	1 189	116	113	466	148	126	169	236
2000	2 494	1 206	89	128	400	137	98	168	268
2001	2 498	1 217	84	137	411	137	95	170	247
2002 <sup>(b)</sup>	2 528	1 232	84	142	434	139	131	137	229

Note: (a) Without Czech nationals who do not need work permits in Slovakia

(b) 2002 second quarter

Source: National Labour Office

Table 24 Valid work permits in SR by region and type of employer<sup>(a)</sup>

Type of empl.	End of period	SR total	Region							
			Bratislava	Trnava	Trencin	Nitra	Zilina	Banska Bystrica	Presov	Kosice
<b>Total</b>	<b>2002</b>	<b>2 528</b>	1 232	84	142	434	139	131	137	229
	<b>2001</b>	<b>2 498</b>	1 217	84	137	411	137	95	170	247
	<b>2000</b>	2 494	1 206	89	128	400	137	98	168	268
	<b>1999</b>	2 563	1 189	116	113	466	148	126	169	236
	<b>1998</b>	3 722	2 171	120	133	445	110	156	284	303
<b>Slovak</b>	<b>2002</b>	1 786	685	79	104	422	125	107	118	146
	<b>2001</b>	1 782	708	78	101	405	126	90	123	151
	<b>2000</b>	1 705	588	83	94	377	130	97	142	194
	<b>1999</b>	1 650	576	95	76	356	140	125	140	142
	<b>1998</b>	2 488	1 190	105	102	373	99	155	261	203
<b>Foreign</b>	<b>2002</b>	742	547	5	38	12	14	24	19	83
	<b>2001</b>	716	509	6	36	6	11	5	47	96
	<b>2000</b>	789	618	6	34	23	7	1	26	74
	<b>1999</b>	913	613	21	37	110	8	1	29	94
	<b>1998</b>	1 234	9 81	15	31	72	11	1	23	100

Note: (a) Without Czech nationals who do not need work permits in Slovakia

For 2002 second quarter

Source: National Labour Office

## *Conclusions*

1. Despite the fact that since 2004 the total population change consisted of positive natural balance and positive net migration, the overall long-term trend is set towards population ageing. Foreign migration does not seem to have the magnitude that could more significantly influence the population figures. The stocks and flows of foreign migrants have been increasing in particular since Slovakia joined the EU, but their magnitude is still rather low compared to total population (for example, as of end 2009 residence permit holders represented 1 per cent of total population).

2. Comparing regional coefficient of variation for economic activity rate, employment rate and unemployment rates implies that the inter-regional variation is relatively low for the former two, but rather high for the unemployment rates. In 2008 the regional variation of all three indicators was relatively large, but during 2009 and 2010 it continued to fall quite significantly, and notably for unemployment rates. Combined with the observation of generally increasing unemployment rate in all regions, this implies that the progressing crisis worsened the unemployment situation in all regions, but mainly in the originally better performing ones, thus wiping out some of the inter-regional variation in unemployment rates.

3. Despite relatively large regional differences in terms of labour market conditions, internal mobility has been decreasing over the transition period. Substantial part of internal mobility is over shorter distances rather than inter-regional. Furthermore, prevailing reasons for internal migration are not primarily linked to job search. Thus internal migration does not seem to be sensitive towards regional labour market differentials and does not seem to play a more substantial role in mitigating these differences.

4. Regional pattern of foreign migration also does not seem to react to the regional labour market conditions. A lion share of foreign migrants in both absolute and relative terms is concentrated in the region of capital Bratislava where the unemployment rate is traditionally low, or in larger urban agglomerations, notably in Kosice. Regions with high unemployment rates attract relatively low shares of foreign migrants and foreign labour force. Thus foreign workers eventually “fill the gap” in the relatively better off regions.

5. Total stocks of migrants with residence permits have been generally increasing every year since the EU accession and this path was uniform for all the regions. Cumulative intake of migrants as measured by newly granted residence permits during the post accession period 2005 - 2009 was heavily concentrated in the region of capital Bratislava.

