

Long-term international migration scenarios for the new EU member and accession countries

Jakub Bijak
Marek Kupiszewski
Beata Nowok
Anna Kicingier

DRAFT

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1. Introduction

This report summarises an outcome of one component of a research project “Compilation of long-term national and regional population scenarios for the 12 EU candidate countries”, funded through the Eurostat call for tenders (2002/S 67-052015/EN) - Lot 2 and executed by the Netherlands Interdisciplinary Demographic Institute (NIDI). Central European Forum for Migration Research was involved in this project as a subcontractor responsible for setting up the scenarios of development of international migration for the ten new EU members (Cyprus¹, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, the Slovak Republic and Slovenia), as well as two EU accession countries (Bulgaria and Romania). The objectives of this study include an explanatory analysis of recent changes in the international migration patterns and compilation of three scenarios of international migration developments on a national level for the period 2000-2070. The analysis concentrates on registered long-term international migration and therefore excludes all illegal, pendulum and other irregular forms of population movements. As no internationally accepted definition of migration exists, for the purpose of this study we assumed the definitions adopted by each country. We are aware of the incompatibility of these definitions, however no other universal and reliable source of migration data exists. An outcome of this project is a set of country-specific projections of net international migration distributed by sex and single years of age. The scenarios will further constitute a basis for the official population projections of Eurostat.

Scenarios of international migration developments presented in this study are compiled in three variants: Base, High and Low, allowing for different assumptions on economic growth in the sending countries and restrictiveness of migration policies in the receiving countries. The scenarios are based on the analysis of the past trends, as well as on the expert knowledge and on what the authors believe future expectations might be. The assumptions are founded on the analysis of push and pull migration factors of three major types: economic, political, as well as related to migration policies both in the new EU member countries and in their migration partner states.

To minimise the bias resulting from the visible under-registration of migrants in the countries of Central and Eastern Europe, data applied for this study are the time series of net migration, calculated as residuals from the annual balance of population change, allowing for after-census corrections, wherever feasible.

Section 2 of this report contains a description of international migration theories derived from the different disciplines of science (economy and sociology), as well as an evaluation of their applicability to migration forecasting. In Section 3, factors influencing international migration in the new member and accession countries are discussed from the point of view of their historical patterns and possible future evolution. The discussion focuses on ethnic migration, role of political changes and migration policies, impact of the economic conditions, demographic discrepancies and labour force shortages, as well as on the importance of migrant networks in shaping the population flows. Section 4 covers the issues of quality, completeness and usefulness of available international migration data. After some general remarks on the data quality, the ways of estimating net migration, as well as its age and sex distributions are presented. Section 5, devoted to the overview of migration patterns in the new EU members and the accession countries, contains the analysis of past and recent

¹ Unless explicitly noted otherwise, the analysis considers only the government-controlled area of Cyprus.

migration trends. In this section, the most important push and pull factors shaping international population movements of these countries (economic conditions and migration policies) are analysed in details. The empirical study of migration patterns is concluded with an identification of the major directions of population flows. Available forecasts of international migration for the new EU members and the accession countries are discussed and evaluated in Section 6 of this report, focusing on the population forecasts prepared by the local statistical authorities, population projections of the United Nations, as well as on the selected studies of European researchers. Section 7 is devoted to the main objective of the research, compilation of the scenarios of international migration. Firstly, expectations as to the timeframe of opening the labour markets of the Western European EU countries to the labour force from the new EU members are presented. Then, country-specific qualitative scenarios of future net migration developments are set and assumptions are made with regard to the overall tendencies expected in the areas of economic development and migration policies. These assumptions are subsequently quantified in order to produce the projected values of net migration expected in the period 2000-2070, an overview of which is provided on the country level. All the results of the analysis are summarised in the final, eighth section of this report, which also contains some additional remarks about the possible future migration developments.

2. Theories of international migration and their applicability to migration forecasting

A number of theoretical approaches have been developed within the framework of different disciplines of science in order to explain the migration phenomena and identify their major determinants. This section focuses on a brief outline of the major theories and their applicability to the problem of migration forecasting, especially concentrating on the situation of the new EU members and the accession countries.

In the past, social scientists have created an impressive body of literature concerning theories of migration. However, relatively little attention has been paid to the problems and specificity of international migration. A large number of migrants in Europe and North America in the last decades not only resulted in an immense number of studies on patterns of international migration but also attracted the researchers' attention towards theoretical issues and determinants of international migration. Two most comprehensive reviews on these topics have been published respectively by Massey et al. (1993), as well as by Greenwood and McDowell (1992). More recent review was prepared by Zlotnik (1998). Usefulness of the theories for migration forecasting models was evaluated by Öberg and Wils (1992).

2.1. Economic theories of migration

The neo-classical macro-economic theory (Lewis 1954) assumes that migrants will move from low to high income areas and that the flow of skilled labour is sensitive to the rate of return to the capital invested. The neo-classical micro-economic theory tries to refine this simplistic picture by inclusion of the concept of opportunities (Sjaastad 1962) that are individualised. Both these theories are based on the assumption that an individual tries to maximise his income. So called new economic theory of migration (Stark and Bloom 1985, Stark 1991) offers entirely different approach. The argument goes that households, not individuals, are in the core of emigration decisions and that they try to manage the risk to their income by diversification of labour markets of the members of the household. This theory explains why international migration continues even when wage levels in the source and in the destination level off.

The dual labour market theory (Piore 1979) argues that migration is driven by the demand and recruitment practises at the destination rather than income differentials at the source and destination. Local people in the destination tend to move from '3D' (dirty, dangerous, difficult) low wage, low productivity and low stability labour market to high wage, high productivity and high stability labour market, leaving behind vacancies to be filled by migrants. The wage, according to this theory, expresses not only economic value of labour, but conveys a message on the status of the post and the post holder. The consequence of this assumption is that wage adjustment to the labour conditions requires also changes in the perception of status of certain jobs in the society.

2.2. Sociological theories of migration

Taylor (1986) and other sociologists see the existence of networks of kinship and friends as instrumental in the decision process of prospective migrants, as they reduce the cost of migration and increase the chance for success, allowing migrants to have access to support and better information. The network effect can be enhanced by institutional arrangements, both formal and informal. This effect has been described by the institutional theory which states that there are numerous institutions and organizations supporting and profiting from migration and that these institutions have direct impact on migrant's behaviour. This theory may be exemplified analysing for example illegal trafficking networks, legal recruitment agencies which match labour supply in destination with labour demand in source or finally international organizations and NGOs supporting legal, orderly migration and helping migrants in trouble.

The cumulative causation theory (Massey 1990) focuses on the migration-induced alteration of the cultural and social environment in the country of origin as the main agent of international migration. When the migration starts, there is a constant feedback going on from the migrant to non-migrant population, conveyed by return migrants, who often set the benchmark of success in local communities. This benchmark, impossible to achieve without migration, results in new migration being undertaken by non-migrant population or less successful return migrants.

The key sociological theory of intervening opportunities was formulated by Stouffer (1940, 1960). The theory links a distance at which migration takes place and a number and quality of factors attractive to the migrant between the place of origin and destination. Thus the opportunities found by migrants have absorbing effect on the stream of migrants.

A concept of push and pull factors (Lee 1966) says that migrants are susceptible both to factors perceived by them as the push ones (unfriendly) at the origin and to those perceived as the pull (attracting) ones at the destination. The relative strength of the push and pull factors is also responsible for the characteristics of migrants. If the pull factors at destination are dominant, migrants tend to be positively selected in terms of education, skills, motivation, etc. Negative selection occurs when push factors in the place of origin are playing main role in the decision. It is also worth noting that this theory is one of very few that may be directly applied to the forecasting of migration and that the strength of push and pull factors may be difficult to measure. Despite of these problems this concept will be used in Sections 3 and 5 to analyse possible developments of international migration in the new EU member and accession countries.

2.3. Evaluation of usefulness of international migration theories for forecasting

The existing theories offer explanation on a variety of levels, from micro to macro approaches, and use a variety of conceptual frameworks including economics, geography, demography, sociology and behavioural sciences. At the same time there is no single theory which would offer a consistent and general explanation of migration patterns. As Arango (2000: 283) has put it, "Migration is too diverse and multifaceted to be explained by a single theory." In addition, none of the theories takes into consideration two important factors: the existence of forced migration (although Öberg, 1996, takes into account the hard and soft

push factors, the former generally responsible for forced migration) and the impact of migration policies on flows of migrants. This neglect of important aspects of migration on one hand and the diversity and fragmentation of theories on the other has a profound impact on the possibility to directly apply any of the numerous theories to migration forecasting.

From the point of view of forecasting international migration, probably the most useful is the concept of push and pull factors which has been used either explicitly or implicitly in a number of forecasts. In this study, the push and pull framework has been applied, being useful for the analysis of potential incentives to migrate, however without any attempts to operationalise these migration factors.

3. Factors influencing international migration in the new EU members and accession countries: Historical patterns and possible future evolution

International migration flows concerning the twelve European countries under study can be described in terms of the push (unfavourable) and pull (attracting) factors. Both types of factors can be seen as complementary: wealth in an attractive migration destination country (a pull factor) is strongly related to insufficient income levels in the origin countries of the migrants (Öberg 1996). According to Öberg (1996), *hard* and *soft* push factors can be distinguished, examples of the former being war, starvation and environmental catastrophes, while of the latter – poverty, persecution and social loneliness. Studying the recent developments of international migration in the new EU member and accession countries, one can conclude that apart from the armed conflicts in the former Yugoslavia, contemporarily most of the factors are of the *soft* type, being primarily of an economic character.

The factors discussed below do not exhaust the usual list of migration determinants and are selected somewhat arbitrary by the authors. The factors which have been excluded are those which are unlikely to exist in near future in the region under consideration. For this reason such events as famine, drought, environmental catastrophes, wars etc. have not been considered in the analysis.

3.1 Ethnicity, religion and languages

Central and Eastern European states have in many cases diverse, from the point of view of ethnicity, populations. Table 1 shows up to five largest national and religious groups in each of the discussed countries. The national composition is given for two points in time: around 1992 or as close as possible, and for the latest available moment.

It is clear that for most of the countries of Central Europe the minorities do not constitute a serious problem at the moment because the largest of them are very homogeneous (around at least 90% of the largest ethnic group) as it is in the case of Poland, Czech Republic, Slovenia, Romania or Hungary. In addition, the countries under study underwent substantial outflow of ethnic migrants at the end of 1980s and early 1990s.

According to the German Federal Ministry of Interior between 1950 and 2002 some 4.3 million persons migrated from former Soviet Union and Central Europe on the ticket of German origin. About 1.44 million of them originated from Poland, 0.43 million from Romania, 2.17 million from the former Soviet Union and 100 thousand from the former Czechoslovakia (Bundesministerium des Innern 2003). Münz and Ohliger (1998) estimated that in 1997 there were 350 thousand ethnic Germans left in Poland and 50 thousand in Romania, however the Polish 2002 Census brought the number of persons of German nationality down to 153 thousand. Given that in 2002 the only significant source of *Aussiedler* was the former Soviet Union with 38.5 thousand applications; whereas there were 179 applications from Poland and 338 from Romania (Bundesministerium des Innern 2003), German ethnic migration is not expected to generate in the future any significant flows from the region in question. On the contrary one may expect return migration of some of the *Aussiedler*, especially those who, with limited knowledge of German, can encounter serious obstacles in settling down in Germany for good. The process already started some time ago

(Heffner, So•dra-Gwi•d• 1997) and, judging by German data on flows of migrants from Germany to Poland may be quite substantial.

Hungarians form another large minority residing outside Hungary. According to the most recent population censuses, there are 1.4 million of them in Romania (6.6% of total population) and 0.5 million in the Slovak Republic (9.7% of total population). Juhász (1997) puts the estimate of Hungarians outside the Hungary at 6 million whereas Brubaker (1998) at 1.6 million. The results of censuses in Romania and the Slovak Republic show clearly that the latter estimate was incorrect. In the early 1990 these minorities experienced an uneasy cohabitation with the host nationalities of their countries of residence, but efforts of the Council of Europe as well as European integration processes certainly eased the tensions. Remarkably even in early 1990s these uneasy relations did not generate any noticeable migration from the Slovak Republic to Hungary (Juhász, Dövényi 1994). In fact, Hungarians registered 413 migrants from former •SSR over the period of three and a half years starting in January 1990 (OECD 1995). It is therefore unlikely that the situation changes dramatically in future, given the improvement of bilateral relations. Migratory interactions between Hungary and Romania are slightly more intense; between 50% and 60% of naturalisations in Hungary are those of Romanian citizens, most likely of Hungarian ethnicity. However, the numbers are still very small.

Polish diaspora consists of two main categories: Poles forcibly deported during and after the World War II to the Soviet Union, mostly to Kazakhstan, as well as voluntary emigrants and their descendants to Europe and the Americas. The members of the former group, despite of institutional help of the state have not come in large numbers. The returns from the developed countries have been observed, but proved to be rather insignificant. Neither of these categories is likely to generate substantial migration streams.

Other Central European countries experience certain return migration, however their size is difficult to assess, as a part of it is not registered and some of it takes form of immigration of foreigners, for example managers send by multinational companies.

To summarise the ethnic factor does not seem to generate substantial migration flows in the future, mostly because these who wanted to migrate to their countries of ethnicity have already done so. As the migration was in most cases directed from the less to more affluent countries, return migration will also be probably limited.

Table 1. Major ethnic and religious communities in the new EU member and accession countries

Country	First nationality (%) First religion (%)	Second nationality (%) Second religion (%)	Third nationality (%) Third religion (%)	Fourth nationality (%) Fourth religion (%)	Fifth nationality (%) Fifth religion (%)
Bulgaria					
Nationalities 1992	85.3 Bulgarian	8.5 Turkish	2.6 Roma	2.5 Macedonian	0.3 Armenian
Nationalities 1998	83.6 Bulgarian	9.5 Turkish	4.6 Roma		
Religions 1995	83.8 Bulgarian Orthodox	12.1 Muslim	1.7 Roman Catholic	0.1 Jewish	
Cyprus (whole island)					
Nationalities 2000	85.2 Greek	11.7 Turkish			
Religions 2000	78.0 Orthodox	18.0 Muslim			
Czech Republic					
Nationalities 1991 (census)	81.2 Czech	13.2 Moravian	3.1 Slovak	0.6 Polish	0.5 German
Nationalities 2001 (census)	90.4 Czech	3.7 Moravian	1.9 Slovak	0.5 Polish	0.4 German
Religions 2001 (census)	26.8 Roman Catholic	1.1 Czech Evangelic	1.0 Czechosl. Hussite Church		
Estonia					
Nationalities 1989 (census)	67.5 Estonian	30.3 Russian	3.1 Ukrainian	1.8 Belarusian	0.3 Jewish
Nationalities 2000 (census)	67.9 Estonian	25.6 Russian	2.1 Ukrainian	1.3 Belarusian	0.9 Finnish
Religions 2000 (census)	13.6 Lutheran	12.8 Orthodox			
Hungary					
Nationalities 1992	96.6 Hungarian	1.6 German	1.1 Slovak	0.2 Romanian	
Nationalities 2002 (CIA)	89.9 Hungarian	4.0 Roma	2.6 German	2.0 Serb	0.8 Slovak
Religions 2002 (CIA)	67.5 Roman Catholic	20.0 Calvinist	5.0 Lutheran		
Latvia					
Nationalities 1989 (census)	52.0 Latvian	34.0 Russian	4.5 Belarusian	3.5 Ukrainian	2.3 Poles
Nationalities 2000 (census)	57.7 Latvian	29.6 Russian	4.1 Belarusian	2.7 Ukrainian	2.5 Poles
Religions 1998 (Krumina-Konkova 1999)	20.5 Roman Catholic	13.9 Lutheran	12.3 Orthodox	2.9 Old Believers	
Lithuania					
Nationalities 1989 (census)	79.6 Lithuanian	9.4 Russian	7.0 Polish	1.5 Belarusian	1.2 Ukrainian
Nationalities 2001 (census)	83.5 Lithuanian	6.7 Polish	6.3 Russian	1.2 Belarusian	0.7 Ukrainian
Religions 2001 (census)	79.0 Roman Catholic	4.0 Orthodox	0.8 Old Believers	0.6 Lutheran	
Malta					
Nationalities 1995	98.0 Maltese				
Religions 2002	98.0 Roman Catholic				
Poland					
Nationalities 1992	97.6 Polish	1.3 German	0.6 Ukrainian	0.5 Belarusian	
Nationalities 2002 (census)	96.7 Polish	0.5 Silesian	0.4 German	0.1 Belarusian	0.1 Ukrainian
Religions 1995	95.0 Roman Catholic				
Romania					
Nationalities 1992	89.1 Romanian	8.9 Hungarian	0.4 German		
Nationalities 2002 (census)	89.5 Romanian	6.6 Hungarian	2.5 Roma	0.3 German	0.3 Russian
Religions 2002 (census)	87.0 Orthodox	6.7 Protestant	5.6 Roman Catholic		
Slovak Republic					
Nationalities 1991 (census)	85.7 Slovak	10.8 Hungarian	1.4 Roma	1.0 Czech	0.3 Ruthenian
Nationalities 2001 (census)	85.8 Slovak	9.7 Hungarian	1.7 Roma	0.1 Czech	0.4 Ruthenian
Religions 2001 (census)	68.9 Roman Catholic	6.9 Lutheran	4.1 Greek Catholic		
Slovenia					
Nationalities 1991 (census)	91.0 Slovene	3.0 Croat	2.0 Serb	1.0 Muslim	
Nationalities 2001 (census)	83.1 Slovene	2.0 Serb	1.8 Croat	1.6 Muslim / Bosniak	
Religions 2001 (census)	69.1 Roman Catholic	1.1 Evangelic	0.1 Islam	0.1 Orthodox	

Sources: *New World Demographics (1992)*, *CIA World Factbook (2003)* (www.cia.gov/cia/publications/factbook), local statistical offices.

3.2. Political changes

Political changes are difficult to predict. The alterations of migration patterns that occurred after the fall of the communist system in Central Europe and related opening of the borders in 1989 and in the Baltic States in 1991 are hardly expected to repeat in the future. In the course of the 1990s, some political factors have significantly shaped international migration flows of the countries under study. The most important were the armed conflicts on the territory of the former Yugoslavia, generating waves of refugees mainly from Bosnia-Herzegovina and Croatia to the other countries of Central and Eastern Europe, especially to Slovenia and Hungary. Political motives of population outflows also primarily concerned the emigration of ethnic Russians from Latvia and Estonia due to problems with obtaining citizenship, as well as the emigration of ethnic Turks from Bulgaria (cf. Sections 5.1 and 5.2).

The most important recent changes affecting the countries of Central Europe were the admission to the NATO, which provided them with the sense of security, and the accession to the European Union, which has profound economic significance and will also substantially contribute to the political stability. These changes will have, no doubt, mitigating effect on politically induced international migration. The main sources of political instability lie currently outside the enlarged European Union, the main example being the former Yugoslavia, where ethnic tensions are suppressed for the time being by the international armed forces. Another source of instability lies on the Eastern border of the enlarged EU, where undemocratic Belarus, as well as Ukraine and Russia, which lack democratic traditions and are characterised by strong autocratic mentality, may potentially stir large migration waves.

3.3. Migration policies

Migration policies are another element, which notoriously lacks stability. They tend to respond to the pressures of time or serve as an easy way to gain votes of the political right. Migration policies express the nations' attitudes to the foreigners, as well as the current political, social and economic conditions. There is a distinctive difference between policies pursued by 'immigration nations', such as the USA, Canada or Australia and 'emigration nations' that is all European nations.

The message which has been sent by the wealthy countries of Europe for the last several years is clear: the migrants are not needed anymore. De Jong and Visser (1997) argue that a change in migration policy in one country generates parallel changes in the other. This is partly due to migrants' response to changing conditions in the destination: if the planned destination gets more hostile, a determined migrant will chose another, more open destination. From the point of view of forecasting, this feature of migration policies is important as we can adopt a simplifying assumption that policy changes go in the same direction in a group of countries (as in Western or Central Europe) roughly at the same time.

General trends in migration policies of Western European countries focus on further limiting the abusing of asylum system, combating all forms of illegal immigration and strengthening the border control in line with the Schengen agreements, as well as introduction of different forms of selective immigration policy.

Regarding the states' efforts to combat the so-called asylum crisis, the changes here are the continuation of the three general directions existing in asylum policy since the beginning of the 1990s: tightening up of legislation by introducing the concepts of safe third country, safe country of origin and manifestly unfounded applications; speeding up the examining of the applications, making the period of awaiting for a decision less attractive from economic point of view and signing bilateral agreements on readmission. The network of such agreements has been developed across whole Europe since the beginning of 1990s, the recent ones were concluded between Germany and Albania in 2002, as well as between Spain and Mauritania in 2003 (OECD 2004). Readmission agreements enabled countries to turn back to the country of arrival persons with manifestly unfounded asylum applications, as well as the other illegal migrants.

Policy moves as mentioned before represent a general tendency to interpret the Geneva Convention in a strict way, which has been noted among some European countries. Another measure to curb the potential abuse of the asylum system taken by the EU and then also by the accession countries was the Dublin Convention, limiting to one the number of countries in which the asylum application may be examined. Central European countries in transition, as a result of recognizing them as safe third countries by the EU states, i.e. countries where there is not a general risk of persecution, are not the sources of asylum seekers anymore and, with the notable exception of Yugoslavia and possibly the former USSR, will not become unsafe in the foreseeable future. Instead, due to the political and economic transformation, the countries of Central and Eastern Europe became the countries of destination for the growing number of asylum seekers, especially from outside Europe.

Important measures have been taken to curb illegal migration. This is being done by increasing border control (Germany, Austria, the UK) and undertaking the new measures in this field at international level (e.g. joint maritime patrols in the Mediterranean Sea by France, Spain and Italy, bilateral or multilateral charter flights to return irregular migrants to their countries of origin by some of the EU members, coordinated border control by the Slovak and Czech Republics). Additionally, new visa requirements have been introduced (e.g. by the Schengen countries with regard to the nationals of Ecuador in 2003 or by Poland in relation to citizens of Russia and Ukraine). Penalties for human traffickers already existing in the legislation of the Western countries have been introduced in Romania and Bulgaria. Another incentive to strengthen the cooperation especially in the areas of border control and air transportation were the terrorist attacks of September 11, 2001 (OECD 2004).

Another way of dealing with irregular migration became regularisation programmes aimed at undocumented migrant workers, popular recently especially in Southern Europe (Greece, France, Italy, Portugal and Spain). It is, however, very likely that regularisation programmes will, in long run, attract more illegal migrants.

The efforts for integration of already admitted migrants were improved to maximise the benefits of migration to both the individuals and the host society. Some countries (France, Germany, and Norway) concentrated their activities on language training of immigrants, while the others enforced the means of combating discrimination (Belgium, Sweden). When it comes to naturalisation as a concluding part of integration policies, two opposite tendencies can be noticed, displayed in the increasing (Austria, the United Kingdom, Belgium or Spain), and lowering (Netherlands, Germany) numbers of naturalisations (OECD 2004).

Finally, the renewed interest in selective labour-related immigration policy constituted another trend in migration policies which is worth considering. Most countries introduced legislation opening their territory to selected highly-skilled specialist; some of them even launched special programmes to attract the best migrants (the United Kingdom, Germany). Such situation resulted from labour shortages in certain sectors of the economy, i.e. in the information technology, medicine and biotechnology. On the other hand, policies of admitting low-skilled workers were concurrently developed in response to labour needs in agriculture, construction and household services, most notably in Italy, Spain, Portugal and Greece (OECD 2004).

Generally, migration policies across Europe represent two tendencies - the shift from zero immigration rule towards selective and cautious openness for labour migration, combined with ever stricter border control and managing migration flows to the maximum extent. This is reflected in the growing number of bilateral agreements on the exchange of seasonal or temporary workers on the one hand, and the efforts to combat all forms of illegal migration at national and international level on the other.

3.4. Economic conditions

Two issues seem to be important for international migration from economic point of view: the magnitude of economic discrepancies between countries in Europe and the impact of economic transformation and restructuring². Judging by the difference in GDP per capita the most affluent European countries, such as Luxembourg, Denmark or Germany are over 20 times better-off than the poorest European country – Albania (World Bank 2003). This measure however does not take into account the differentiation in the price level which is an important factor from the point of view of the satisfaction factor of prospective migrants. A synthetic measure allowing for incorporation of this factor in each country is per capita GDP based on purchase parity power (PPP) rather than on fixed exchange rates. The differences between the rich and the poor countries are still very significant, but smaller than for the simple GDP comparisons. The scale of economic discrepancies between the new EU members and accession countries on one hand and selected countries of Western Europe on the other, according to this measure, is shown in Table 2.

It is worth noting that Cyprus is the only new EU member country that is already close to the EU-15 average in terms of PPP-adjusted GDP level, bigger even than in Greece, Portugal or Spain. Slovenia is also located not very far from the average for the current EU, while the adjusted GDP in the Czech Republic, Malta, Hungary and the Slovak Republic either exceed 50% of the EU-15 average, or in the last case is very close to this level. In all these countries, registered net migration levels in the recent years were positive (cf. Section 5.2). The remaining countries, characterised by negative net migration balance in the 1990s, can be grouped in two clusters: one, with the adjusted GDP levels exceeding 30% of the EU average, comprising Poland and the Baltic States, and the other – the two accession countries, Bulgaria and Romania, economically worst-off of all the countries under study. A relationship between the position of a country on the scale of the economic development and the dominant direction of migration flows is thus clearly visible.

² These issues have also been thoroughly discussed by Kupiszewski (1996).

Table 2. GDP per capita (PPP) in the new EU members and accession countries in 2001, as compared to the countries of EU-15

Country	Year	GDP per capita, PPP (in 2001 dollars)	% of GDP in the EU ¹⁾
EU-15	2001	24 099	100.0%
EU-15 countries			
Luxembourg	2001	53 780	223,2%
Ireland	2001	32 410	134,5%
Denmark	2001	29 000	120,3%
Netherlands	2001	27 190	112,8%
Austria	2001	26 730	110,9%
Belgium	2001	25 520	105,9%
Germany	2001	25 350	105,2%
Italy	2001	24 670	102,4%
Finland	2001	24 430	101,4%
Sweden	2001	24 180	100,3%
United Kingdom	2001	24 160	100,3%
France	2001	23 990	99,5%
Spain	2001	20 150	83,6%
Portugal	2001	18 150	75,3%
Greece	2001	17 440	72,4%
New EU members and accession countries			
Cyprus ²⁾	2001	21 190	87.9%
Slovenia	2001	17 130	71.1%
Czech Republic	2001	14 720	61.1%
Malta	2001	13 160	54.6%
Hungary	2001	12 340	51.2%
Slovak Republic	2001	11 960	49.6%
Estonia	2001	10 170	42.2%
Poland	2001	9 450	39.2%
Lithuania	2001	8 470	35.1%
Latvia	2001	7 730	32.1%
Bulgaria	2001	6 890	28.6%
Romania	2001	5 830	24.2%
Selected current EU countries upon their accession			
Greece	1980	16 288	:
Spain	1985	14 169	:
Portugal	1985	12 869	:
Ireland ³⁾	1972	10 157	:

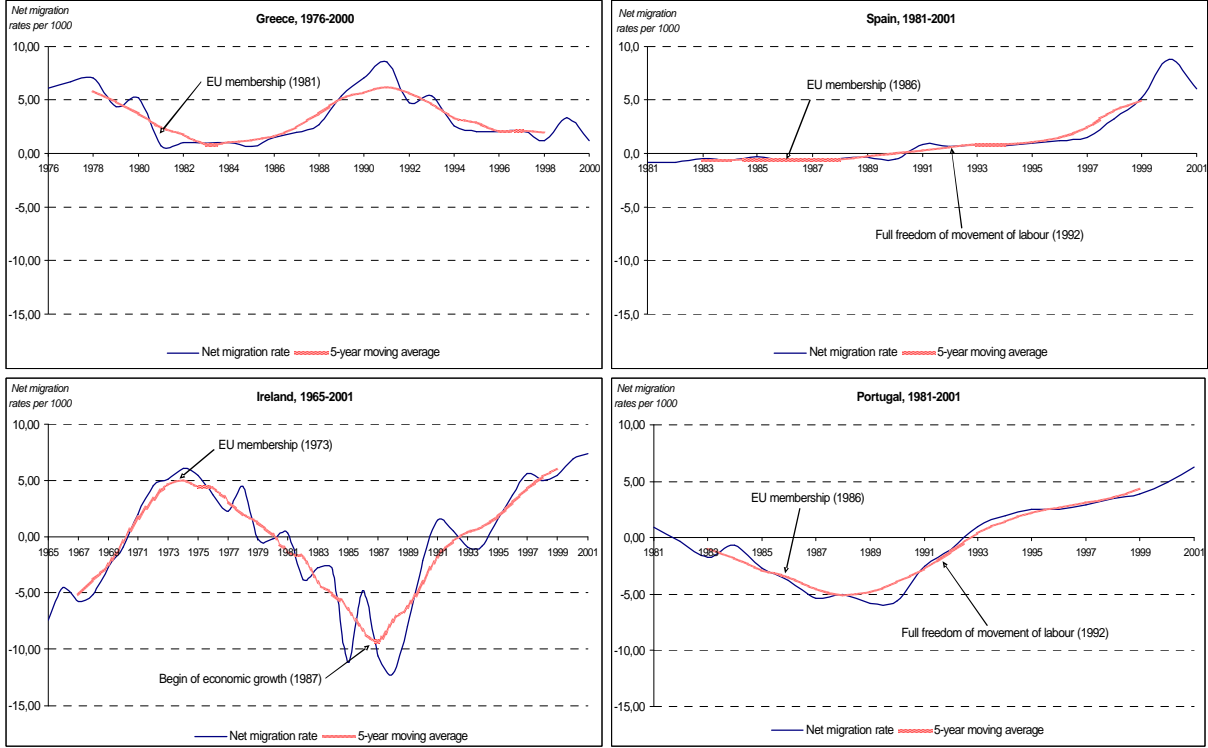
Notes: ¹⁾ for 2001 only; ²⁾ government-controlled area only; ³⁾ estimate.

Source: World Bank (2003).

Assumptions regarding expected developments of net migration trends in Central and Eastern European countries after joining the EU can be, to some extent, based on the past tendencies observed in the least developed countries of the current European Union following their accession. And thus, the patterns observed for Ireland and Portugal followed the path of a visible decline of net migration in the first period after the accession and a noticeable growth afterwards. In turn, the cases of Greece and Spain were different, as after joining the EU net migration remained practically stable for four-five years, then started to increase slightly, which tendency substantially gained in pace in the second half of the 1990s. One of the explanations for dissimilar development paths of net migration may be the different economic situations of these countries at the time of EU accession, as illustrated in Table 2 in terms of

PPP-adjusted GDP per capita, and their subsequent changes. The net migration patterns for Greece, Spain, Ireland and Portugal before and after the EU accession of these countries are shown in Figure 1.

Figure 1. Net migration before and after EU accession: Ireland, Greece, Spain and Portugal



Source: Council of Europe (2003), country-specific Tables 8.

Interestingly, the net migration development patterns are consistent with conclusions from Table 2, as the most rapidly developing economy (Ireland) encountered the most dynamic increase in the migration balance, while the stagnating economy of Greece experienced the exactly opposite effect (disregarding the temporary growth in population inflow in the early 1990s). The latter conclusion has to be however treated with some caution due to the effects of illegal migration and regularisation programmes. Both Portugal and Spain underwent a moderate increase in net migration, what clearly reflects the pace of economic growth since their accession in 1986.

It may be enlightening to examine another important economic factor - the employment in agriculture according to the most recent available and comparable data for 1998 (World Bank 2003). Shares of population employed in agriculture in Romania (40.0%), Bulgaria (26.2%), Poland (19.2%) and Latvia (18.8%) are many times higher than in France (1.4%), the United Kingdom (1.7%), Luxembourg (2.1%), Belgium (2.2%), Sweden (2.6%) or Germany (2.8%). On the other hand, some Central European countries (most notably the Czech Republic, Hungary, the Slovak Republic and Estonia, with the respective shares amounting to 5.3%, 7.7%, 8.3% and 9.1%) have significantly less percentages of population employed in the agriculture than for example Greece (17.8%) or Portugal (13.5%). Nevertheless, as the agricultural sector in Central and East Europe is underdeveloped and inefficient, there is little doubt that it will have to modernise and streamline its labour force. These people may contribute to the migration flow to Western Europe, as many of them will be unable to find employment in their own countries. The extent of this migration depends mainly on the dynamics of economic change in Central and Eastern Europe.

Another economic process which may trigger international migration is streamlining and privatisation of gigantic state-owned mining and heavy industry enterprises. Their economic existence in many cases depends on various forms of state subsidies, both official and hidden as non-execution of overdue taxes, which will have to be reduced over time. The process will inevitably bring a reduction of labour force resulting in unemployment in the old industrial areas. Some of these areas, notably Upper Silesia in Poland, have already a tradition of international migration. High unemployment itself may also contribute to the population outflow. Combination of two factors mentioned above may boost quite substantial emigration.

One factor will have all important impact on the migration of people from an entirely different end of the spectrum: the professionals and the research staff. So far it was this group which was very keen to migrate (Rhode 1993). However, the introduction of a free economy has reduced the outflow of the skilled and redirected them from research institutions and universities to emerging private enterprises (Hryniewicz et al. 1992, Ardittis 1994). There is certain revival of interest of highly skilled to emigrate, however, their numbers, in comparison to the total population, is small and will not have a significant impact on overall level of migration.

Another interesting finding has been reported by a team of researchers from the Population Activities Unit of the UN ECE (Frejka 1996). According to their research, the motives of migration and the length of stay abroad differ between the Polish migrants on one hand and the Ukrainian and Lithuanian migrants on the other. It should be pointed that current Ukrainian and Lithuanian patterns appeared to be quite similar to Polish patterns in the late eighties, what immediately brings a hypothesis that international migration patterns evolve with the level of economic development and advancement in the transition processes.

The assessment of future changes of the economic disparities discussed above has to be in fact based on the expectations of the economic growth in Europe. It may be pointed that liberalisation of economies both in the West and East already has some reducing effect on migration flows, as cheaper Central and Eastern European labour force does not have to move to the West in order to find capital and the capital, which is abundant in the West and badly needed in the East, has firm incentives to relocate eastwards. This process was threatened in the 1990s by political reluctance in the West to allow more freedom in trade as it would jeopardise some of sectors of industry, in particular heavily subsidised agriculture, this problem nevertheless ceases to exist upon the EU accession. Some authors (Molle et al. 1994) even argue that a carefully planned economic aid can reduce international migration. This aid should be directed towards restructuring and demonopolising economies and reducing unemployment in agricultural and industrial regions.

Summing up, the most important economic push and pull factors of emigration from the new EU member and accession countries are small earnings, unemployment, and relative poverty in some regions of Central and Eastern Europe, together with job opportunities and higher earnings in Western Europe. This does not concern only the illegal or seasonal employment in the agriculture or construction sectors, but also increasingly the highly-skilled professionals, for example from the IT or medical fields. In this situation, the pull factors concerning the attractiveness of the Western European countries for the potential migrants are seemingly more important than the push ones (Orłowski 2000).

With regard to immigration to the new EU member and accession countries, the key economic

aspects of population flows are symmetric to the determinants of emigration discussed above. The push factors are primarily small earnings, unemployment and relative poverty in Belarus, Russia, Ukraine, as well as in the other countries of the former Soviet Union and South-East Asia. The pull factors in turn are the opportunities of higher income and of establishing business contacts due to development of market economies in Central Europe. One can also mention the tendencies of labour markets in the new EU member and accession countries that follow development path of Western Europe with a certain time lag, i.e. population ageing, unfavourable changes in the labour force structure and in the old-age dependency rates.

It is worth noting that the issue of economic growth is symmetric. One can expect the growth in the old and new EU member countries to develop parallel due to the globalisation of the economy, and therefore countering the effects of each other from the point of view of migration balance through the influence of the mentioned intermediary push and pull factors.

3.5. Demographic discrepancies and labour force shortages

Kupiszewski (2002a) has pointed out that Western Europe will have to face shrinking of its labour force and ageing of its population. At the same time some the countries of Central Europe, notably Poland, will have to face in the next decade or so the increase in labour force and at least in some countries the process of ageing will not be that rapid. The demographic discrepancies themselves do not generate migration, however the lack of labour force does. Coleman (1992) argues that if there is a labour deficiency in the West, the governments' priorities will be to bring the unemployed back to work, offering them re-training and various incentives rather than to invite foreign workers. Another opportunity to increase labour in the Western European countries is to increase female labour force participation.

These arguments express more wishful thinking than reality. In line with the dual labour market theory, only few local people would like to take the dirty, dangerous and difficult jobs. There are also substantial shortages of staff in certain professions, in particular medical and IT specialists in the developed countries of Western Europe. These two components result in enhancement of the attractiveness of the labour markets on the receiving side and in creating pressure pulling the migrants in order to fill the structural gaps. Active recruitment practices in certain countries result in a limited flow of migrants.

3.6. Networks

The importance of the networks of friends and family at destination is widely recognised. Such networks provide information and reduce the sense of insecurity in the foreign society.

It is difficult to estimate the size of foreign populations. Census data are far from exact as foreigners may often wish not to disclose the nationality with which they identify themselves. This results in under-enumeration errors. Not all those who got naturalised in the host country lost their roots. We have therefore to use some proxy variable to assess the size of foreign populations. The number of registered foreigners is a reasonable proxy, as this information is universally collected by national statistical institutes, but one should keep in mind that they show lower numbers than in reality. Table 3 shows reported populations from the new European Union member and accession countries in the 'old' EU-15 countries.

Table 3. Populations of the new European Union member and accession countries in old European Union countries in 2001

Citizenship Residence	Total	Bulgaria	Cyprus	Czech Rep.	Estonia	Hungary	Latvia	Lithuania	Malta	Poland	Romania	Slovak Rep.	Slovenia
Austria	78 718	4 217	69	7 313	54	12 729	152	208	33	21 841	17 470	7 739	6 893
Belgium	14 641	1 069	75	597	78	1 534	129	169	72	7 800	2 481	412	225
Denmark	10 325	408	25	225	458	391	742	1 221	23	5 548	1 106	127	51
Finland	13 671	297	24	174	10 839	654	227	204	8	694	489	51	10
France ¹⁾	55 816	3 360	254	1 694	224	2 961	336	593	181	33 758	10 510	1 159	786
Germany	560 367	34 359	965	24 361	3 649	54 437	7 915	9 442	356	301 366	90 094	14 657	18 766
Greece	89 208	35 104	17 426	677	54	538	37	121	40	12 831	21 994	332	54
Ireland ²⁾	15 295	:	:	1 080	:	:	1 769	2 071	:	2 091	4 910	:	:
Italy	110 633	6 758	260	3 468	205	3 066	467	322	920	29 282	62 262	1 583	2 040
Luxembourg	1 564	113	3	97	19	143	8	14	14	666	355	74	58
The Netherlands	12 890	870	48	1 174	121	1 538	173	346	98	5 944	1 694	719	165
Portugal	1 267	376	3	106	5	123	8	16	4	230	375	12	9
Spain	20 147	3 030	89	1 033	61	607	79	168	63	8 164	6 409	341	103
Sweden	27 990	1 002	104	433	1 554	2 988	694	574	51	16 667	2 949	349	625
United Kingdom ³⁾	55 385	2 535	8 821	0	0	7 133	0	0	9 763	23 122	4 011	0	0

Notes: ¹⁾ data for 1999; ²⁾ Irish census data for 2002, total estimated as a sum over the 5 major origin countries plus a half of the remainder 'Other Europe';
³⁾ data for 2000; ":" denotes no data available.

Source: Eurostat, NewCronos, Central Statistical Office of Ireland.

Not surprisingly, the country with the largest number of registered foreigners originating from the new European Union member and accession countries is Germany (over 560 thousand in 2001, amounting to about 0.68% of the total population, with over a half originating from Poland). On the top of this one should add well over 4.3 million of *Aussiedler*, who, whatever their declared nationality, often keep close links with their countries of origin.

In all the countries of the EU-15, the share of foreign population originating from the new EU members and from the accession countries does not exceed 1% of the total. In 2001, the highest percentage was observed in Austria (nearly 0.98%), with the dominant foreign groups from the countries under study being Poles, Romanians and Hungarians. The second highest share could be seen in Greece (0.81%) with the clear domination of the Bulgarian population. In the remaining countries of the EU but Germany, the shares of foreign population originating from the new EU members and from the accession countries did not exceed 0.5%. The respective percentages, shown in the descending order, were as follows – Luxembourg: 0.35%, Sweden: 0.32%, Finland: 0.26%, Denmark and Italy: 0.19% each, Belgium: 0.14%, France (1999) and the United Kingdom (2000): 0.09% each, the Netherlands: 0.08%, Spain: 0.05% and Portugal 0.01%.

It can be concluded that the fears of the Western European societies with regard to the mass population inflow after the EU enlargement seem to be unfounded. Even now, foreign inhabitants of Western Europe originating from the new EU member and accession countries form a small percentage of the local populations, and drastic changes in that respect are not expected in the future. What may be anticipated is that the existing networks will continue to constitute a pull factor resulting in further inflow of the migrants. On the other hand, they will also generate a substantial stream of return migration, especially as the economic conditions in the countries of origin of the migrants improve. The same may apply also to the networks of foreign populations already visible in the countries under study (Ukrainians, Vietnamese and Armenians in Poland, Ukrainians and Vietnamese in the Czech Republic, etc.), which are likely to gain in importance together with the further economic development of the new EU members and with the increase of their attractiveness as migration destinations and ways of transit to the West.

4. Assessment of the quality and utility of data on net migration

4.1. General remarks

With regard to the quality of data on international migration, certain problems can be generally observed everywhere, to which the countries under study are no exception. For all the countries of Central and Eastern Europe, the official migration figures are visibly underestimated when compared with the data provided by the Western European partner countries. This problem seems to be most serious in the case of Bulgaria, Romania and Poland (Kupiszewski 2002a). There may be various grounds for the inconsistencies of the data on long-term migration flows, including different definitions of international migrants in various countries, or simply the incomplete reporting due to legal, technical, organisational or other reasons (Bilsborrow et al. 1997).

An examination of the source data provided by the Eurostat and by the national statistical institutes (hereafter: the NSI) for the purpose of this project proved that validity and completeness of internationally collected data for all the Central European countries is far from being perfect (cf. Eurostat 1997). The worst situation was observed for Bulgaria, where hardly any data on international migration were reported to the international bodies in the 1990s. As far as the differences in definitions are concerned, the official data depict 'permanent migration' for the Czech and Slovak Republics, Poland and Slovenia, while in the case of Romania, immigration considers only non-Romanian citizens. On the other hand, Germany – the most important migration partner for the Central and Eastern European countries, applies the one of the broadest possible definitions of long-term migrants, resulting in the serious discrepancies between data reported by the sending and receiving countries, as it was mentioned above (K•delski 1990). Although a thorough inquiry of the issue of inconsistencies in data remains beyond the scope of this report, it is worth bearing in mind that the mentioned quality problems constitute a serious limitation of all analyses of international migration.

4.2. Estimation of net migration figures

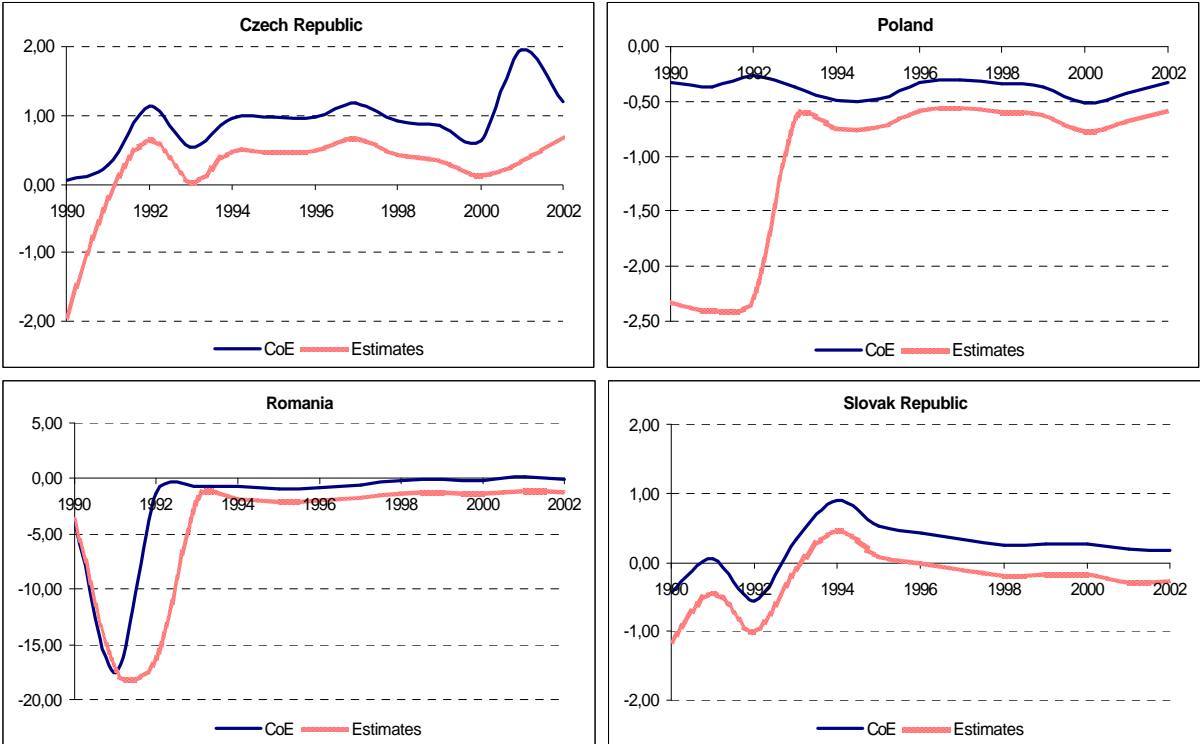
Due to the mentioned incomparability of definitions, as well as to the under-registration of international migration, the current study is based on net migration estimates obtained as a residual value from the annual population balance, i.e. as a difference between the population stocks as of 31 December and 1 January of a given year, less natural increase. This approach allows for elimination of some (although not all) problems related to inconsistent registration of migrants and other registration errors, under a condition that the population stocks are recalculated back, on the basis of the population census results, thus ideally once in a decade. Otherwise, if the population figures are not recalculated, other problems appear visible in the data series as the sudden drops (or seldom increases) from the overall trends, often referred to as the "statistical adjustments" of the population figures. In the current study, this is the case for four Central European countries, the **Czech** and **Slovak Republics**, **Poland** and **Romania**. For these countries the statistical adjustments have been not included in the total population figures and the series not recalculated backwards. Therefore, the adjustments for the above listed countries are visible respectively in the data for the years 2001, 2000, 2002 and 2001.