6. Regionally the foreign workers seem to substitute rather than complement the domestic ones in the sense that in the regions with more vibrant labour markets the shares of foreign workers tend to be larger while in the regions with higher unemployment shares where the mass of domestic workers cannot find jobs, there are also fewer foreign workers.

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## Annex

### Maps of Slovak regions and districts

Figure A1 Slovak Republic - external and internal (district) borders

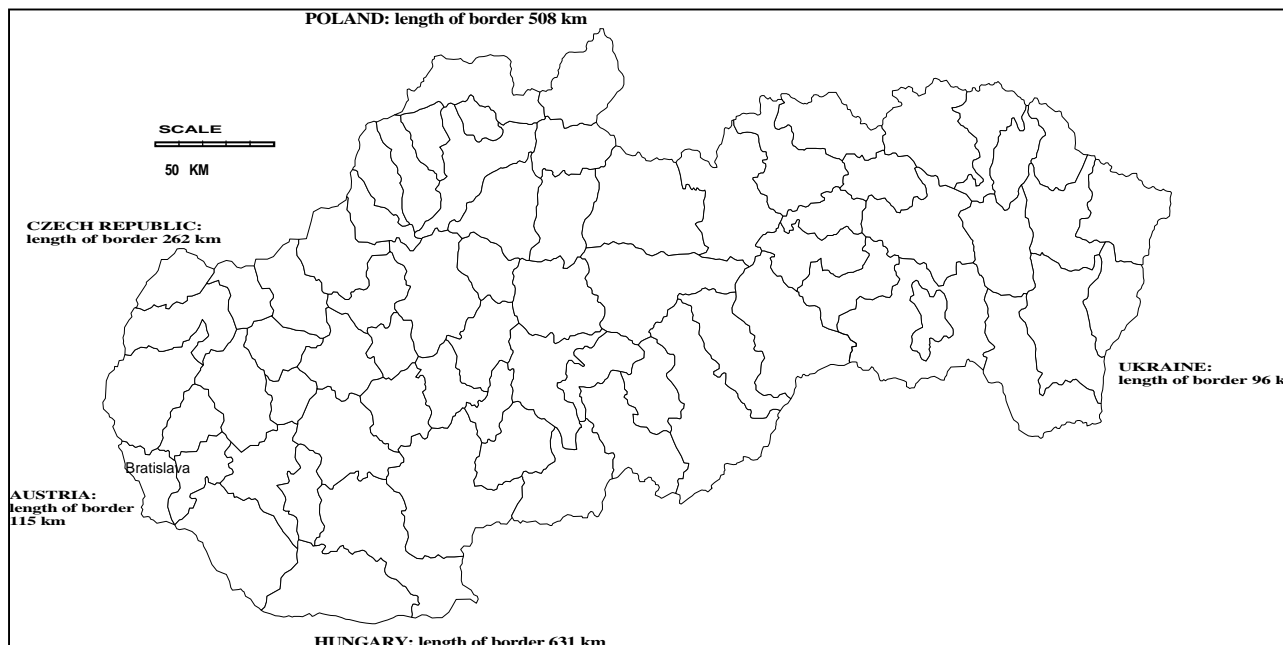
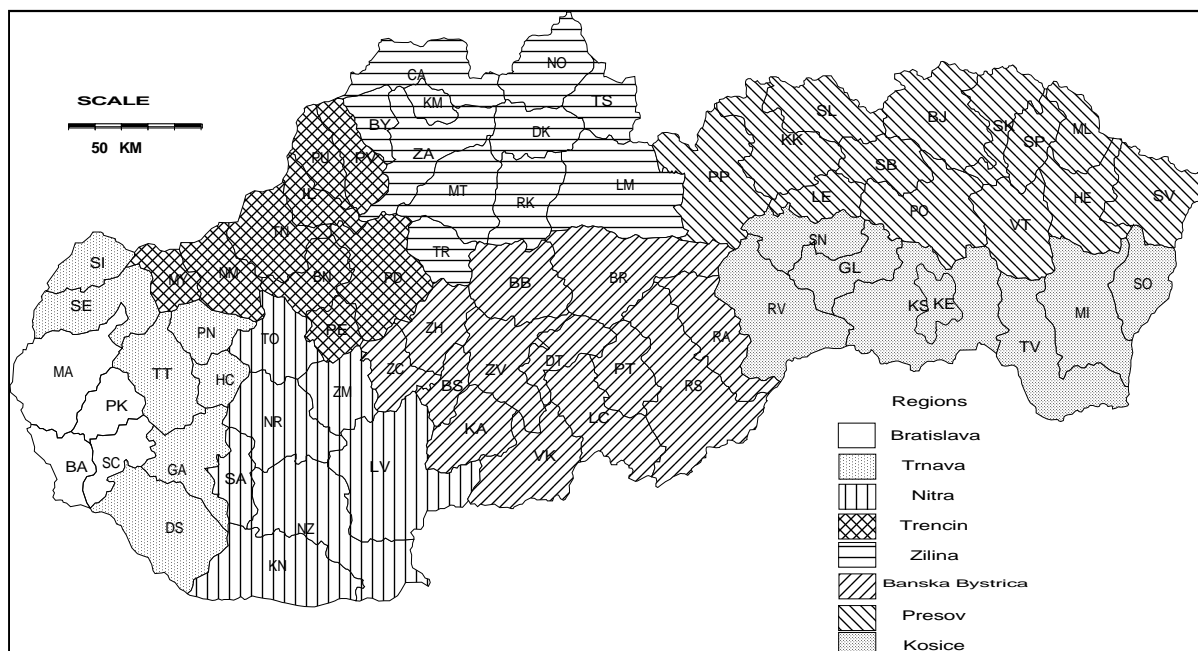