The size of the downward statistical adjustment of the population numbers, including the unregistered international migration from the period between the censuses, varied from 24 thousand in the Slovak Republic and 52 thousand in the Czech Republic, through 396 thousand in Poland, to 558 thousand in Romania. For the purpose of this study, a simple methodology of adjusting the figures has been applied. For the Czech and Slovak Republics, the census adjustments were distributed uniformly in the past period (similarly to the methodology already applied by Hungary), and also in the post-census years in order to avoid sudden breaks in series.

As in the case of Poland and Romania a vast majority of the outflows was observed in the late 1980s and early 1990s, a slightly modified adjusting algorithm was used. The distribution of migration balance with West Germany over time was used as a reference sample, the Federal Republic being the most important partner of population exchange both for Poland and Romania. Then, the time span for distribution of the adjustment was divided in two intervals: the first one from the date of the 1990 round of population census (for Poland - 6 December 1988, for Romania - 7 January 1992) until 1 January 1993, and the second from 1 January 1993 until the date of the 2002 census (Poland - 21 May, Romania - 18 March). The statistical adjustment was then distributed evenly in both time intervals, proportionally to the share of migration exchange with Germany from a given time interval in the whole inter-census period. Such distribution reflects the fact that both in Poland and Romania, the vast majority of emigration after the system change of 1989 took place in the first 2-3 years and that a substantial part of it has not been registered.

The differences between the net migration figures before and after distributing the census adjustment (the former quoted after the Council of Europe, 2003) are illustrated in Figure 2.

Figure 2. Effect of applying census adjustment to net migration (rates per 1,000)



Source: Council of Europe (2003), country-specific Tables 8; own computations.

It is worth noting that in the case of the other countries, the net migration estimates are consistent with the figures quoted in the Council of Europe (2003) yearbook.

It may be also the case that the census figures are taken into the account in recalculating the past population numbers, but from the census date onwards, the population size is estimated on the basis of either registered migration (*Hungary, Lithuania, Latvia*) or with the zero-migration assumption (*Bulgaria, Estonia*). In such cases, post-census breaks are observed in the data series of estimated net migration, which is then nothing but the registered net migration plus errors of the statistical registration. As in this situation the pre-census figures on net migration are incomparable with the post-census ones, the latter have to be excluded from the analysis, as they do not reflect the migration reality, but rather the incomplete registration of migration, or even a no-migration assumption.

In two Baltic States, *Estonia* and *Latvia*, the overall population figures have been recalculated on the basis of the 2000 censuses. For Latvia, the recalculations have been provided even for the distributions by age, although the net migration patterns reconstructed in this way are visibly irregular. For Estonia in turn, the post-census adjustment has been included in total population, but not in the age distributions, which apparently have been left intact. In this case, the adjustment can be observed in the figures for 1999, and is thus included in the age structure sample. For Estonia, the post-census break in series is observed already for 2000, with zero migration assumed afterwards, while for Latvia only for 2002 a visible break can be detected, with information on migration coming from the current registration. For these reasons, the starting years of the international migration projection have to be set as 2000 and 2002, respectively for Estonia and Latvia.

In the third Baltic State, *Lithuania*, as well as in *Bulgaria* and *Hungary*, the data situation was similar: the overall population figures have been recalculated on the basis of the 2001 censuses. The only problem was that the post-census figures on net migration for Hungary and Lithuania were based solely on the registration of the migrants and therefore a substantial break in series was observed since 2001, which have not been adjusted. For Bulgaria, a zero migration assumption was reflected in the figures since 2001. For this reason, the migration scenarios for these countries presented in Section 7 consider only the figures until 2000, ignoring the last two most likely outlying observations. The starting year of the projection is thus in all three cases 2001.

For *Cyprus* and *Malta*, the figures on the total net migration have been supplemented either by the estimates obtained from the Eurostat data (Cyprus) or from the yearbook of the Council of Europe (2003), in order to set up the migration scenarios presented in Section 7. There may be a problem with population definition for Malta, as the official statistics likely includes only the national (Maltese) population. This issue however requires a further inquiry and possibly also amendments to the data series in the future.

Another problem concerning the net migration estimates is the population definition applied by the national statistical authorities. In *Poland, Romania, the Slovak Republic* and *Slovenia*, the data series apparently depict the resident-based numbers of population (in all cases but Slovenia it appears to be the 'permanent' population), instead of the usual resident population, as recommended by the international statistical institutions, including the Eurostat. Nevertheless, in all cases but the Slovak Republic the census results include at least some information on the latter. The magnitude of differences between different population definitions varies between countries. For Romania, the difference calculated on the basis of

the preliminary results of the 2002 census was estimated at about 154 thousand persons. In the case of Slovenia, the 2002 census information was not included in the population estimates, presented only for the residents present in the population register. Therefore, the Slovene figures have not been adjusted downwards taking the census results into the account and the difference between the census population and the estimates, totalling about 30 thousand persons, has to be borne in mind when interpreting the results for Slovenia.

Difference in population definitions does not necessarily influence significantly net migration as such. There is a clear example of Poland, where for the 1988 census the difference between permanent and resident population was estimated at 590,000 (Sakson 2002), while in the 2002 census this gap equalled about 610,000. Thus, as this difference did not change much in the period between the censuses, this may indicate that it is not an important component of the yearly net migration change, as it currently influences the population stocks rather than the flows. Certainly, even if this supposition is true, one cannot be sure, whether the same holds for the remaining countries with the same data problem. Nevertheless, in the absence of the series on usual resident population, for the purpose of this project the figures on permanent residents have been used to reconstruct past net migration developments and establish their future scenarios.

4.3. Estimation of net migration patterns by sex and age

An analysis of the age patterns of net migration obtained using the proposed methodology, compared with the one calculated as a difference between the figures on immigration and emigration from the NewCronos database, showed that the two methods produced entirely different results. Therefore, the immigration and emigration patterns cannot be used either to establish the basic age and sex structures for the projection period or to predict their future convergence or divergence to a specific distribution, like for example the one observed currently for internal migration. Additionally, past convergence of net migration patterns for the 'old' EU member countries, including Ireland, Greece, Spain and Portugal, could not be tested due to the lack of appropriate data.

Time series of sex-specific net migration patterns in the period 1994-2002 for most of the countries appeared either to be similar both in tendency and size, or at least parallel and eventually converging, like in the case of Bulgaria, Hungary and Lithuania. Only Slovenia was characterised by irregular and visibly different behaviour of the patterns for males and females, with the excess of the former in the years 1995-1997 and in 1999, what may be to some extent attributed to the inflows of war-related refugees from the other parts of the former Yugoslavia. Nevertheless, even for Slovenia the sex-specific patterns are visibly converging since 2000.

For the reasons mentioned above, the initial age and sex-specific net migration patterns for the projection are fixed at their average levels from the five latest available years, in order to smoothen any local irregularities that might have occurred. Ideally, the sample period was 1998-2002, with the exceptions of:

- Cyprus: one-year sample of 2002;
- Estonia: 1995-1999;
- Bulgaria and Lithuania: 1996-2000;
- Latvia: 1997-2001;

- Malta: 1997-2000;
- Romania: 1997, 1998, 2001 and 2002;
- Poland and the Slovak Republic: 1997-1998 and 2000-2002.

For most of the countries the net migration figures have been calculated for the single-year age groups from 0 to 100+, the exceptions being Bulgaria, Hungary (with age groups from 0 to 90+) and Poland (from 0 to 95+). In three latter cases, reliable figures either on population or on death events for the oldest age groups were not available.

As it has been mentioned previously, for the Czech and Slovak Republics, Poland, as well as Romania, the statistical adjustments are observed, visible respectively in the data for the years 2001, 2000, 2002 and 2001, what also applies to the age structures. In the case of Estonia, although the statistical adjustment has been included in the total population figures which have been recalculated backwards, the age distributions appeared to be left intact with the adjustment visible in the data for 1999. In all cases it can be therefore assumed that the post-census adjustment visible in the figures for one of the recent years includes the unregistered net migration balance since the previous census, i.e. generally from throughout the 1990s. For the five mentioned countries, the age and sex structure of net migration calculated from the sample years includes therefore the adjustment from the remainder of the 1990s. However, as the major population flows from and to Estonia appeared in the first half of the decade, it is the age structure of the early 1990s that is primarily reflected in the adjustment, and not the one of the 1999.

As the sample-based age and sex patterns appeared to be relatively irregular, they had to be smoothed. The procedure that was applied was the following:

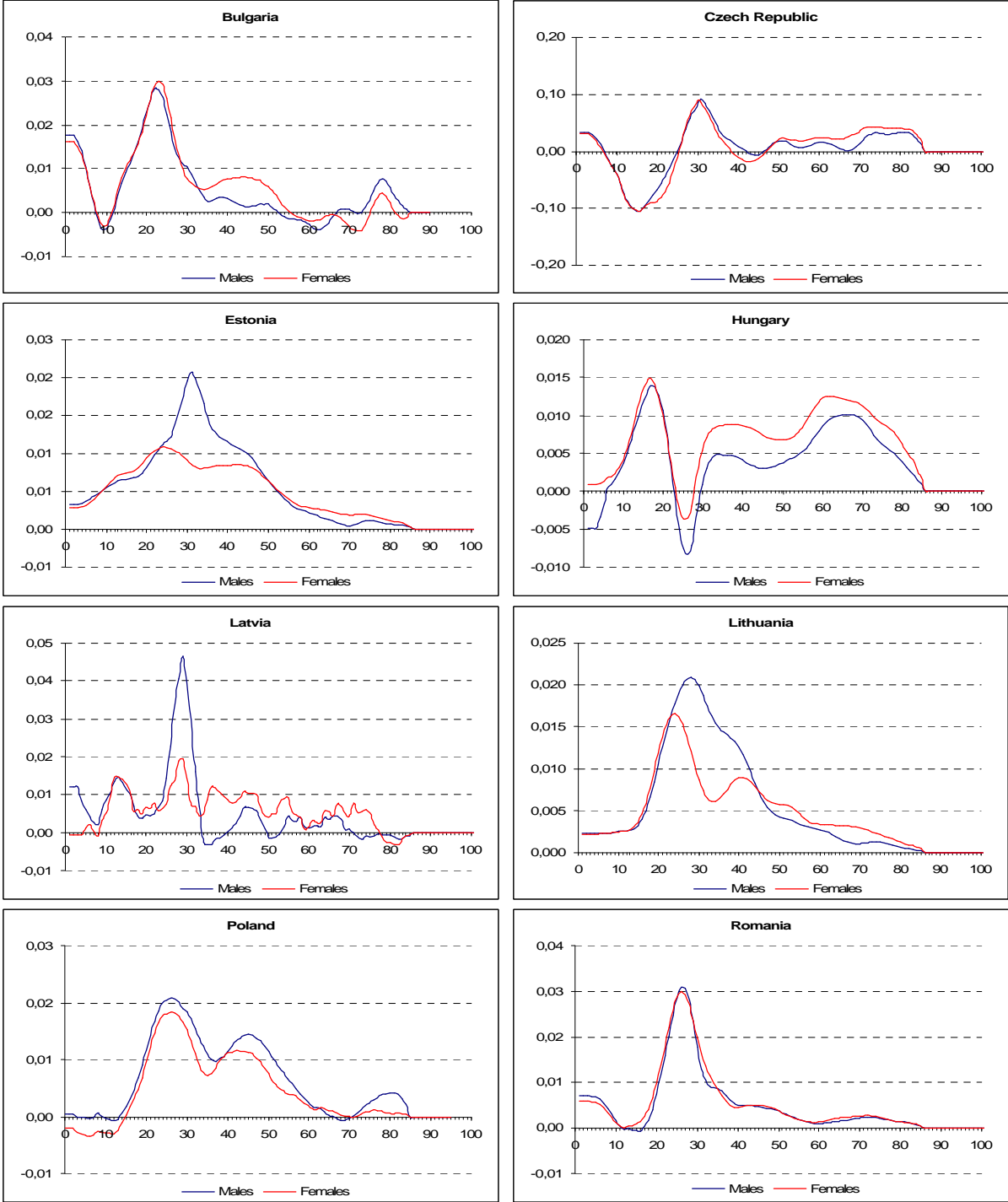
- For the age groups of 2, 3 ... 84 years, five-year moving averages were calculated from the original structures, e.g. for the age of 25 years, the smoothed value would be an average of the original values for the ages 23-27.
- For the age groups 0 and 1, the intensity of net migration was assumed to be the same as the smoothed one for the age of 2 years. The reason for this simplistic assumption was that the net migration estimates for the youngest years of age likely reflect not only migration as such, but also statistical errors of birth registration.
- For a similar reason, 'smoothed' net migration for the age groups of 85 years and above was assumed zero, as otherwise the age-specific estimates would primarily depict the problems with the registration of deaths. The 'excess' net migration that was originally associated with the oldest age groups was distributed uniformly among the age groups 0, 1 ... 84.

The procedure was then applied once again to the already smoothed values, in order to obtain more reliable net migration structures by age. In all cases but Latvia, the final outcome structures appeared to be relatively regular and to follow the expectations regarding the age-specific migration propensity in the countries of Central and Eastern Europe.

For the sake of comparison, the average age and sex structure of net migration was calculated for the countries of the current EU-15, which was also subject to the smoothing procedure. The smoothed sample age and sex structures of net migration for the countries under study, as well as the EU-15 average, are illustrated in Figure 3. The graphs for particular countries present simple net migration rates, calculated as age-specific net migration numbers divided

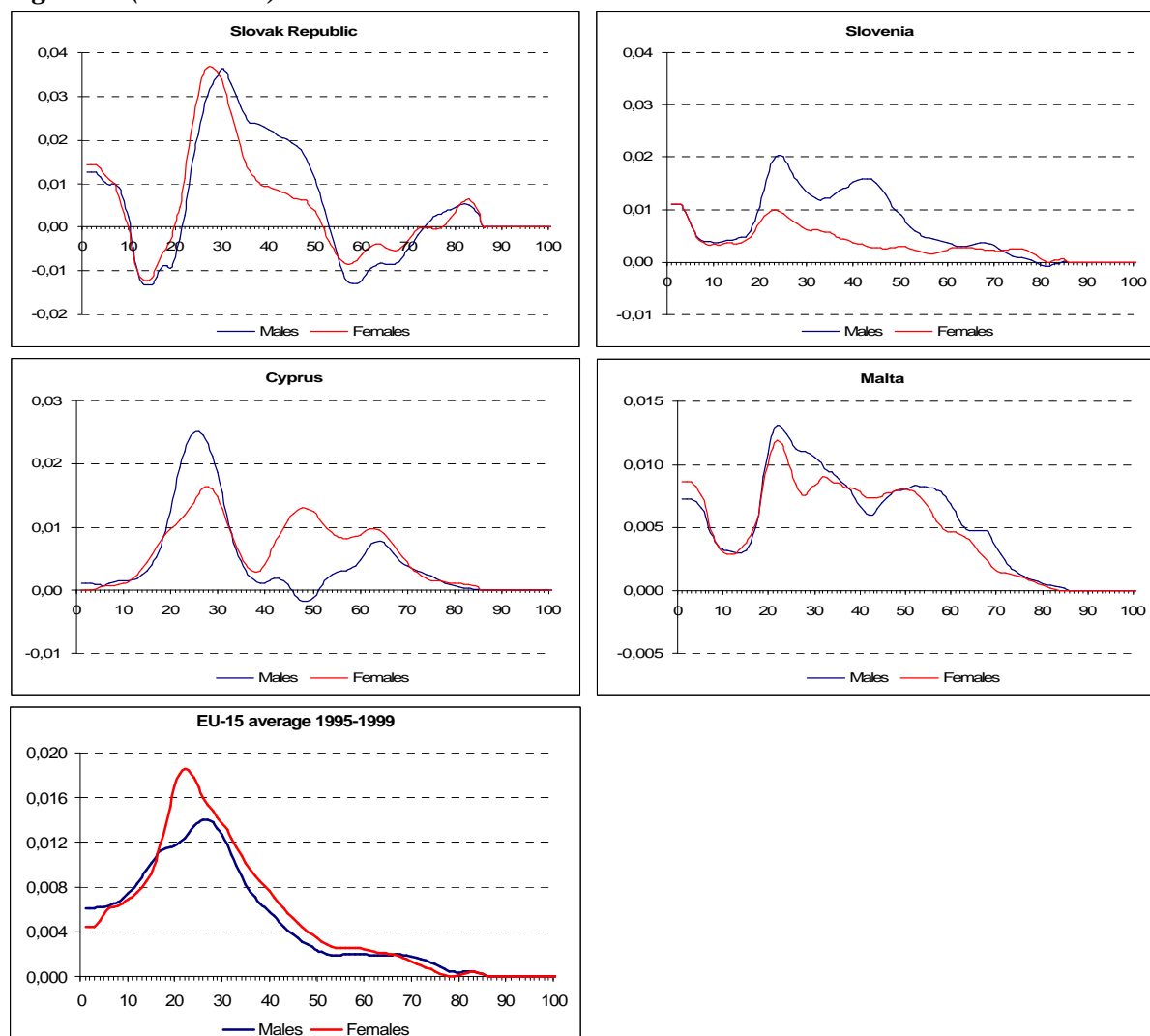
by the totals for all the age groups. It is worth stressing that in the case of negative sample totals (thus, in all cases but Cyprus, Hungary, Malta and Slovenia), negative age-specific net migration figures produce positive rates and vice versa. Therefore, in the majority of cases, positive age-specific rates presented in Figure 3 denote in fact negative net migration levels.

Figure 3. Age- and sex-specific sample patterns of net migration



Source: own computations.

Figure 3. (continued)



Source: own computations.

Summary of findings with regard to the quality and utility of data on net migration is presented in Table 4.

Table 4. Overview of data on net migration obtained for the purpose of the current study

Data summary by country	Bulgaria	Cyprus	Czech Rep.	Estonia	Hungary	Latvia	Lithuania	Malta	Poland	Romania	Slovak Rep.	Slovenia
No post-census back recalculations			+	age					+	+	+	
- adjustment size (-1,000)			51.6						395.6	558.2	23.8	
assumed distribution:												
-- per year before '93 (-1,000)			5.2						75.4	341.6	2.3	
-- per year since '93 (-1,000)			5.2						9.4	24.1	2.3	
Post-census break in series	+		adj.	+	+	+	+		adj.	adj.	adj.	
First year of the projection	2001	2003	2003	2000	2001	2002	2001	2003	2003	2003	2003	2003
Permanent residents / register-based									+	+	+	+
- diff. from usual residents (-1,000)									610.0	154.4	unk.	~30.0
Age structure sample size (years)	5	1	5	5	5	5	5	4	5	4	5	5
Maximum age group: original data	90+	100+	100+	100+	90+	100+	100+	100+	95+	100+	100+	100+
Max. age group: smoothed data	84	84	84	84	84	84	84	84	84	84	84	84

"age" - no recalculations for the age-specific distributions, although present for the totals; "unk." - unknown; "adj." - adjusted.

Source: own assessments and calculations

Summing up, although the data quality is far from being perfect, the estimates from the population accounts may be used for the purpose of this study after applying the corrections mentioned above (including the post-census adjustments in the time series), and bearing in mind the problems with different population definitions.

5. Migration patterns in the new EU member and accession countries

This section focuses on the main past and recent patterns of international migration concerning the new EU members and the accession countries, as well as on the identification of the push and pull factors influencing the observed migration phenomena. Among others, the relationships between migration and the economic and policy factors are discussed. The analysis is followed by the identification of major directions of the flows, as well as of the main origin and destination countries. The discussion is presented on a country level, or when the similar migration features allow, for groups of countries.

5.1. Overview of international migration until the late 1980s

New EU member and accession countries, with exception of Malta and Cyprus, are all former socialist countries. Their migration history is remarkably different from this of the EU-15 member states. After the turmoil of post-war migration, which was the consequence of new post-Yalta World and European order, the two parts of Europe lived their own lives. Western Europe was a booming economy, with inelastic labour market, which was supported by imported foreign labour force. Only the oil crisis of 1973 resulted in change in migration policies, but at that time the momentum of immigration was remarkably high and Western Europe became, to certain surprise of politicians, multiethnic and multicultural. In Central Europe the migration was deemed to be a political issue and, therefore, controlled by the states and communist parties.

To provide a background for the analysis of current migration trends, developments of the population movements from the past should be studied, most importantly from the period after 1945, bearing in mind the unique character of mass migratory flows in Europe in the direct aftermath of the Second World War. This section provides a brief overview of the historical migration trends until 1989, firstly for the ten countries of Central and Eastern Europe, due to many common features of the socialist economies and politics, and subsequently for Cyprus and Malta.

For the whole post-war period **Bulgaria** remains a country of emigration, which could be inferred on the basis of net migration calculations from the annual population balance (Gächter 2002). This conclusion is confirmed by the official sources that claim that over 319,000 persons emigrated from Bulgaria between 1946 and 1988, mostly minority ethnic groups: primarily Turks, but also Jews, Czechs, Slovaks, Armenians, Russians and Serbs, as well as political dissidents (Guentcheva et al. 2004). The vast majority of emigrants from the communist Bulgaria were the ethnic Turks migrating to Turkey due to political persecutions, on the basis of bilateral agreements. It is worth noting that Turkey remains the most important destination of emigrants from Bulgaria to date, with over 75% share of the overall post-war net migration (Gächter 2002). The peak in ethnic Turkish emigration was reached in the years 1989-1990. Vasileva (1992) estimates that 369,839 Turks and Pomaks (Muslim Slavs living in Bulgaria and Greece) emigrated from Bulgaria in that period, of whom 159,937 returned by September 1990.

According to Guentcheva et al. (2004), the scale of population inflow to Bulgaria in the communist period was much smaller. The only significant movements in this direction were the resettlements of ethnic Bulgarians from the other Balkan countries (Yugoslavia and

Greece) shortly after the Second World War caused the post-war border changes, as well as the political immigration of communists from Greece and Yugoslavia in the late 1940s.

The migration history of the **Czech and Slovak Republics**, sharing the common Czechoslovak statehood from 1918 until 1992, generally followed a shared path in the post-war period, with the excess of emigration (mainly illegal and thus not reflected in the official statistics) over immigration observed in the whole communist period (Drbohlav 2004). Apart from the substantial migration between the two republics permanently characterised by a negative balance on the Slovak side (Divinský 2004), the substantial part of the post-1945 migration took place either in the direct aftermath of the Second World War or after the events of 1968. The mass post-war exodus of over 2.8 million ethnic Germans was only partially compensated by an inflow of approximately 220 thousand Czechs and Slovaks mainly from the USSR (Drbohlav 2004). Altogether it is estimated that during the communist rule (1948-1989), about 565 thousand people left Czechoslovakia, most of them illegally, and at least ¾ of this total was the emigration from the Czech Republic. The emigration was most intense in the aftermath of the fall of the reformist party leadership of A. Dub•ek and the military intervention of the other countries of the Soviet bloc in 1968, when about 104,000 people have fled the country, mainly through the illegal channels (Ku•era 1994, after Drbohlav 2004).

Hungary also experienced mass population movements in the aftermath of the Second World War. The mass exodus of 200,000 Germans and resettlement of the 73,000 Slovaks to the Slovak Republic were countered by the inflow of over 300,000 of the ethnic Hungarian population, mainly from Romania and the Slovak Republic, but also from Yugoslavia and the Soviet Union (Juhász 2003). After the takeover of power by the communists in 1947, the only period of mass emigration was in 1956, when about 200,000 Hungarians fled their country as a result of the fall of the uprising against the regime, heading through Austria to the other countries of Europe and mostly to the United States. In the remaining period typically for the socialist states, the population exchange was very limited, with the usual exceptions of family unifications, admission of temporary workers on the basis of the intergovernmental agreements, or political decisions (Juhász 2003). Until the fall of the communism, Hungary remained a country with negative net migration balance (Illés 2004).

Poland experienced the most numerous population movements out of the 12 new EU member and accession countries in the period 1945-1989. Directly after the Second World War (until 1950), due to border changes over 4 million people emigrated from the territory of today's Poland, mainly ethnic Germans (Latuch 1961). The ethnic emigration of *Aussiedler* continued until the fall of the socialist system in 1989 and to the smaller extent beyond, totalling to over 1.4 million over the last half century 1950-2002 (Bundesministerium des Innern 2003). At the same time, many Poles took advantage of loopholes in the law to emigrate to West Germany using the *Aussiedler* status (Igllicka 1997). Another distinguished group of ethnic emigrants were the Polish Jews, leaving the country shortly after the Second World War (30,000 people), after temporary political liberalisation in 1956 (47,000 persons) and after the anti-Semitic events steered by the Party leadership in 1968 (nearly 13,000 emigrants until 1971, figures after Stola 2000). Population inflow between 1945 and 1950, according to the official data amounting to over 3.8 million people, to a large extent comprised of the Poles resettled from the territory annexed by the Soviet Union (Kory• 2004).

In the later periods, economic factors became more and more important as determinants of emigration from Poland, especially in the light of subsequent crises of the socialist economy

and the related feeling of insecurity (Golinowska, Marek 1994). At the same time, scarcely any immigration to Poland was observed, being a reason for a permanent negative net migration balance. Migration patterns were thus typical for the countries of the Eastern bloc, where firm migration control limiting long-term movements caused a substantial bulk of the illegal emigration not reflected in the official statistics. This made the true population losses of Poland caused by international migration much higher than it was officially admitted. However, even the official statistics depicted an important emigration peak in the period of temporary policy liberalisation in the years 1956-1958 (Kory• 2004). In addition to the ethnic and economic migrants, one should also point out political emigration from Poland, including the important waves in 1968 with the outflow of Polish Jews (Stola 2000), as well as after introduction of the martial law in 1981. Throughout the post-war period, West Germany was the main destination of the Polish emigrants (Korcelli 1994).

The case of international migration in **Romania** in the communist period is also typical for the Central and Eastern European countries. In the period shortly after the World War II, Romania experienced a mass outflow of ethnic Hungarians from Transylvania. Migration control imposed by the communist regime, especially under the rule of Ceau•escu, was among the most restrictive in the whole Eastern bloc. The outcome of such policy were migration flows reduced to illegal emigration, expulsion of dissidents, state-controlled programmes of labour and students exchanges, as well as some ethnic emigration to Germany and Israel, with scarcely any immigration in place (Lazaroiu 2004). The emigration of the ethnic Germans, although state-controlled, was very significant in size – over 151,000 *Aussiedler* managed to migrate to Germany in the 1980s alone (Gallagher and Tucker 2000).

Slovenia, since 1918 being a part of the Kingdom of Serbs, Croats and Slovenes (SHS) after 1929 renamed to Yugoslavia, was characterised by strong migration relations with the other constituent parts of the country. Emigration that occurred directly after the World War II was however primarily external in nature, as it was caused by the political motives. The migration determinants in that period included border changes and seeking refuge by the ethnic Germans and Italians, war-time supporters of the axis occupants, as well as the opponents of the new communist government (Repolusk 2000). Political emigration continued until early 1950s, when economic factors began to dominate, with the peak of population outflow observed in 1957. Since the mid 1950s, Slovenia ceased to be a republic with a negative net migration balance. The continuing outflow to the Western countries, due to the active labour force recruitment policy in Western Europe, strengthened by a relatively liberal emigration policy of Titoist Yugoslavia, was countered by a strong positive net balance of migration between Slovenia and the other republics of Yugoslavia (Zavratnik Zimic 2004). The major characteristics of the migration movements after 1945 were thus the outflow of skilled and educated labour from Slovenia and the inflow of unskilled workers from the other Yugoslav republics (Genorio 2000). The tendencies described above continued until the break-up of Yugoslavia in the early 1990s.

The Baltic States (**Estonia**, **Latvia** and **Lithuania**), with their shared history of constituent parts of the Soviet Union from 1940 until 1991, were characterised by common migration patterns. Although international migration as such was hardly existent due to very strict movement control, there were significant population movements between the republics of the USSR. In the communist period, Estonia, Latvia and Lithuania observed strongly positive migration balance, comprised mainly of the immigration of Russians, many of whom were the Soviet military personnel. These phenomena contributed to significant changes of the ethnic structures of all three Baltic republics (Kielyte 2002).

The common features of all migration movements of the socialist countries were the East-to-West direction of most of the long-term population flows, only a handful returns and hardly any migration within the former Soviet bloc³ (apart from the countries of the former Soviet Union), due to strict movement control. The only country with significantly different migration experience was Slovenia, due to the relative freedom of movement during the Tito's era. It has to be added that in the countries of Central Europe, migration flows were also substantially shaped by the political crises. Dramatic political events, although having serious consequences in population movements, cannot be used however used as indicators for the future migration scenarios due to the unpredictability of their occurrence. On the other hand, enlargement of the European Union can be seen as a factor increasing political stability in Europe, especially if the EU is going to include also other countries from the post-Yugoslav space in the future. The view on the EU as a stabilising factor in Europe is therefore implicitly included in the fact that in the current study nothing is assumed with regard to the future political changes in the countries under study.

Two new EU members from the Mediterranean basin followed different paths of international migration developments than the former socialist countries. *Cyprus* was an emigration country from the end of the Second World War practically until the late 1980s (Brey 1997, Wanner 2002). Migration processes on the island depended heavily on both economic and political factors, what was especially visible after acquiring independence in 1960, when bad economic situation caused significant emigration flows. Later, a conflict between the Greek and Turkish communities and the military coup in the Turkish part of the island in 1974 leading to the permanent division of Cyprus in 1983 caused many internal and external displacements. In the period until the late 1980s, the preferred migration destinations were at first Great Britain, the former colonial power, and then Greece, due to its strong cultural and language ties with Cyprus. The size of immigration from Turkey to the northern part of the island is not precisely known and the issue seems to be very politicized (Brey 1997).

Similarly to Cyprus, *Malta* is another example of a former British colony, remaining an emigration country until about 1975. The intensity of emigration was very high especially in the mid-1950s and mid-1960s exceeding the rates of 25 per 1,000 inhabitants (Cauchi 1999). The main reasons underlying strong population outflow were economic problems and the lack of employment perspectives, strengthened by specialised government emigration programmes (Attard 1997). These tendencies did not stop after acquiring full independence by Malta in 1964, although the size of the phenomenon remained smaller since the mid-1970s. It is estimated that in the period 1945-1979 almost 140,000 people left Malta – a country with an average population size about 300,000 in that period (Attard 1997). The main receiving country of the post-war Maltese emigrants was Australia (accounting for more than a half of the total migration flows), followed by the United Kingdom, Canada and the U.S.A (Cauchi 1999, Attard 1997). Immigration to Malta was a later phenomenon, yet its size and impact remained practically limited to return migration, due to legal regulations practically restricting settlement in Malta to the persons of Maltese origin, of which one in four settled back in Malta (Cauchi 1999).

³ The exception were temporary workers hired on the basis of intergovernmental agreements between the socialist countries (Grzeszczak 1991; Juhász 2003; Drbohlav 2004; Guentcheva et al. 2004).

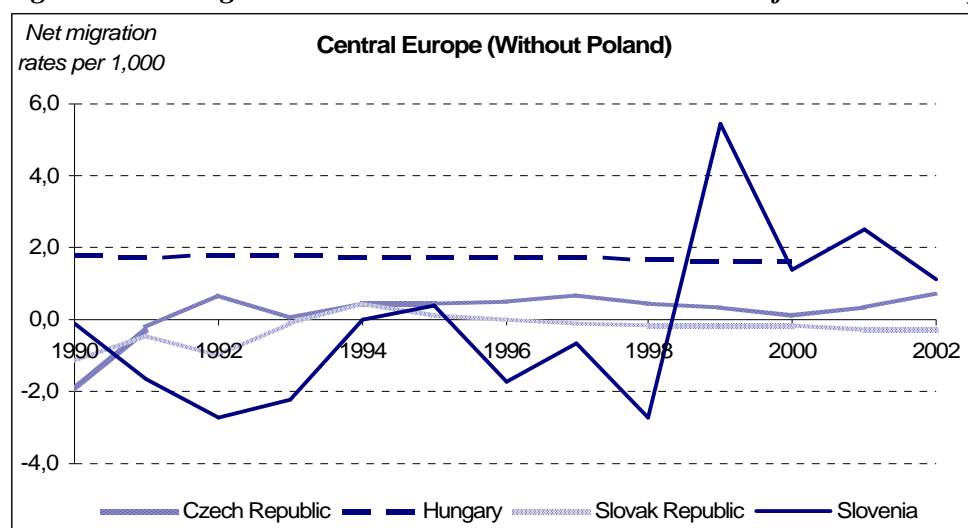
5.2. Analysis of recent migration trends

This section is devoted to the recent migration developments analysed on the basis of the estimates from the population balance discussed in Section 4.2. A study of trends in net migration is offered for the period since 1990, one has however to bear in mind that a substantial bulk of migration in the late 1980s and early 1990s which happened during and after the fall of communism is unlikely to occur again. The most recent migration patterns, starting from around 1994, are therefore expected to follow the main historical development of the population flows, with some modifications being easy to identify.

With regard to the countries of Central Europe, with the exception of Poland, certain similarities in the development of migration trends in the 1990s can be observed, especially in the case of the **Czech and Slovak Republics**, as well as of **Hungary**. With the exception of fluctuations related to the division of the Czechoslovak Federation in the early 1990s, net migration in these countries remained relatively stable throughout the decade. In the case of the Czech Republic and Hungary, the migration balance of the 1990s was positive, likely reflecting the steady positive effects of the economic transformation.

Slovenia has to be treated here as an exceptional case, as the positive tendency of overall net migration was reversed in the 1990s due to the armed conflicts that followed the break-up of Yugoslavia in 1991. Although Slovenia itself was the conflict theatre only for 10 days in mid-1991, these were the political factors that shaped migration trends in this country for several years. Population outflow from the politically unstable region was gradually compensated with the inflow of refugees from Croatia, and later (since 1992) from Bosnia and Herzegovina (Repolusk 2000). After the cessation of hostilities in Bosnia in late 1995, economic factors began to dominate again in shaping the Slovene migration in the second half of the 1990s. This can be seen as a return to the long-term path of migration development of the country, contemporarily being the best-off from the Central and Eastern European new members of the European Union. Recent migration trends in the Czech and Slovak Republics, Hungary and Slovenia is presented in Figure 4.

Figure 4. Net migration rates since 1990 in the countries of Central Europe (without Poland)



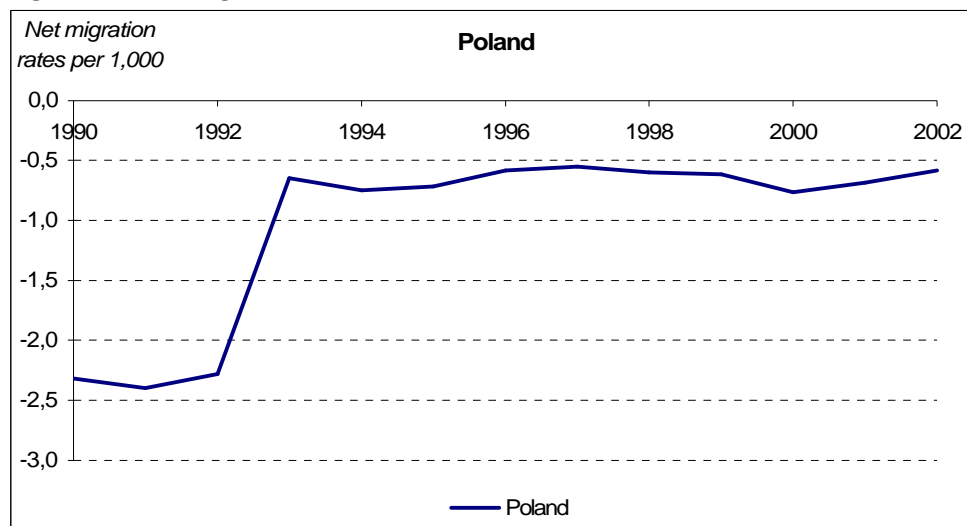
Source: own computations.

It is worth noting that in the case of Slovenia, the local peak observed for 1999 can be attributed to the inflow of refugees from Kosovo and to the regularisation of status of the other post-Yugoslav groups of refugees already present in Slovenia (Zavratnik Zimic 2004).

The overall migration trends for the Czech Republic, Hungary and Slovenia seem to indicate that these Central European countries already started to observe positive levels of net migration. This feature can be foreseen also for the coming years, especially as the increase of immigration can be expected after the EU accession. The countries of Central Europe already became more attractive as migration destination, or primarily, as the countries of transit to the West (Romaniszyn 1997). These expectations apply not only to the immigrants from outside the European Union (most notably from the former Soviet Union), but also to the newcomers from all the countries of the enlarged EU (cf. Illés 2004).

In the case of **Poland**, after a sudden population outflow related to the fall of the socialist system in Poland in 1989, including the emigration of 250,000 German *Aussiedler* (Golinowska, Marek 1994; Bundesministerium des Innern 2003), migration developments of the 1990s were rather stable. After the post-transformation shock of the early 1990s, the net migration rate oscillated around the level of -0.6 per 1,000 inhabitants throughout the decade. Currently, migration balance follows a slightly increasing trend after the minimum level reached in 2000, most likely related to the economic crisis. An overview of recent migration trends in Poland is shown in Figure 5.

Figure 5. Net migration rates since 1990 in Poland



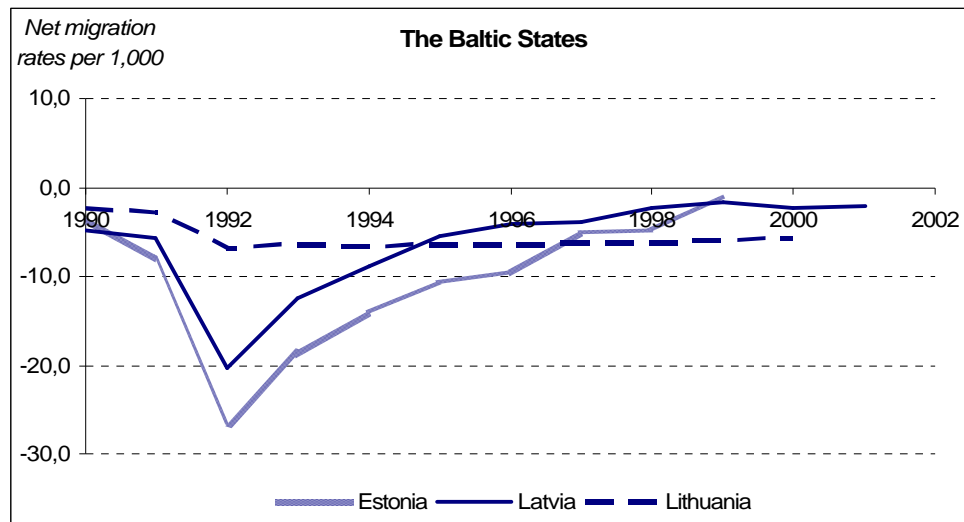
Source: own computations.

Considering both the overall and intra-European population movements, Poland continues to be a labour-exporting country of emigration. It can be envisaged that this trend will also continue in the future, but it can be to some extent countered by a reverse tendency based on Poland's becoming a more attractive migration destination, for the people from outside the European Union, especially from the former Soviet Union (Ukraine).

As far as the **Baltic States** are concerned, Estonia and Latvia followed a different path of international migration developments in the 1990s than Lithuania. Despite the fact that in all cases net migration remained negative in that decade, the former two countries experienced very dramatic population outflows in 1992 and 1993, thus shortly after acquiring independence in the aftermath of the break-up of the Soviet Union. The emigration comprised

mainly of the former Soviet citizens (primarily ethnic Russians) that could not obtain the citizenship of the new states. In Lithuania in turn, migration trends remained practically stable throughout the decade. Due to solving the issue of citizenship even prior to 1991 by granting it to all eager permanent residents of the republic, Lithuania avoided a mass population outflow, what is clearly reflected in the migration statistics (Kielyte 2002). The migration tendencies observed in the Baltic States in the 1990s are summarised in Figure 6, with numbers for Estonia shown only until 1999, for Lithuania until 2000 and for Latvia until 2001, due to the subsequent breaks in series.

Figure 6. Net migration rates since 1990 in the Baltic States



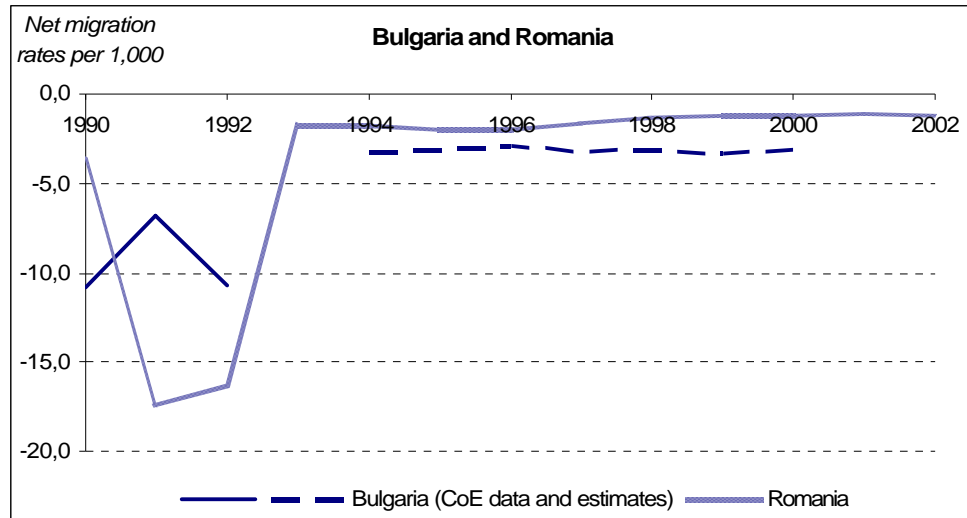
Source: own computations.

A clear upward trend of net migration was thus observed in the 1990s for the Baltic States but Lithuania, and it is expected to continue in the long run especially in the light of the EU accession. Possible temporary decreases may be expected, resulting from the emerging possibilities of employment on the newly-opening labour markets of Western Europe.

Net migration trends for **Bulgaria** and **Romania** adjusted after the recent censuses for the corrections of population numbers, seem to depict primarily the big population outflows from these Balkan countries. Incompleteness of data has to be born in mind when analysing the migration figures (cf. Gächter 2002: 6), even after including the post-census corrections. For Romania, the assumptions on redistribution of the statistical adjustment presented in Section 4.2 result in a dramatic emigration observed for the period 1991-1992. It is worth noting that these figures should be distributed more evenly in time, from the late 1989 until 1992, with a peak in 1990. Unfortunately, lack of information on the size of the adjustment from the previous population census of 1992 makes such an exercise hardly possible. A substantial part of the outflow from Romania was formed by the ethnic Germans, of whom hardly any stayed in Romania (Gallagher and Tucker 2000), as well as the ethnic Hungarians.

Due to the lack of any data for Bulgaria for the period prior to 1994, for the purpose of this overview the net migration estimates have been supplemented with the data from the Council of Europe (2003) yearbook for the years 1990-1992 (Figure 7).