Figure A2 Slovak Republic – regions and districts



Notes: Regions correspond to NUTS 2 level, districts to NUTS 3 level.

## List of regions and districts

**Bratislava region**

BA Bratislava

MA Malacky

PK Pezinok

SC Senec

**Trnava region**

SI Skalica

SE Senica

TT Trnava

PN Piestany

HC Hlohovec

GA Galanta

DS Dunajska Streda

**Nitra region**

NR Nitra

ZM Zlate Moravce

TO Topolcany

SA Sala

NZ Nove Zamky

LV Levice

KN Komarno

**Trencin region**

MY Myjava

NM Nove Misto n/Vahom

TN Trencin

IL Ilava

PU Puchov

PB Povazska Bystrica

BN Banovce n/Bebravou

PE Partizanske

PD Prievidza

**Martin region**

MT Martin

RK Ruzomberok

LM Lipt.Mikulas

TR Turc. Teplice

CA Cadca

KM Kys. N. Mesto

ZA Zilina

NO Namestovo

DK Dolny Kubin

TS Tvrdosin

BY Bytca

**Banska Bystrica region**

ZC Zarnovica

ZH Ziar n/Hronom

BS Banska Stiavnica

BR Brezno

BB Banska Bystrica

ZV Zvolen

DT Detva

PT Poltar

KA Krupina

VK Velky Krtis

LC Levice

RS Rimavska Sobota

RA Roznava

**Presov region**

PP Poprad

KK Kezmarok

SL Stara Lubovna

LE Levoca

SB Sabinov

PO Presov

BJ Bardejov

SK Svidnik

SP Stropkov

HE Humenne

ML Medzilaborce

VT Vranov n/Toplou

SV Snina

**Kosice region**

RV Roznava

SN Spisska Nova Ves

GL Gelnica

KS Kosice environs

KE Kosice

TV Trebisov

SO Sobrance

MI Michalovce