Figure 7. Net migration rates since 1990 in Bulgaria and Romania



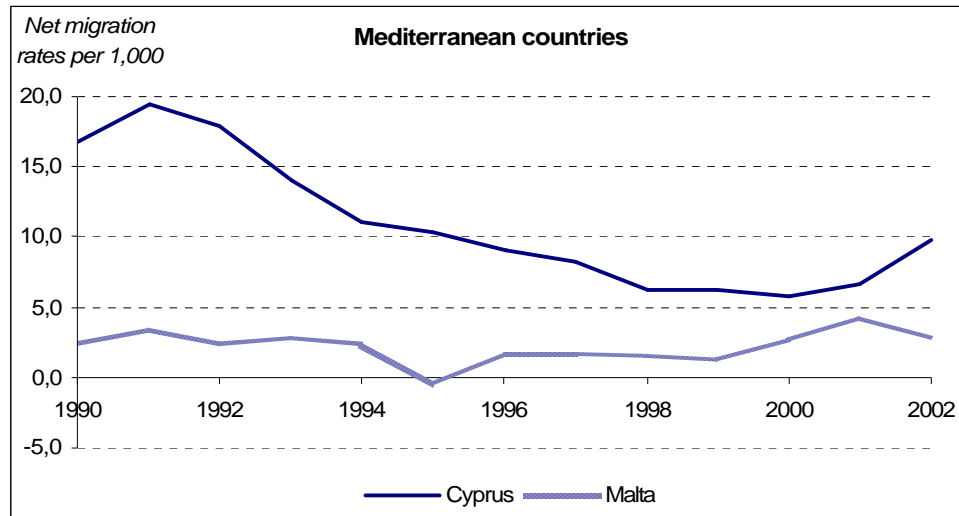
Source: own computations; Bulgaria 1990-92: Council of Europe (2003), Table 8.

Both countries seem to have experienced relatively stable net migration tendencies in the second half of the 1990s, but this conclusion has to be however treated with caution due to the mentioned problems with data quality and completeness⁴, as well as to the applied methodology of post-census data re-estimation. In any case, negative levels of net migration, even if they are in fact not observed now, can be expected in the further future especially if the EU accession anticipated for 2007 takes place. A significant factor underlying these expectations is the position of the Balkans as an important transit channel from Asia to Western Europe (European Parliament 1998, Lazaroiu 2002).

The specificity of migration patterns observed for *Cyprus* and *Malta* is also reflected in the data from the 1990s. In both cases, the migration balance was positive, rather stable in the case of Malta and decreasing from very high to moderate values in the case of the government-controlled area of Cyprus, and starting to increase again from 2000 onwards. A break in the trend for Malta in 1995 may be explained by the population census, the results of which were not applied to recalculate the values for the remaining period, and thus it reflects rather a data problem than a real tendency. In both cases the positive net migration can be likely to a large extent attributed to the returns of the migrants from the previous decades, or their descendants. Figure 8 illustrates the recent net migration development trends for the Mediterranean new EU member countries.

⁴ For example, some sources quote the number of 500,000 ethnic Turkish emigrants from Bulgaria to Turkey in the early 1990s (Guentcheva et al. 2004, European Parliament 1998), only partially reflected in the Bulgarian data. The outflow was primarily influenced by political factors, like the forced Bulgarisation of the Turks in the late 1980s (for example through name changes), and by the poor economic situation of the early 1980s (Guentcheva et al. 2004).

Figure 8. Net migration rates since 1990 in Cyprus and Malta



Source: own computations, data supplemented from *NewCronos (Cyprus)*, Council of Europe (2003), Table 8 (Malta).

It can be envisaged that there will be high immigration pressure both on Cyprus and Malta due to the relatively high levels of economic development, as well as the fact of the EU membership. Even more importantly, there are still significant Maltese and Cypriot diasporas living in the countries of the Commonwealth, which may also contribute to immigration flows in the future. This issue is especially important with regard to the Maltese population. One has however to bear in mind limitations resulting from the restrictive immigration policy in the case of Malta and the unclear political future of Cyprus with respect to the issue of the unification of the island, which as of mid-2004 remains still unresolved.

5.3. Relation between economic development and net migration changes

Impact of the economic push factors and pull factors of international migration involving the new EU member and accession countries (discussed in Section 3.4) can be measured by means of simple statistical tools. Relationship between economic development and changes in net migration rates can be briefly analysed using linear regression, for example with net migration rates per 1,000 as a depending variable. For the purpose of this study, the following macro indicators were independently analysed as possible determinants of international migration: GDP (annual growth indices in market prices and the PPP-adjusted levels per capita in 2001 dollars were examined), as well as the levels of registered unemployment.

The two basic economic indicators under study are expected to be very important push and pull factors, both on the emigration and immigration side. Thus, GDP growth is assumed both to reduce the propensity to emigrate of the residents of a given country, as well as to attract potential immigrants from outside. Adversely, high unemployment rate has to be seen as a strong push factor to emigrate in the quest for labour, and at the same time as a strong barrier against the inflow of foreign workforce (cf. de Jong, Visser 1997). As in both cases the push and pull side of impact of the economic factors operate in the same direction, it can be therefore assumed that both GDP growth and higher GDP levels per capita should have positive effect on net migration rates, while unemployment – negative. Appropriate coefficient signs are therefore expected to be obtained from the regression estimation.

Data for this exercise come from two different sources: unemployment rates from the United Nations (2003a) report (Tables A.10: 222 and B.7: 229), while the GDP levels and indices from the World Bank (2003) database. In most of the cases, time series for the period 1990-2002 are analysed, except for Bulgaria, where the availability of reliable net migration estimates only for the years 1994-2000 led to the respective truncation of the time series of the economic indicators. Due to the breaks in net migration series, also the analysis for Hungary and Lithuania was performed for the period 1990-2000 only, for Estonia 1990-1999 and for Latvia 1990-2001.

The impact of both economic factors (GDP and unemployment level) was studied jointly as well as separately, each time taking into account both transformations of the GDP, i.e. the growth indices and the PPP-adjusted levels per capita. The former can be seen as a proxy for the dynamics of economic development, while the latter for a measure of a relative welfare of the society, adjusted for the price differentials, changes in the exchange rates and inflation.

Unfortunately, joint analysis of the both the PPP-adjusted GDP levels per capita and unemployment rates did not lead to the results that would be both significant (not only globally, but also for all the parameters separately) and have the signs of estimates consistent with the expectations. Therefore, it was decided to split the model and analyse both factors separately, bearing in mind the potential problems resulting from the model specification. Most importantly, it has to be borne in mind that the separate analysis of both factors may be seen as the model specification error that could bias the results of the estimation. Therefore, outcome of the analysis should be seen as an indication of a relationship, rather than a proof.

In the case of joint analysis of GDP growth and unemployment rates, only for one country (Slovenia) the results appeared to be significant ($R^2 = 44.4\%$, $p = 0.07$) and with the estimate signs consistent with the underlying theory. The results were even better for a model with a dummy variable included for 1999, due to the fact that in this particular year immigration to Slovenia was to some extent politically driven as a result of the Kosovo crisis (Section 5.2). For this model, size of the effect of GDP growth and unemployment rates was much bigger ($R^2 = 77.3\%$, $p = 0.01$). The Slovene model was tested for multicollinearity, which appeared not to be a significant problem, as the R^2 of the base model was substantially higher than the multiple correlation coefficient of the model measuring the impact of GDP growth on unemployment ($R^2_k = 0.36$, following the methodology of Greene 2000). Again, for the remaining cases the model had to be split, with the same consequences for interpretation of the results as mentioned above.

As a result of the separate analysis of the impact of particular factors, relation between net migration rates and both GDP growth indices and PPP-adjusted levels per capita, as well as unemployment rates proved significant for some of the countries. The outcome of the analysis is summarised in Table 5, with grey background denoting estimation results both significant at the probability level $\alpha = 0.1$ and having the sign of the slope estimate consistent with the expectations, i.e. positive in the case of GDP growth as well as levels per capita, and negative for unemployment⁵.

⁵ A relatively high value of α was chosen due to the fact that only very short time series could have been studied.

Table 5. Impact of basic economic factors on net migration: regression results

Country	GDP Growth (market prices)		GDP per capita (PPP, in 2001 dollars)		Unemployment rates (end-period)		Degrees of freedom
	R ²	p-value	R ²	p-value	R ²	p-value	
Bulgaria ¹⁾	n.s.	> 0.10	n.s.	> 0.10	n.s.	> 0.10	5
Czech Republic	n.s.	> 0.10	n.s.	> 0.10	n.s.	> 0.10	11
Estonia ²⁾	47.0%	0.03	44.7%	0.03	n.s.	> 0.10	8
Hungary ³⁾	41.4%	0.03	34.6%	0.06	n.s.	> 0.10	9
Latvia ⁴⁾	84.8%	0.00	n.s.	> 0.10	n.s.	> 0.10	10
Lithuania ³⁾	n.s.	> 0.10	85.8%	0.00	32.6%	0.07	9
Poland	61.2%	0.00	38.4%	0.02	n.s.	> 0.10	11
Romania	53.9%	0.00	n.s.	> 0.10	23.6%	0.09	11
Slovak Republic	34.3%	0.04	n.s.	> 0.10	40.6%	0.02	11
Slovenia	n.s.	> 0.10	43.6%	0.01	n.s.	> 0.10	11
Cyprus	n.s.	> 0.10	43.7%	0.00	56.9%	0.00	11
Malta	n.s.	> 0.10	n.s.	> 0.10	n.s.	> 0.10	11

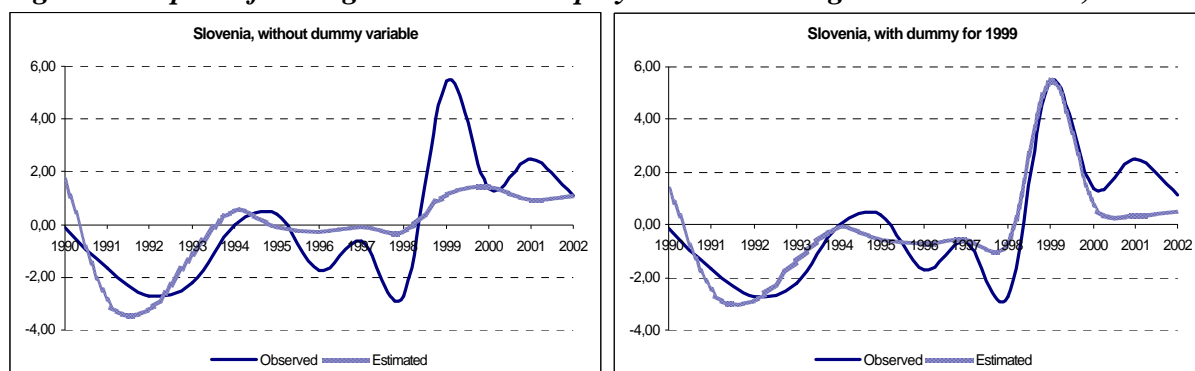
Figures in *italics* denote regression slope estimate with the sign (+ / -) contrary to expectations. "n.s." - not significant.

¹⁾ Estimation for 1994-2000; ²⁾ Estimation for 1990-1999; ³⁾ Estimation for 1990-2000; ⁴⁾ Estimation for 1990-2001.

Source: Own computations; data: United Nations (2003a, Tables A.10, B.7), World Bank (2003).

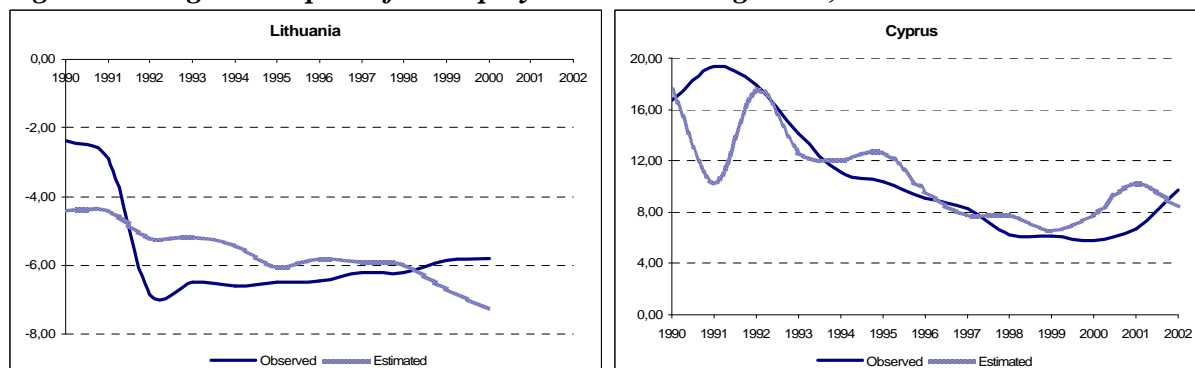
Graphic outcome of the exercise for the countries with significant impact of both factors, as well as separately for unemployment rates and GDP (growth indices and, as well as PPP-adjusted levels per capita), is shown respectively in Figures 9, 10 and 11, comparing observed net migration trends with the estimates from the models.

Figure 9. Impact of GDP growth and unemployment on net migration in Slovenia, 1990-2002



Source: Own computations; data - see Table 5.

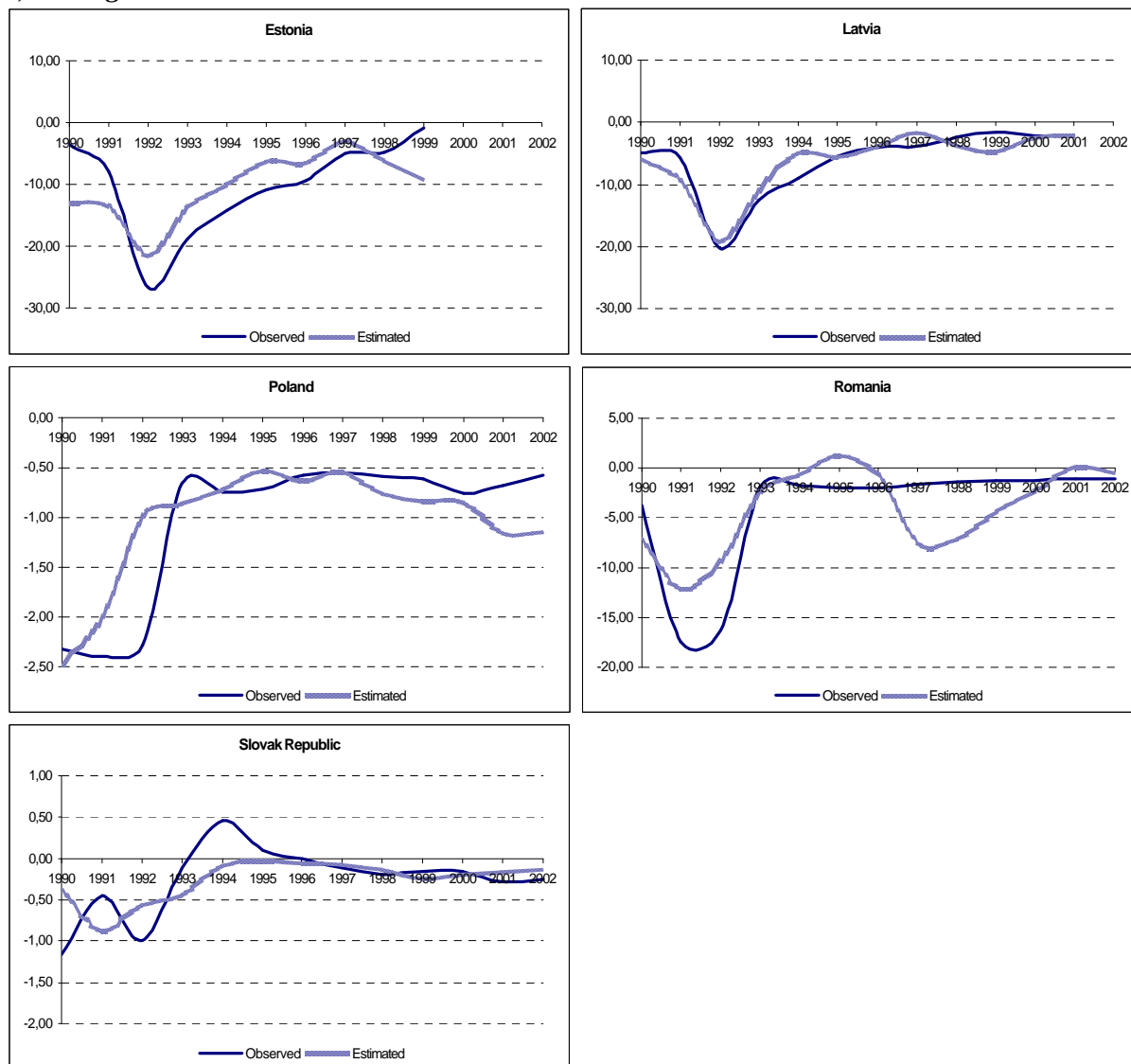
Figure 10. Negative impact of unemployment on net migration, 1990-2002



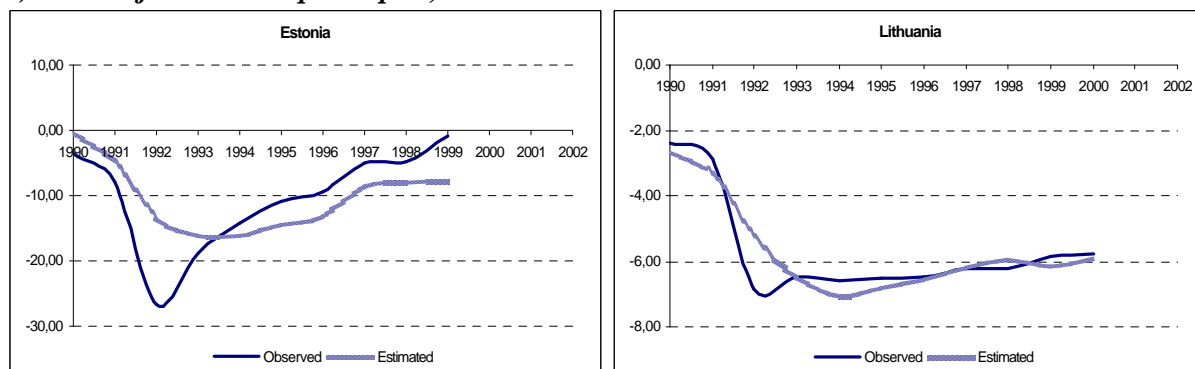
Source: Own computations; data - see Table 5.

Figure 11. Positive impact of GDP growth on net migration, 1990-2002

a) GDP growth indices

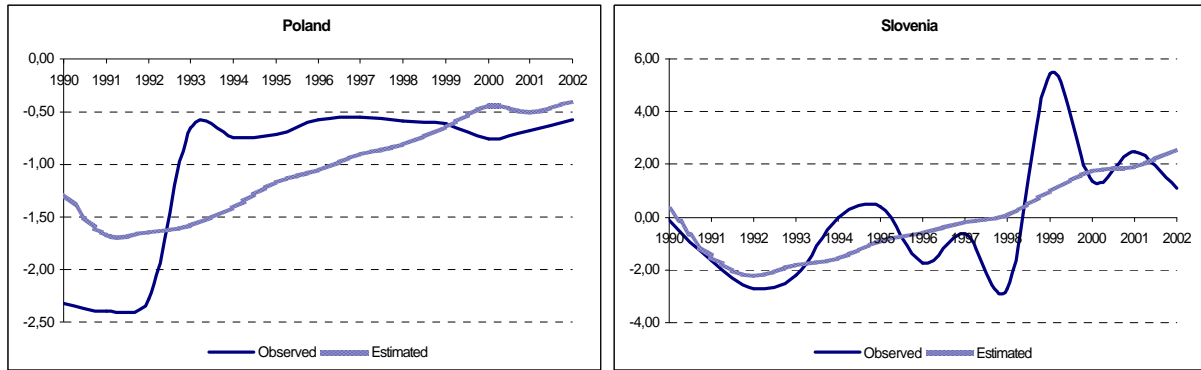


b) PPP-adjusted GDP per capita, in 2001 dollars



Source: Own computations; data - see Table 5.

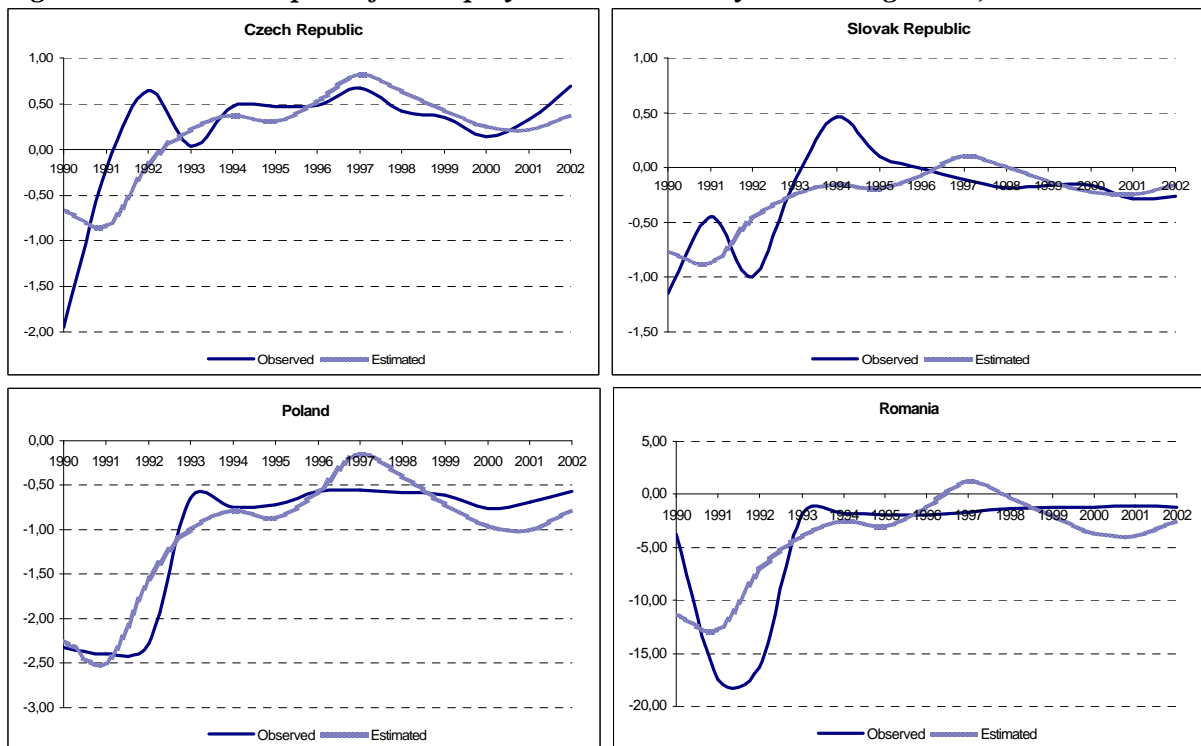
Figure 11. (continued)



Source: Own computations; data - see Table 5.

Additionally, to study the relationship between the net migration in the new EU member and accession countries on one hand and the situation on the labour market of the migration destinations, regression analysis was performed with the unemployment rate for Germany in the period 1990-2002 as an independent variable. The results proved to be significant and coherent with the expectations (i.e. with the positive slope estimate, due to assumed reduced population outflow) only for a handful of cases. In particular, unemployment in Germany appeared to have a significant relationship with migration flows from Poland ($R^2 = 83.6\%$, $p = 0.00$), Romania ($R^2 = 50.9\%$, $p = 0.01$), the Czech Republic ($R^2 = 48.0\%$, $p = 0.01$), as well as from the Slovak Republic ($R^2 = 44.7\%$, $p = 0.01$). The results are graphically summarised in Figure 12.

Figure 12. Positive impact of unemployment in Germany on net migration, 1990-2002



Source: Own computations; data - see Table 5.

To sum up, among the substantial number of countries under study, the impact of at least one economic factor appeared to significantly influence migratory flows in the direction that was expected from the theoretical point of view. A significant impact of both factors was observed

in Slovenia, even bigger when disregarding the impact of the political situation in 1999. GDP growth alone had a visible effect in Latvia, Poland, Estonia, Romania, the Slovak Republic, while the PPP-adjusted GDP levels per capita in Estonia, Lithuania, Poland and Slovenia. The negative effect of unemployment was visible for Cyprus, but also to a somewhat smaller extent for Lithuania. For Poland, Romania, as well as the Czech and Slovak Republics, significant relationship was found between the net migration and unemployment level in the most important migration partner country, Germany. Especially the latter results are not surprising bearing in mind either the geographical proximity of these countries, or past migration history, or a combination of these factors.

With regard to interpretation of the results, it has to be again stressed that the analysis of both factors (GDP and unemployment) separately instead of jointly, due to the insignificant results obtained in the latter case, may be perceived as the model specification error that could bias the outcome of the estimation. Therefore, it is proposed to treat the results of the regression analysis indicatively, exclusively as a general sign of existing relationship between the economic factors and migration. In general, it is also worth bearing in mind that the results of the presented study depend heavily on the data input, especially on the way statistical adjustments from the recent population censuses were distributed throughout the years. In some cases the outcome of the regression analysis may not be robust on the drastic changes in the way the corrections were applied, which is especially crucial for these countries, where the adjustment size was relatively big, i.e. in Romania, Poland, Bulgaria, as well as the Baltic States. Therefore, the results for these countries have to be interpreted and the conclusions generalised with some caution.

In the case of Bulgaria, Hungary and Malta, no reasonable correlation of net migration with the economic factors was found, nor when the independent variables were taken with one-year time lag. For Bulgaria this is not surprising, bearing in mind the very short time series, and for Hungary the insignificant regression estimates may be likely a result of the nature of the data, characterised by a very smooth net migration trend. Another option is that for these countries more attention should be paid to the other push and pull factors shaping population movements. Especially for Malta an explanation seems to indicate that these are migration policies that chiefly determine population inflow to the islands (see Sections 5.1 and 5.2).

Despite the mentioned shortcomings, it may be concluded that there is empirical evidence of a relationship between economic factors and migration. This result would partially constitute a basis for future projections of net population flows, described further in Sections 7.2 and 7.3, in the form of the assumptions of interdependence between the economic conditions with the direction and strength of migratory flows.

5.4. Future shape of migration policies and its expected impact on migration flows

The 1st of May 2004 certainly marks a beginning of a new era in the field of migration policy both for so-called old and new EU Members. In the first place, according to the Treaty of Amsterdam additional aim of the European Union was formulated which was the maintenance and development of "the Union as an area of freedom, security and justice, in which the free movement of persons is assured in conjunction with appropriate measures with respect to external border controls, asylum, immigration and the prevention and combating of crime"⁶.

⁶ Article 2 of the Treaty on European Union.

European Community became entitled to the realization of the above described goal (with the exception of cooperation in judicial and criminal matters). Therefore migration policy including visa, immigration and asylum policy as well as other measures relating to free flow of persons were transferred from the third pillar of EU based on intergovernmental cooperation to the first pillar, where policies are carried out by European Community. In other words, foundations for common migration policy implemented at the Community level were created. Nonetheless, taking into account the fact that EU countries were not fully prepared for such transformation, the transitional five-year long period was established. As the Amsterdam Treaty came in force on the 1st May of 1999, the 1st May of 2004 will mean the end of transitional period and full competence of European Community in migration matters⁷. From the future cooperation three EU countries were excluded i.e. United Kingdom, Ireland and Denmark due to their strong opposition to the planned changes⁸. Additionally, a considerable number of protocols and declarations were adjoined to the Amsterdam Treaty concerning both migration matters as well as the planned integration of Schengen acquis into the legal framework of European Union. The result was in a way a “labyrinth” of legal norm and provisions in the field of migration (Langrish 1998: 7) which will undoubtedly contribute to difficulties in future cooperation.

The first steps following the Amsterdam Treaty were the four general directions for future Community migration policy adopted during the special European Council meeting in Tampere in 1999, which included:

- common European asylum system,
- fair treatment of third country nationals,
- management of migration flows,
- partnership with the countries of origin⁹.

In general, considering the subsequent regulations passed and actions undertaken in the EU as well as Commission proposals still waiting to be adopted in the area of migration one may notice that the four directions listed above indeed became the four main areas in which the cooperation during the transitional period was developed (OECD 2004: 80-85).

It is worth noting, however, that despite the attempts to create an area without internal frontiers, most issues of primary importance considering migration remain still in states' competence. One may mention the status of third-country nationals or the conditions of entry and residence of persons for the purpose of employment and self-employment as the examples. This dualism may be also seen in the EU states' policy toward 10 new EU member countries and two candidates for membership in the Union i.e. Romania and Bulgaria. The cooperation in migration matters took form of both bilateral and multilateral relations when EU states in relation to the Central and Eastern European Countries (hereafter: the CEECs) played respectively a role of individual or collective subject.

⁷ From the legal standpoint, this change will entail exclusive right of initiative for the Commission, introduction of the jurisdiction of the Court of Justice on the migration policy area and co-decision procedure involving majority voting in visa policy with the possibility of extending this type of voting for other fields by the Council.

⁸ However, an option opt-in was for them provided in protocols added to the Treaty of Amsterdam. This option enables them to join the actions or regulations selected as consistent with their national interest therefore their future participation in common migration policy may not be excluded.

⁹ European Commission SI (1999) 800 *Presidency Conclusions – Tampere European Council (15-16 October 1999)*

Current situation in this field has its origins in the 1990s, when the general liberalization of the emigration and immigration rules in the CEECs which followed the overall process of liberalizing of the economy and politics in this part of the world, created a completely new quality in the migration situation. Geographical location of the CEECs led to their role as "buffer states" and transit routes for immigrants towards an increasingly closed Western Europe on its eastern and southern borders. The CEECs were for such new role institutionally and financially unprepared. Getting the CEECs involved in ever closer cooperation in migration matters was in the EEC countries' vital interest as this could have been a crucial point in successfully handling the asylum crisis and other challenges of the 1990s. Therefore the migration policies of the CEECs in the 1990s were heavily influenced by the activities undertaken by EEC/EU countries and followed in many cases similar patterns. The factor which contributed to such process to great extent was probably the fact that migration policies did not generally have such high profile in the CEECs as they did in their Western neighbours (Wallace 2000: 24).

In the wave of the overwhelming liberalisation the CEECs adopted Geneva Convention with New York Protocol. That enabled them to join the world wide system of refugee protection from which they had been artificially excluded due to political reasons during the previous communism period. Creation of the legal and institutional provisions for assuring the refugee and generally human rights in the CEECs resulted immediately in recognising them as safe countries by their western neighbours. Such measure remained in line with their efforts in combating the so-called asylum crisis as it opened the new possibility of rejecting the asylum applications from persons coming from the CEECs immediately on the border without examining these applications (Lavenex 1998:280). To take full advantage of such possibilities the conclusion of readmission agreements was inevitable. The first one concluded between the Schengen states and Poland (29 March 1991) applied not only to the citizens of the contracting parties but also to the citizens of the third countries detained and send back on the border. This agreement subsequently served as a model for many similar bilateral agreements concluded between single member states of the EEC/EU and the CEECs. Usually such agreements were accompanied by forms of financial compensation directed at diminishing the costs arising from the agreement's provisions in the CEECs¹⁰. Additional effect of concluding these agreements took a form of "chain reaction" in concluding subsequent similar agreements among the CEECs and with their eastern and southern neighbours. The European network of countries with ever stricter border control aimed at combating illegal migration arose as a result of this process. Readmission agreements (with the exception of the one concluded between Schengen states and Poland) were a form of bilateral relations in migration field between EU countries and the CEECs. Another example of this trend were bilateral agreements on seasonal or temporary workers in agriculture, construction or household services, concluded mainly by Germany, Italy, Spain, Portugal, Greece and the other EU states with their Eastern and Southern partners (OECD 2001: 143-147).

Concurrently, the forms of multilateral cooperation in migration matters were developed with the EU representing the collective actor in relations with the CEECs. The process of such cooperation was intensified due to the application of the CEECs for the membership in the EU in the years 1994-1996 and the following process of negotiations and preparation for the full membership in the European Union.

¹⁰ For example the readmission agreements signed between Germany and Poland (7 May 1993) or between Germany and Czech Republic (9 Nov 1994) were coupled with the transfer of DEM 120 million and DEM 60 million respectively aimed mainly at the improvements of border control and building an institutional infrastructure for refugee protection (Lavenex 1998, p.281).

The first steps of the CEECs on their way to European Union were the Europe Association Agreements signed between a particular CEEC and EEC countries¹¹. The Association Councils created by them soon become the forum for a bilateral dialog on many issues, including migration. Additionally, the Europe Association Agreements provided also for movement of workers and right to establish of the CEEC nationals on EEC states' territory. According to them, the CEEC nationals remained subject to specific EEC country's regulations in the area of entrance and residence. Some general rights were assured, however, including equal treatment in working conditions or the right to access the labour market for legally residing workers' family (OECD 2001: 121 -122). Europe Agreements coupled with bilateral agreements concluded between EEC/EU members and the CEECs have created a legal framework of migration policy still in force in EU – EU candidates' relations.

The forthcoming change in legal conditions is expected on the 1st of May 2004 when the countries under study will join the European Union. Then their position will be marked by the Accession Treaty and related acts underlying the conditions for accession. The transitional period of maximum seven years will precede the full implementation of the rules providing for the free flow of persons for the new EU members. According to provisions laid down in Annexes V-VI, VIII-X and XII-XIV, the old EU states will apply national measures and those resulting from bilateral agreements in regulating the access of the new EU nationals to their labour markets during the first 2 years after accession. Subsequently the Council will review the undertaken measures in this area, and countries willing to remain the transitional measures in force for another 3 years will announce their decisions. Five-year long transitional period may be once more extended for additional 2 years if country suffers from serious disturbances or the threat of thereof on its labour market. It is worth noting, however, that such regulations are formulated with regard to 8 Central European accessing countries excluding Malta and Cyprus for which separate regulations were provided¹².

Therefore the coming into force of the Accession Treaty will not result in immediate opening of old EU members' labour markets for the nationals of the new member states. Only Ireland and the United Kingdom, according to account states' decisions in this area, shall not apply transitional measures in the free flow of workers with some restrictions however relating to social protection in case of the UK.

However, it has to be added that although the process of adjustments of the migration regulation to EU standards has been prevailing in the CEECs since 1989, some characteristic regional features also have to be noted to outline the general picture of the current state of migration policy of the CEECs. Among them the most important seems to be the creation of policies resembling in many ways the German *Aussiedler* concept. As, due mainly to

¹¹ The Europe Association Agreements were signed with EEC and its member countries by Poland (1991), Hungary (1991), Czech Republic (1993), Romania (1993), Bulgaria (1993) the Slovak Republic (1995), Baltic states (1995) and Slovenia (1996) (Lavenex 1998, p. 287).

¹² According to the Annex XI to the Treaty concerning the Accession, in case of serious disturbances on the labour market, two emergency procedures were provided for Malta with regard to free flow of workers. They provide that for the seven-year long transitional period Malta may suspend the application of the respective regulations from the Treaty establishing European Community (article 39) and related Council regulations if such emergency arise. Additionally, for the same time period Malta may continue to issues its work permits system for other Member States' nationals, but shall issue them automatically. On the contrary, according to the Annex VII no special provisions with regard to free flow of persons were foreseen for Cyprus, the fact implying no transitional period in free flow of workers between this country and the rest of the European Union from the date of accession.

historical reasons, every country in the Central Europe has considerable groups of nationals living outside their homeland's borders, in each of the CEECs such ethnic co-nationals have been given a privileged migration status (Wallace 2000: 25).

Taking into account present shape of migration policies in CEEC, current trends in Western European countries' migration policies and the forthcoming enlargement of the EU with common migration policy being developed, the process probably to be accelerated after the 1st of May 2004, one may predict to certain extent future trends in migration policy of the CEECs.

The first remarkable feature of the future migration policy of the CEECs is the inevitable further cohesion with EU law in the field of migration, especially attempts to meet all the criteria necessary to full participation in Schengen cooperation should be mentioned in this place. Although, according to article 3 of the Act concerning the conditions of accession, Schengen acquis is binding and applicable in the new member states from the date of accession, but some provisions will be applicable only when the Council in its decision will decide that conditions for their applications are guaranteed. This implies significant adjustments to the EU standards especially in border protection and combating all forms of illegal immigration.

Another incentive to comprehensive adaptation of the EU law will be the expected participation of the new members in the common EU migration policy. As stated above, the date of enlargement of the Union coincides with the end of transitional period provided in The Treaty of Amsterdam for the introduction of the full Community responsibility in this area. Effective implementation of the hitherto existing legal regulations in the field of migration will enable the new members of the Union to actively participate in the future cooperation on the community level. Additionally, one may risk thesis that such implementation is a condition *sine qua non* for the further developments in the area under study, as the multiplication of the unimplemented regulations may appear aimless and inefficient.

The main trends in the future Community policy are to large extent reflected in current proposals submitted by European Commission already under legislation process and in three action plans adopted by the Council in 2002, all of them based on Commission propositions. Compiling the main ideas present in these documents one may predict that general directions for migration policy regulations on Community level will comprise:

- enhanced border control and strengthening of security measures in border checking (in line with Schengen regulations),
- combating all forms of illegal immigration, including trafficking in human beings,
- coordination in management of legal migration flows at the Community level,
- cooperation with countries of origin,
- assurance and extension of the rights of legally residing foreigners (OECD 2004: 80-85).

With regard to management of legal migration flows two already existing phenomena bound to be continued in the future are worth mentioning, i.e. the two main channels open for legal migration which are the highly skilled and low skilled workers' immigration based on labour market needs. These trends are displayed in bilateral agreements concluded between certain Western European countries which are aimed strictly at supplying labour market needs of the host country. With transferring the regulation of the access to labour market on the

Community level, these trends from Western European countries will probably be extended to the whole enlarged EU, especially taking into account the fact that such phenomena are present worldwide in immigration policy of the developed countries (United Nations 2002a: 20-21).

Additional trend which must be taken into account while predicting future migration policy regarding the CEECs is the growing international cooperation in seeking solutions to urgent problems and increasing institutionalisation of this cooperation (OECD 2001: 158, 171-172). This notice is true for many areas of international relations, migration policy including. In Europe alone many world-wide and regional organisation reveal interest in managing migration – Council of Europe, OSCE, OECD, ILO, UN and IOM to name but a few. Such organisations are the forums for discussion on the migration matters as well as the channels for spreading certain philosophy in managing migration. This aspect may become of primary importance especially if humanitarian crisis and other unpredictable disturbances resulting in considerably large flows of migrants occur.

The above depicted future trends in the migration policies of the CEECs ignore some obvious uncertainties arising from the fact that the new framework for the EU cooperation in this field has not yet been practically tested to the extent provided in the Treaty of Amsterdam from 1 May 2004. Some ambiguities may arise especially on the onset of cooperation when the division of competences between states and Community in the field of migration policy may be blurred and unclear.

Additionally, the regional differences in migration situation of the new EU members and accession countries must be taken into account. From different migration situations originate differently articulated and implemented migration policies. On the grounds of diversity some groups of interest may arise and future common migration policy of the EU may become an arena of discussion where collective and singular actors will seek the compromise. The results of such political bargains are hard to predict.

5.5. Geographic distribution of migration

In this section, information on the geographic distribution of migration is provided and the underlying differences in the impact of different push and pull factors are presented. For the particular new EU member and accession countries, the major origins and destinations of international migration are identified in Table 6.

Table 6. Major partners of migration exchange for the new EU member and accession countries

Country	Most important immigration sources in the 1990s	Major emigration destinations in the 1990s
Bulgaria	Germany, former USSR	Turkey, Germany, Greece, Spain, Italy
Czech Republic	Slovak Republic, former USSR, Vietnam, Germany	Slovak Republic, Germany, Austria
Estonia	Former USSR, Finland, Germany	Former USSR, Finland, Germany
Hungary	Romania, former Yugoslavia, former USSR (Ukraine)	Germany, North America, Austria
Latvia	Former USSR, North America, Germany	Former USSR, Germany, Israel, North America
Lithuania	Former USSR, Germany, North America	Former USSR, Israel, Germany, North America
Poland	Germany, former USSR (Ukraine), North America	Germany, North America, Austria, France
Romania	Moldova, France, Germany, North America	Germany, Italy, Spain, North America
Slovak Republic	Czech Republic, former USSR (Ukraine), Germany	Czech Republic, Germany, Austria
Slovenia	Former Yugoslavia, Germany, Austria	Former Yugoslavia, Germany, Austria
Cyprus	Greece, United Kingdom, Turkey*	United Kingdom, Greece, Turkey*
Malta	United Kingdom, Australia, North America, Italy	Australia, United Kingdom, Italy, Germany

* Migration mainly to and from the Northern, Turkish part of the island, characterised by an unknown magnitude (cf. Brey 1997).
Sources: Own compilation based on: Council of Europe (1995-2003); Eurostat, NewCronos; OECD (2004).

From Table 6 and the country-specific overview of recent migration trends provided in Section 5.2 it can be seen that in the 1990s the East-West direction of migration prevailed, in many instances countered by return migration rather than the inflow of citizens of the Western European countries to Central and Eastern part of the continent. There is still practically not much migration between the new EU member and accession countries, with the exception of migration between the Czech and Slovak Republics.

What can be clearly seen from the statistical figures summarised in Table 6, Germany is the country with a key position as the most important migration partner of the Central and Eastern European EU member and accession countries. According to German sources in turn¹³, the major population exchange of the Federal Republic (both inflow and outflow) considers Poland. In the period 1996-2001, the average yearly long-term immigration from Poland to Germany exceeded 90,000 persons, while the population movement in the opposite direction, mostly comprised of the return migrants – 74,000. These flows appeared to be bigger even than the migration from and to the countries of the former Soviet Union, Turkey, as well as republics of the former Yugoslavia (Council of Europe 1997-2002, Tables 6 for Germany). The magnitude of these phenomena, mainly economically driven, can be attributed to the population size and geographical proximity of the two countries, as well as to migration history and established Polish migrant networks in Germany. Moreover, migration between Poland and Germany constituted in the recent years the biggest population flows in Europe, with the exception of the war-related migration from the countries of the former Yugoslavia.

With regard to almost all new EU member and accession countries, the following patterns of migration directions can be observed: first of all, the East-West direction of migration in the quest for labour or better living conditions prevails. Secondly, there are more immigrants to the new EU member and accession countries from outside the European Union, to some extent attracted by the expected advantages resulting from the EU membership of these countries, notably the possibilities of transit to the West (cf. Romaniszyn 1997). Thirdly, an increasing number of return migrants, especially as the socio-economic conditions of the transition countries improve.

¹³ Broad definition of long-term migrants applied in the German statistics has to be considered, cf. Section 4.1.

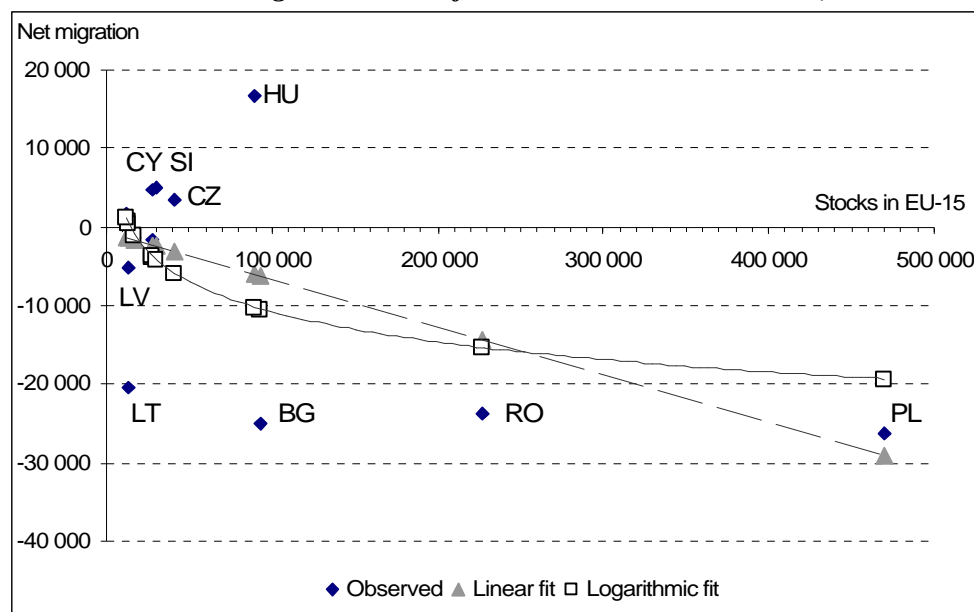
With regard to push and pull factors influencing the directions of population movements in the new EU member and accession countries, economic determinants of migration are seemingly of the greatest importance. Their role is however modified by the intermediary factors, most notably migration policies, the pre-existence of migrant networks, traditions of migratory flows, cultural ties and the geographical proximity. The importance of political factors was observed in relation to the armed conflicts in the former Yugoslavia, from the countries under study particularly affecting Slovenia and Hungary through significant flows of refugees. Also the ethnic migration amounted to a substantial share of the overall flows in the 1990s. The most important groups of ethnic migrants in that period were the German *Aussiedler* from Central Europe, Polish repatriates from the former Soviet Union, migrants from Romania to Hungary, from Moldova to Romania, from Bulgaria to Turkey, as well as the exchange between the respective parts of Cyprus and Greece or Turkey. Contemporarily however, the importance of ethnically driven migration seems to decline, while the economic determinants remain clearly dominant, with the role of migration policies recently gaining much in importance.

It would be beneficial to examine the impact of size of migrant networks in particular countries on migration flows in terms of the most frequent origins and destinations. Such a study should be performed by the means of statistical tools, like the regression model, similarly to the quantitative analysis impact of the economic factors, presented in Section 5.3. Unfortunately, this exercise can not be reasonably performed due to the data problems and different definitions of migrants. The information on foreign population stocks always comes from the destination countries. If the dependent variable was net migration also according to the destination countries, then the difference between the flows would be to some extent attributed to different definitions of the migrants. In such cases, the statistical analysis would produce results that would be significantly biased, owing among others to the fact that Germany, the major destination country for citizens of the new EU member and accession countries, has a different definition of migrants than most of the other countries in Europe (Section 4.1). If in turn the dependent variable was migration balance according to the source (sending) countries, then the definition would be uniform, but the problems of underreported migration would weigh heavily on the results of the analysis.

What could be seen as a very general attempt to verify the role of migration networks is an analysis of statistical interdependence between net migration in the new EU member and accession countries and the migrant stocks of their citizens already present in the EU-15. The net migration figures estimated from the population balance are used in this exercise, together with the size of the foreign population stocks, quoted in Table 3 in Section 3.6. As the figures do not come from exactly the same year, but they are only supposed to be as close to 2001 as possible¹⁴, the outcome of the estimation has to be treated as only an indication. In result, a linear fit with the negative slope proved significant at $\alpha = 0.1$ with the p-value of 0.05 ($R^2 = 0.33$), and the logarithmic one – not significant, yet having the p-value equal 0.13, thus not much higher than the critical level. The outcome of this analysis is presented in Figure 13.

¹⁴ Data on population stocks in the EU-15 come from 2001, with the exceptions of France (1999), Ireland (2002 with some countries missing) and the United Kingdom (2000). Data on migration flows come from 2001 apart from Bulgaria, Hungary and Lithuania (2000) and Estonia (1999), for the reasons discussed in Section 4.2.

Figure 13. Interdependence between net migration in the new EU member and accession countries and the migrant stocks of their citizens in the EU-15, around 2001



Source: own computations, data on stocks: as Table 3.

Results of this exercise, according to the expectations, indicate that there is some form of influence of the migrant network size on the number of new migrants. Due to the mentioned data problems, as well as the other factors (like excluding the information on the foreign networks in the new EU member and accession countries, again due to data unavailability or incomparability), the outcome of this analysis has to be seen as purely indicative.

6. Existing forecasts of international migration for the new EU member and accession countries

Current section is devoted to a review and evaluation of existing forecasts of international migration for the new EU member and accession countries. National population forecasts from the countries under study, the latest population projections of the United Nations, as well as the selected research focusing on migration projections are subsequently discussed.

6.1. National population forecasts

This part of the report contains information on population forecasts and projections prepared by the statistical authorities of the new EU member and accession countries, with focus on the assumptions regarding international migration developments.

At the moment when the scenarios were prepared, data on international migration component included in national population forecast produced by national statistical institutes (NSI) were available for eight countries: Cyprus, the Czech Republic, Hungary, Lithuania, Malta, Poland, the Slovak Republic and Slovenia. However, in the case of Czech Republic, Hungary and Lithuania the information was limited only to the figures of net migration, so it was impossible to analyse the basis of the assumptions and to state how the migration component was treated in the population forecast. Besides, the figures for Lithuania appeared incomplete and due to lack of emigration data only the basic scenario could be presented. For other two countries (Estonia, Romania) only a general outline of migration assumptions was offered. Available forecasts of net migration are summarized in Table 7 and illustrated in Figure 14 which also shows, as reference values, net migration assumptions from the latest United Nations (2003b) projection. Whenever available, additional information regarding net migration assumptions in the national population forecasts in all considered countries is subsequently discussed.

Table 7. Assumptions on net migration developments in 8 new EU member countries

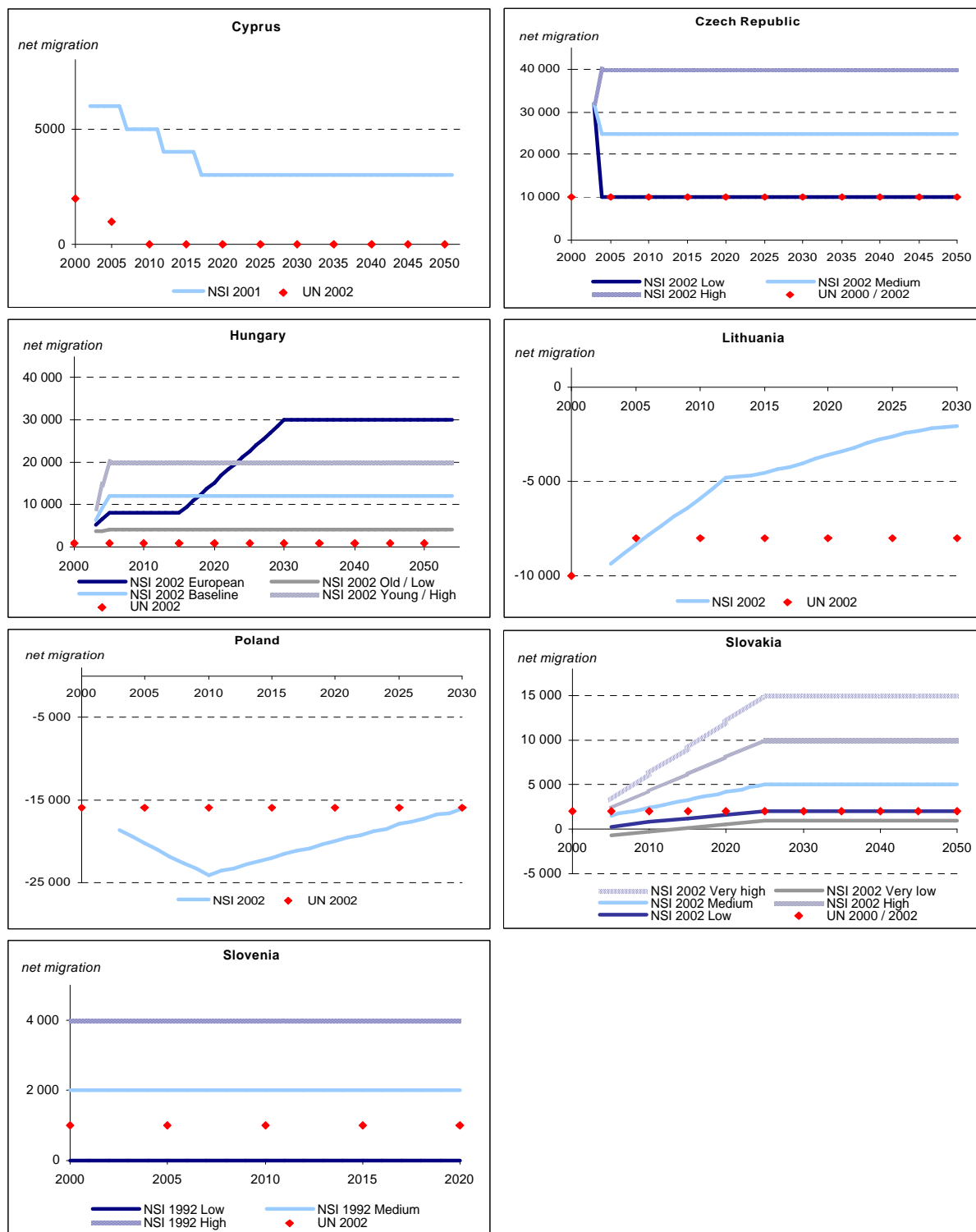
Country	NSI Forecast	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
Cyprus	2002	6 000	5 000	4 000	3 000	3 000	3 000	3 000	3 000	3 000	3 000
Czech Republic	2002 Low	10 000	10 000	10 000	10 000	10 000	10 000	10 000	10 000	10 000	10 000
	2002 Medium	25 000	25 000	25 000	25 000	25 000	25 000	25 000	25 000	25 000	25 000
	2002 High	40 000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	40 000
Hungary	2002 Baseline	12 000	12 000	12 000	12 000	12 000	12 000	12 000	12 000	12 000	12 000
	2002 Old / Low	4 000	4 000	4 000	4 000	4 000	4 000	4 000	4 000	4 000	4 000
	2002 European	8 000	8 000	8 000	15 334	22 666	30 000	30 000	30 000	30 000	30 000
	2002 Young / High	20 000	20 000	20 000	20 000	20 000	20 000	20 000	20 000	20 000	20 000
Lithuania	2002	-8 333	-5 901	-4 550	-3 611	-2 630	-2 084	:	:	:	:
Malta	1995	0	0	0	0	0	0	0	0	0	0
Poland	2002	-20 155	-24 106	-21 988	-19 940	-17 827	-16 101	:	:	:	:
Slovak Republic	2002 Very low	-649	-239	174	603	1 000	1 000	1 000	1 000	1 000	1 000
	2002 Low	326	751	1 181	1 603	2 000	2 000	2 000	2 000	2 000	2 000
	2002 Medium	1 561	2 439	3 279	4 154	4 993	5 000	5 000	5 000	5 000	5 000
	2002 High	2 374	4 296	6 207	8 106	10 000	10 000	10 000	10 000	10 000	10 000
	2002 Very high	3 209	6 173	9 121	12 079	15 000	15 000	15 000	15 000	15 000	15 000

Table 7. (continued)

Country	NSI Forecast	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
Slovenia	1993 Low	0	0	0	0	:	:	:	:	:	:
	1993 Medium	2 000	2 000	2 000	2 000	:	:	:	:	:	:
	1993 High	4 000	4 000	4 000	4 000	:	:	:	:	:	:

Source: National Statistical Institutes.

Figure 14. Assumptions on net migration developments in 5 Central European countries



Source: National Statistical Institutes, United Nations (2003b).

In the population forecast for **Cyprus**, migration is assumed to continue along the current trend and a net migration balance to remain positive throughout the whole projection period. Up to 2006 the annual balance of migration would amount to +6,000 persons. Then, a decline in this value is expected to the level of +5,000 persons annually in the period 2007-2011, to +4,000 in the period 2012-2016 and starting from 2017 to remain stable at the level of +3,000 persons a year.

Malta assumed zero-migration in the latest forecast produced by the NSI in 1995 (Shaw 2002), justified by the negligible character of migratory flows in Malta in the recent years.

Assumptions concerning international migration in the **Polish** forecast were established by experts from the Central Statistical Office, the Government Population Council and the Committee of Demographic Studies of the Polish Academy of Sciences. In their opinion the current trends of international migration would probably change in the near future as a result of Poland's accession to the European Union. It is anticipated that people would migrate on a larger scale and therefore it is assumed that the volume of immigration, as well as the emigration rates would increase annually by 5%. This grow is anticipated to last until 2010 and then a stabilization of international flows is expected. No alternative to the mentioned scenario was available.

Slovak population projection includes five variants of the future scenarios for development of international migration: very low, low, medium, high and very high. The number and variability of different scenarios is explained by the high uncertainty of long-term demographic projections which is increased by the transformation period of the Slovak society and none of the considered scenarios appears as totally unrealistic. The medium variant is treated as the most likely one. Low and high scenarios defined upper and lower limits that should not be exceeded and only some specific circumstances can cause that assumed parameters would approach values characteristic for very low or very high scenarios. General pattern of migration is the same in all scenarios and it is assumed that the net migration would gradually increase up to 2025 and remain stable afterwards. The difference in the pace of the increase and at the same time in the level reached in the target year is attributed to the greatest extent to the different scenarios of integration process in Europe. In the most probable variant the net migration is expected to increase by ca. 174 persons every year, which would eventually lead to the level of +5,000 per annum starting from 2025. It is assumed that among the emigrants there will be mainly young and educated people and the immigrant group will be dominated by people from Eastern Europe and developing countries.

The official population projection for **Slovenia** was made in 1993. It included three different variants of net migration assumptions which were first formulated by the Slovenian NSI and subsequently revised with the help of other experts. For the whole projection period the levels of net migration in individual scenarios were differentiated (up to 1994 in the low variant and up to 2000 in the medium and high variants) but due to the remote base year of the projection net migration is assumed to remain constant in future.

The latest **Estonian** population forecast was produced in 2002 and its importance was strongly emphasized due to the rapid changes in the Estonian society during the recent years. This forecast presents four main scenarios, the basic one having two additional variants in which the migration component is taken into consideration. It is assumed in both of them that from 2020 onwards net migration would be equal to zero. In 2013 (the mid year of the

forecast period with non-zero migration) the net migration would account for +3,000 in the first variant and less than –4,000 in the second one.

In the case of *Romania*, the international flows consist almost exclusively of emigration and its long-term stabilisation at the level of 10-15 thousand is anticipated. However, due to expected increase of legal emigration to other more developed European Union member states it is assumed that up to 2007 migration (also distributed by sex and age) will remain the same as in 2002, then it is expected to increase slightly and the level reached in 2010 is kept constant until 2025.

Following the research of Shaw (2002) with respect to other new EU member states and accession countries, *Bulgaria* did not consider international migration in the latest 1995-based population forecast due to instability of migration and lack of reliable data. Unfortunately, no information for *Latvia* was available in the study of Shaw (2002).

To summarise, the majority of countries predicted positive levels of net migration. The EU membership, whenever mentioned as a factor influencing the international migration, is expected to result in the higher intensity of the migration processes – both of immigration and emigration. However, for all the countries there was no information regarding the expected impact of different transition stages on migration developments over time.

6.2. Population projections of the United Nations

Apart from the national population projections, a valuable source of information on the future expectations as to the population developments including migratory movements are the population projections compiled by the United Nations Population Division. Unlike the national forecasts, the ones prepared by the UN share a common, well-established methodology for all the countries under study and often form a reference for the other forecasting undertakings. A discussion of the assumptions and an overview of numbers obtained in the two latest projections prepared by the United Nations in the 2000 and 2002 revisions (United Nations 2002b, 2003b) are presented further in this section.

Generally in the forecasts of the UN Population Division, detailed assumptions about international migration are based on past international migration estimates, an assessment of the policy stance of the countries with regard to future international migration flows and on the influx of refugees in recent periods. The estimates of net migration trends until the base year of the projection have been calculated by applying standard demographic techniques to the most recent data available for each and every country. Description of these data used in the 2000 Revision¹⁵ is presented in Table 8. In the 2000 revision of the projections (United Nations 2002b), an analysis of available international migration data was of a great importance, and a special emphasis was put on data about origin and destination of the migrants. Besides, newly-available data on refugee stocks produced by the UNHCR were an additional and valuable source. Re-estimation of net migration led to considerable changes and made the refugee component of population growth most responsible for the difference in the projected population size in comparison with the earlier revisions of the UN projections.

¹⁵ United Nations (2002b): World Population Prospects, The 2000 Revision, Volume III: Analytical Report was the latest available at the moment of scenarios formulation.

Therefore, the necessity of further revision of past international migration estimates was stressed, what was eventually done in 2002 (United Nations 2003b).

Table 8. Migration data used in the 2000 revision of United Nations population projections

Country	Source of data
Bulgaria	Net international migration estimated as the difference between the actual growth of the population and its estimated natural increase up to 1998
Cyprus	Information on the inflow of temporary workers in 1990-1993 and an official estimate of immigration for 1998
Czech Republic	Official estimates of net international migration through 1998
Estonia	Official estimates of international migration through 1998
Hungary	Official estimates of international migration through 1990 and the number of Hungarian migrants to developed countries
Latvia	Official migration statistics available through 1998
Lithuania	Official estimates of international migration through 1998
Malta	International migration registered through 1998
Poland	Estimates of net international migration derived as the difference between overall population growth and natural increase
Romania	Official estimates of net international migration through 1998
Slovak Republic	Official statistics on international migration through 1994 and estimates of net international migration between the Czech and Slovak areas of the former Czechoslovakia
Slovenia	Statistics of international migration available through 1999

Source: United Nations (2002b).

With regard to migration policies, the core information on the governments' perception of the current level of both immigration and emigration, as well as of the proper response towards the migratory phenomena was summarised in the United Nations (2002a) report. According to this source, both the current emigration and immigration levels could be viewed by the governments as too high, satisfactory or too low and the appropriate policy towards these variables could be assigned to one of the following categories: *to raise*, *to maintain*, *to lower*, or *not intervene*. Latest available governmental opinions are summarized for the countries under study in Table 9.

Table 9. Governments' views on international migration levels and proper policy responses

Country	Immigration level		Emigration level	
	View	Policy	View	Policy
Bulgaria	Satisfactory	Maintain	Too high	Lower
Cyprus	Too high	Lower	Satisfactory	Lower
Czech Republic	Too high	Lower	Too high	Lower
Estonia	Satisfactory	Maintain	Satisfactory	Maintain
Hungary	Too high	Lower	Satisfactory	No intervention
Latvia	Too high	Lower	Satisfactory	Maintain
Lithuania	Satisfactory	Lower	Satisfactory	No intervention
Malta	Satisfactory	Lower	Satisfactory	No intervention
Poland	Satisfactory	Maintain	Satisfactory	No intervention
Romania	Satisfactory	Lower	Too high	No intervention
Slovak Republic	Satisfactory	Lower	Satisfactory	No intervention
Slovenia	Satisfactory	Lower	Satisfactory	No intervention

Source: United Nations (2002a).

In all but four countries the immigration levels seem to be satisfactory but despite this fact the majority of the governments aim at lowering them. Emigration levels are also viewed as satisfactory, but in contrary to the population inflows, in the opinions of the governments, no interventions are needed, even if the level is perceived as too high (in the case of Romania). A peculiar stance is presented by Cyprus – although the emigration level is satisfactory, in the opinion of the government it should be lowered.

Assumptions for net migration which were worked out on the basis of the aforementioned data by the UN Population Division in the 2000 and 2002 revisions of the population projections (United Nations 2002b, 2003b) are presented in Table 10. The international migration component included in the population dynamics projected by the UN is treated as the most difficult to predict reliably, which results from its volatility and dependency on different non-demographic factors and the poor quality of the data on migration. Nevertheless, only one variant of future international migration trend is taken into account, namely the so-called *Normal-migration assumption*. The second one, a *Zero-migration assumption* (for each country international migration is set to zero for the period 2000-2050) is only a theoretical one and enables the assessment of the theoretical changes in demographic parameters under the assumption of a total absence of international migration.

For the whole area under study the projected net migration amounts to ca. –41,000 annually in the 2002 projection and –39,000 in the 2000 projection (United Nations 2002b, 2003b). In almost all cases net migration figures remain constant over the whole projection horizon. The only exceptions from this rule are observed in the short run for Cyprus and Latvia in the 2002 projection, as well as Cyprus, Estonia and Hungary in the 2000 projection, but still there is no situation, where a receiving country would turn into the sending one or vice versa. The projected levels of net migration are more or less equal to the average levels observed in the period 1995-2000.

Differences between the two projection rounds concern seven countries and reflect the discrepancies between the observed average values of net migration in the years 1995-2000. With respect to the direction of flows, Hungary became an immigration country in the 2002 revision of the projections, while Latvia and Lithuania became emigration countries.

The main advantage of the United Nations projections is the consistent technique and methodology applied simultaneously for all the countries under study. At the same time, lots of national specificities in migration processes are unfortunately ignored. Besides, constant levels of net migration suggest that the impact of the European Union accession is entirely omitted in the projections. In comparison with the projections of the national statistical institutes, the assumed levels of net migration from the United Nations studies (2002b, 2003b) are lower than the majority of the national baseline scenarios, for the Czech and Slovak Republics are equal to the respective low variants, and for Hungary are even lower than the lowest variant. Only the Polish national forecast foresees values that are lower than the ones projected by the United Nations and for this country the two predicted trajectories of net migration eventually converge by 2030.

Table 10. Assumptions on net migration developments in the new EU member and candidate countries until 2050, United Nations projections

Country	Projections	2000-2005	2005-2010	2010-2015	2015-2020	2020-2025	2025-2030	2030-2035	2035-2040	2040-2045	2045-2050
Bulgaria	UN 2000	-20 000	-20 000	-20 000	-20 000	-20 000	-20 000	-20 000	-20 000	-20 000	-20 000
	UN 2002	-10 000	-10 000	-10 000	-10 000	-10 000	-10 000	-10 000	-10 000	-10 000	-10 000
Cyprus	UN 2000	1 500	500	0	0	0	0	0	0	0	0
	UN 2002	2 000	1 000	0	0	0	0	0	0	0	0
Czech Republic	UN 2000	10 000	10 000	10 000	10 000	10 000	10 000	10 000	10 000	10 000	10 000
	UN 2002	10 000	10 000	10 000	10 000	10 000	10 000	10 000	10 000	10 000	10 000
Estonia	UN 2000	-9 280	-7 000	-7 000	-7 000	-7 000	-7 000	-7 000	-7 000	-7 000	-7 000
	UN 2002	-8 000	-8 000	-8 000	-8 000	-8 000	-8 000	-8 000	-8 000	-8 000	-8 000
Hungary	UN 2000	-3 800	0	0	0	0	0	0	0	0	0
	UN 2002	1 000	1 000	1 000	1 000	1 000	1 000	1 000	1 000	1 000	1 000
Latvia	UN 2000	0	0	0	0	0	0	0	0	0	0
	UN 2002	-8 000	-8 000	-8 000	-8 000	-8 000	-8 000	-8 000	-8 000	-8 000	-8 000
Lithuania	UN 2000	0	0	0	0	0	0	0	0	0	0
	UN 2002	-10 000	-8 000	-8 000	-8 000	-8 000	-8 000	-8 000	-8 000	-8 000	-8 000
Malta	UN 2000	0	0	0	0	0	0	0	0	0	0
	UN 2002	0	0	0	0	0	0	0	0	0	0
Poland	UN 2000	-20 000	-20 000	-20 000	-20 000	-20 000	-20 000	-20 000	-20 000	-20 000	-20 000
	UN 2002	-16 000	-16 000	-16 000	-16 000	-16 000	-16 000	-16 000	-16 000	-16 000	-16 000
Romania	UN 2000	-5 000	-5 000	-5 000	-5 000	-5 000	-5 000	-5 000	-5 000	-5 000	-5 000
	UN 2002	-5 000	-5 000	-5 000	-5 000	-5 000	-5 000	-5 000	-5 000	-5 000	-5 000
Slovak Republic	UN 2000	2 000	2 000	2 000	2 000	2 000	2 000	2 000	2 000	2 000	2 000
	UN 2002	2 000	2 000	2 000	2 000	2 000	2 000	2 000	2 000	2 000	2 000
Slovenia	UN 2000	1 000	1 000	1 000	1 000	1 000	1 000	1 000	1 000	1 000	1 000
	UN 2002	1 000	1 000	1 000	1 000	1 000	1 000	1 000	1 000	1 000	1 000

Source: United Nations (2002b, 2003b).

Summing up, the official projections of the United Nations appear to be less realistic than the ones derived by the national statistical authorities, as the former do not take into the account both the local specifics of migratory flows and the expected impact of the political changes following the EU accession. Moreover, presenting only one projection variant does not allow for any inference on the assumed size of projection errors. For these reasons, the projections of the United Nations do not seem to constitute a comprehensive and valid reference for the purpose of the current study.

6.3. Selected research focusing on migration projections

Many studies published in the 1990s mainly by the Western European researchers present scenarios of migration from the Central and Eastern European countries to the 'old' 15 EU member states¹⁶. Unfortunately, hardly any published studies focus on presenting scenarios of migration in the opposite direction, i.e. to the new member and accession countries.

One of the first attempts to assess the magnitude of East-West migration after EU enlargement were undertaken by Layard et al. (1992), who extrapolated the size of South-North migration in Europe and in North America between 1950 and 1970. The overall "migration potential" of Central and Eastern Europe¹⁷ was estimated at 3 % of the total population, i.e. about 3 million persons considering the ten countries under study. Assuming that the emigration would take place in the first 15 years after the accession, that would lead to an average yearly number of 210,000 migrants, which is similar to the estimates obtained in the other studies. For example, the size of the "migration potential" estimated by Orłowski (2000) ranges between 1.8 and 3.5 million persons, depending on the economic circumstances. Hille and Straubhaar (2001) estimated the magnitude of East-West migration after EU enlargement somewhat higher, between 188 and 396 thousand persons a year. Some other studies take into consideration the decreasing propensity to migration after accession of the Central and Eastern European countries to the EU. Brücker and Boeri (2001) estimated slightly smaller numbers: 335 thousand migrants yearly in the initial post-enlargement period, subsequently decreasing to the levels of 100-150 thousand. On the high extreme, the econometric model applied by Franzmeyer and Brücker (1997) projected between 590 thousand and 1.18 million migrants yearly, depending on the pace of economic convergence between the Eastern and Western parts of the continent. It is however worth bearing in mind that in most of the other research the results obtained are less drastic and therefore more reliable than the overestimated figures of Franzmeyer and Brücker (1997).

There are numerous studies by the other authors covering either the countries under study or the destinations only partially. Fassmann and Hintermann (1997) estimated on the basis of a survey research that the real "migration potential" of Poland, Hungary, the Czech Republic and the Slovak Republic equalled ca. 721 thousand persons and the number of persons "willing to migrate" - about 4 million. However, as it was noted by Kupiszewski (2002b), migration intentions are a very deficient predictor of future migration flows, as there is no empirical evidence of the impact of intentions on the actual migration undertakings. Lundborg (1998) considered only labour migration from Poland and the Baltic States and obtained as a result an estimate of maximally 1.9 million migrants and their family members moving to the EU within 15 years. These results are to a large extent consistent with the expectations of

¹⁶ A recent comparative overview of the was provided for example by Centraal Planbureau (2004).

¹⁷ A serious methodological problem is that the term "migration potential" lacks precision and may be therefore only indicatively used as a predictor of migration streams (Kupiszewski 2002b).

Orowski and Zienkowski (1998), who used the gravitational model to estimate the net migration losses of Poland in the height between 390 thousand and 1.5 million. Bauer and Zimmermann (1999) arrived at the estimate of approximately 3 million migrants from Poland, Romania, Bulgaria, the Czech Republic, the Slovak Republic and Slovenia to the EU-15 within the next 15 years. Much lower numbers were obtained by Salt et al. (1999), who estimated that the post-accession "migration potential" of Poland, Estonia, Hungary, the Czech Republic and Slovenia should not exceed half a million persons in total.

Several important research studies, covering the projected population flows only partially, focus on Germany as the major destination country in Europe and (not surprisingly) were prepared by the German authors. For example, the results obtained by Fertig (1999) for Poland, Estonia, Hungary, the Czech Republic and Slovenia show the "migration potential" to Germany in size of about 400 thousand persons. Later study by Fertig and Schmidt (2000) differentiated migration scenarios into the "typical" and "high-emigration" ones, obtaining total migration from the same countries but Slovenia in the magnitude of 300-400 thousand in the former case and 0.9-1.2 million in the latter over twenty years. Immigration to Germany was also studied by Sinn et al. (2001), who obtained very high estimates of average yearly increases in population stocks originating from Poland, Romania, Hungary, the Czech Republic and the Slovak Republic, in the magnitude between 184 and 240 thousand depending on the rate of the economic convergence to the EU standards.

The recent study of Alvarez-Plata et al. (2003) shows that in most of the previous projections assuming mass population flows to Western European countries, the numbers obtained were overestimated. The forecast of Alvarez-Plata et al. (2003) in its Baseline scenario assumes the highest level of immigration from the new member countries to the rest of the EU-15 to be reached in 2005 in the height of over 367 thousand persons, and a gradual decrease of the net flows to the levels below zero by 2030. The stocks of foreign population in the countries of the EU-15 are therefore expected to rise from about 1.27 million in 2004 to over 3.82 million in 2030. The study of Alvarez-Plata et al. (2003) constitutes a good reference for the construction of projection scenarios, as it takes into consideration different possible dates of opening of the labour markets of the EU-15 countries, from 2004 to 2011, according to the scheme "2 years + 3 years + 2 years". The conclusion reached by the authors of the mentioned study is that regardless of the date of full access to the Western European labour markets, the estimated patterns of migration from the new EU member countries are very similar, only observed with a time lag.

The net migration scenarios for all Europe, including the new EU members and accession countries (however without Cyprus and Malta) have been presented for example in the publication of de Beer and van Wissen (1999). Their scenarios of 'uniformity' (convergence of trends within Europe) and 'diversity' (preservation of current demographic characteristics of different parts of the continent), roughly correspond respectively with the High and Low scenarios discussed in the next section. The authors have distinguished two groups of Central and Eastern European countries: first comprised of eight new EU member countries (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovak Republic and Slovenia), and the second one of two accession countries (Bulgaria and Romania).

De Beer and van Wissen (1999) supposed that in the 'uniformity' scenario based on the assumption on convergent demographic trends in Europe, net migration rates in all European countries will reach the levels of +2.5 per 1,000 population until 2050. In the 'diversity' scenario, assuming diverging population trends in various parts of Europe, the rates are

expected to reach the rates of -0.5 per 1,000 in the eight new EU member countries and -1.0 per 1,000 in the two accession countries by 2050. The scenarios mentioned above have some practical limitations: firstly, they do not take into account the actual (observed) starting values of net migration in the mid-1990s. Secondly, only the uniformity scenario seems to consider the expected post-accession drops in net migration levels, however not for Estonia and Latvia. Finally, the target rate of $+2.5$ per 1,000 assumed for 2050 for all the countries under study appears unrealistically high in some instances, especially in the light of the past migration trends of the Central and Eastern European countries and the recent migration policy developments.

The econometric models on which most of the existing forecasts are based have certain methodological deficiencies. For example, they do not consider demographic and social constraints of migration and they use the economic variables that are difficult to forecast themselves (like GDP or unemployment) as predictor for migration (Kupiszewski 2002b). The purely demographic forecasts in turn, like the one of de Beer and van Wissen (1999) rely heavily on subjective expert opinions with regard to the future developments of the projected variables. Nevertheless, all these projections are definitely valuable as a reference for the further attempts to forecast international migration.

7. Scenarios of international migration

This section is devoted to the core part of the study, i.e. to development of scenarios of net international migration for the new EU member and accession countries for the period 2000-2070. Firstly, an expected schedule of opening the labour markets of the Western European EU countries to the labour force from the new EU members is presented. Then, qualitative assumptions with regard to the future migration developments are made, which are subsequently quantified to obtain the time series of projected net migration. An overview of the results by country is presented in the last part of this section.

7.1. Expected schedule of opening the EU labour markets after the enlargement¹⁸

The free flow of persons proved to be a difficult issue during negotiations on the enlargement of the European Union. The contradictory interests of the EU-15 countries and of the new EU members (at that time accession countries) combined with a wide media coverage of the matter made this area one of the most delicate and sensitive during the negotiation process.

As it was discussed in details in Section 5.4, the conditions of accession of the 8 Central and Eastern European countries (CEECs) together with Malta and Cyprus were laid down in the Treaty on Accession and other related acts, especially in the Act on Accession and the attached Annexes. Following the results of negotiations, a transitional period was provided in the area of the free flow of persons, limiting the possibility of undertaking a job in the EU-15 countries for the nationals from the new member states for two, five or maximally seven years. Such provisions enabled the EU-15 states to apply national measures, as well as those resulting from bilateral agreements in regulating the access of the new EU nationals to the labour markets during the first 2 years after accession. Then, after the review made by the Council, the transitional period would or would not be extended for the next three years according to the states' decisions. Five-year long transitional period may be once more extended for additional two years if a particular country suffers from serious disturbances on its labour market or the threat thereof. However, it is worth noting, that such regulations are formulated with regard to the 8 Central European accessing countries excluding Malta and Cyprus for which separate regulations were provided. Therefore the coming into force of the Accession Treaty will not result in immediate opening of the old EU members' labour markets for the nationals of the new member states. Instead, the process of opening of the labour markets will be completed in stages. The decision whether and for how long apply transitional measures was left to the states which announced them in the beginning of 2004, however the process of taking legally binding provisions in certain countries has not been completed yet (i.e. Denmark, Italy).

According to these decisions, only Ireland, Sweden and the United Kingdom shall not apply transitional measures in the free flow of workers, however with some restrictions remaining in force, related to social protection in case of the UK. The rest of the EU-15 countries decided to introduce transitional periods in order to protect their labour markets. Although all of these decisions were made only for two years, yet taking into account politicians' standpoints,

¹⁸ Subsection written on the basis of the most recent available (as of 21st April 2004) press releases regarding the issue of post-enlargement freedom of movement of persons, and the monitoring of selected Internet information resources on this issue (EU Business 2004, Gazeta Wyborcza 2004, Polish Press Agency 2004, UKIE 2004).

differences in the economic situation of different countries and the press releases one may risk building up a scenario of the possible future dates of opening of the EU-15 labour markets for the new members' nationals. However, it must be borne in mind that there is always a doze of uncertainty about such predictions as changing political and economic circumstances may radically influence the future trends.

Considering the probable date of abolishing restrictions in the free flow of labour, the EU-15 countries are likely to form four groups. The first one constitutes of Ireland, Sweden and the UK, where the labour markets are open from the date of accession, i.e. 1st May 2004. The second group of countries would likely comprise two remaining Scandinavian EU members, i.e. Denmark and Finland, as well as the Benelux countries, which are highly likely to open their labour markets in 2006. Then, in 2009 Southern European countries are expected to discard restrictions, including France, Greece, Italy, Portugal and Spain. Finally, the last fourth group would probably comprise Germany and Austria, both of which announced their willingness to maintain the restrictions in admission of workers until 2011.

Ireland, Sweden and the UK are the only countries which following their earlier declarations did not impose any restrictions in the free flow of persons area. The unemployment rate in Ireland (4.6%) is relatively low in comparison with the EU average (8%). Additionally, Ireland has already been issuing about 50,000 work permits per annum for non EU nationals, 20,000 of them coming from the CEECs. Similarly to Ireland, also the UK was not going to impose any transitional measures. However, following the considerable media coverage of the matter which highlighted the possible great inflow of migrants on the British Islands, the British government introduced the restrictions in the access to social security benefits for the newly arrived persons for two years.

The year 2006 will be probably marked by a full opening of the labour markets of Denmark, Finland, as well as of the Benelux countries. This statement is based on certain factors presented below, which seem to be the indicators of the assumption that imposing the two-year period of restrictions was among this group a mean of insuring against unknown and uncertain results of enlargement, rather than a real economic imperative. Firstly, some of them (Denmark) have introduced the restriction so as to protect their social security system rather than their labour market. Additionally, some governments retreated from their earlier promises and joined the wave of declarations on restrictions which came through Europe in early months of 2004 (the Netherlands, Denmark and Finland). The public opinion, which heavily opposed the possible inflow of the CEEC workers, is alleged to have considerably influenced such decisions. Therefore, the successful process of integration of the new members in other fields combined with moderate inflow of workers to the already open countries (Ireland, Sweden and the UK) is likely to calm down the emotions both of the public opinion and politicians and the previous declarations are probable to be fulfilled in 2006. The additional factor contributing to such thesis are labour shortages in these countries in some sectors of the economy, e.g. health care, information technology and construction.

The third wave of elimination of the restrictions on the flow of workers is supposed to take place in 2009. Italy, France, Spain, Portugal and Greece are likely to open their labour markets since that date. Despite the fact that decisions on restrictions were taken only for the period of two years, judging by economic factors (i.e. relatively high unemployment rates) and the official and unofficial declarations of the politicians, the restrictions will likely be extended after that time for the next three years. This statement is almost evident in case of France, which included such information in the official ministerial leaflets issued for the

citizens of the new accessing countries. Additionally, it is worth mentioning that both in France and Italy radical right-wing anti-immigration parties enjoy considerable public support, the factor likely influencing the decision to extend the limitations on access to the labour market for the following three years.

The last group of countries consisting of Germany and Austria has been established following the declarations of the local politicians and judging by the role which these countries played during the negotiations on the EU enlargement, when Germany with strong Austrian support was the main advocate of the transitional periods in the area of free flow of persons. A few reasons lie behind the German standpoint. The first and foremost is the unemployment rate, unprecedented in recent decades, which reached in Germany over 11.1% in February 2004 (4.6 million persons). Furthermore, there are very strong negative emotions widely present in the public opinion directed against the increase in immigration. Such attitudes originate to considerable extent from sometimes wildly exaggerated scenarios of future massive inflow of the workers from outside the eastern border, presented by the mass media. Although German and Austrian politicians concede that most of these scenarios are overestimated, nevertheless they announced their intention to maintain the restrictions for the maximum period of seven years to calm down the public opinion. Therefore, the year 2011 will probably mark the end of all restrictions in the access to the labour markets of Austria and Germany, and thus of the whole EU-15, for the nationals of the accessing countries.

7.2. Qualitative scenarios of net migration developments

Theoretical assumptions underlying the expected net migration developments are presented in three variants: Base, High and Low, the first one being considered as the 'most probable', while the two latter as the expected range of possible deviations from the Base scenario. The assumptions take into consideration expected socioeconomic situation of the countries under study, as well as the anticipated migration policy developments. Therefore, besides the overall migration trend resulting from the economic development, gradual opening of labour markets of the old EU member countries in 2004, 2006, 2009 and 2011 is taken into consideration for the first-round new EU member countries. The gradual introduction of the freedom of movement policy is reflected in the projections in the form of temporary deviations from the overall tendency, following the argumentation presented in Section 7.1.

The timeframe of the analysis is divided into three periods: short-range (until reaching the post-accession minimum by 2012), mid-range (from 2013 until about 2020-2025, depending on the country in question) and long-range (until 2050). In the long run, migration processes are expected to level off and stabilise around their target values assumed for 2050. After that year, the migration levels are assumed constant until 2070, the end-year of the projection, due to the very high uncertainty of making any assumptions regarding such a long time.

In the first, short-range post-accession period (until 2012), the Base scenario assumes a stable economic situation and an effect of EU accession visible in more job opportunities in the gradually opening Western European countries (cf. Section 7.1), constituting a strong push factor to emigrate. On the other hand, more hermetic eastern borders of the EU can likely result in smaller numbers of immigrants than in the previous years. As a result, a short-range decrease of net migration levels is expected, to reach a minimum after the final opening of the Western European labour markets to the new members in 2011.

In the High scenario, a good economic situation is assumed, with a substantial economic growth already present in the first years of EU membership, which is expected to be a weaker push factors to emigrate from and a stronger pull factors to immigrate to the Central Europe. Moreover, good economic conditions are expected to have their impact on relaxing the migration policy, additionally attracting immigrants from outside the enlarged EU. In result, only a slight short-range decrease of net migration is expected, or maximally a continuation of the past tendencies for the most developed countries.

In the Low scenario, economic stagnation is assumed, with higher unemployment levels and likely some structural problems on labour market similar to those observed for East Germany after political and economic changes of 1990. As the economic problems are expected to be linked with a rather restrictive migration policy, resulting in a reduced inflow of immigrants, in the effect, a short-range sharp decline in net migration is anticipated in this variant.

Additionally, a short-term phenomenon of 'migration without migration' will likely be observed in the Western European countries with regard to the migrants from the new EU member states. Many of the so far irregular migrants and illegal workers already present in Western Europe are expected to choose to legalise their status once an opportunity occurs. This increase in the numbers of migrants will however be observed only in the statistical figures and not in the real world. What can still be a problem that cannot be easily solved is that the negative migration balance of the Central and Eastern new member countries may be in some cases as well a result of legal (registered) outflow outnumbering illegal (unregistered) inflow only in the statistical registration, but not in reality. Unfortunately, it seems to be impossible to avoid a bias of that type.

In the mid-range period (from 2013 until 2020-2025), emigration is expected to remain the major factor shaping the migratory movements of the new EU members, yet with an increasing role of immigration observed. In the Base scenario, a stable economic situation is assumed, which combined with the first positive economic results of EU accession are expected to start reducing the gap between the Central-Eastern and Western Europe. As an effect, net migration is expected to start increasing, to exceed or at least reach the starting levels from the 1990s by the end of the period. In the High scenario, good economic situation and thus a relatively lax immigration policy are assumed, increasing the attractiveness of the Central European countries as the destination countries for the immigrants. Net migration is thus assumed to exceed the starting level by the beginning of the 2030s. In the Low scenario in turn, economic stagnation combined with a restrictive immigration policy can be envisaged to keep the net migration numbers at the relatively low levels, reflecting the delay in reaching the Western European economic and social standards. Only a slight mid-range increase of net migration can be thus expected in this variant.

In the long-range period (until 2050), immigration is expected to become a more important factor shaping the migratory movements of the new EU members than emigration. The beginning of the long-range period marks therefore a point of inflection between the dominance of emigration and immigration in the overall tendencies of the population movements. In the Base scenario, a stable economic situation and economic growth, positive economic symptoms of EU accession are envisaged to result in the reduction of economic gap between the countries under study and the Western Europe. Labour movements between old and new EU member states can likely become increasingly two-way flows, as more demand for labour in the new EU member countries can be observed, what can likely result in a moderately restrictive migration policy. As an effect, an increase in net migration is expected,

to reach either positive or at least substantially higher than initially levels at the end of the period.

In the High scenario, good economic situation is assumed to persist in the long-range period, and the Central European countries are expected to become increasingly attractive as migration destinations, especially for the migrants from outside the enlarged EU. The increase in net migration is thus assumed to lead to the point, where the new EU member countries become definitively the 'new countries of immigration', having significantly positive levels of migration balance. Adversely, in the Low scenario, some economic difficulties can be envisaged, resulting in an unstable labour market, yet balanced by the attractiveness of the country as an EU member for potential immigrants. As an effect, a slight increase of net migration levels as compared with the previous (mid-range) period can be anticipated. Anyway, the increase in net migration is expected to be slower than in the mid-range period in all the variants, eventually levelling-off on the assumed target levels.

Of course, the expected drops in net migration levels in the first post-accession period and their subsequent compensation by the return migration and inflow of the foreigners is expected to depend heavily on the country in question. In establishing the net migration scenarios for the purpose of the current study, results of the national population projections are used as reference, together with the other relevant published studies.

For the purpose of setting the target values for the year 2050, the countries under study were grouped into five clusters, taking into the account the similar levels of the socio-economic development, migration patterns, as well as historical, cultural and geographical proximity. In forming the clusters, the assessment of economic performance and stability made by the World Bank (2004) was very useful, showing the economic situation in many dimensions and not just judging by the GDP levels. Following this reasoning, two different clusters of countries can be identified in Central Europe: the first one (more developed) comprising of the Czech Republic and Hungary, and the second one of Poland and the Slovak Republic. Another cluster would be formed by all three Baltic States, very similar according to all mentioned factors. The two island countries (Cyprus and Malta) would form another group together with Slovenia, sharing not only good economic performance, but also positive migration inflows, as well as the location in the Mediterranean basin. The final, fifth cluster would comprise of Bulgaria and Romania, due to their similarity in the economic terms, EU accession schedule and similar position in the Balkans in terms of history and geography.

The target net migration for the Base scenario, expressed in terms of rates per 1,000 of the initial population, has been set for each cluster separately. The highest values were assumed for the Mediterranean countries (rates about 5.0-6.0 per 1,000), due to their high attractiveness as migration destinations, owing not only to the high income levels, but also for example to the climate that can in the longer run attract the retired from the other parts of Europe. Rates for the second-best-off, the Czech Republic and Hungary are supposed to reach the levels of about 2.0 per 1,000, only slightly lower than the value assumed by de Beer and van Wissen (1999) under the assumption of economic convergence in Europe. The target rates for the Baltic States would then be lower (about 1.5 per 1,000), owing to the rather peripheral location of these countries in Europe. The targets for Poland and the Slovak Republic can be set about 0.5 per 1,000, as one can assume the continuation of relatively high emigration flows, not only due to the lagging economic development, but also to the presence of substantial networks in Western Europe, especially in the case of the Polish migrants. Finally, for the similar reasons, but taking into the account the level of economic development, target

rates for Bulgaria and Romania can be very low, yet still positive (assumed 0.3 per 1,000).

The High and Low target values should be roughly symmetric, with the span in terms of rates per 1,000 initial population between about 2.0 and 3.5 with the exception of the Mediterranean countries, where the respective intervals should be broader due to the increased impact of uncertain political and policy factors.

For the eight former socialist countries joining the European Union in 2004 (the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, the Slovak Republic and Slovenia), followed by the two Mediterranean countries (Cyprus and Malta), the scenario frameworks are set forth below.

Czech Republic

The net migration figures obtained from balance equation for the period 1994-2002 and adjusted for post-census correction show for the Czech Republic positive values over the whole period (cf. Figure 4 in Section 5.2), albeit with significant changes from 1,374 in 2000 to 7,111 in 2002. Figures from the statistical registration for 2002 and 2003 shows much larger net gains of respectively 12,290 and 25,789 (Czech Statistical Office 2004). These discrepancies are due to the differences in definitions, which make impossible to compare the data from registration before 2001 with those from the most recent years (OECD 2004).

The geography of inflows to and outflows from the Czech Republic differ substantially: SOPEMI report for 2002 (OECD 2003) states that the main source countries are Slovak Republic, Ukraine, Vietnam, Russia and Germany, whereas emigrants travel to Germany, Austria, Italy France and the Netherlands. As the geography of flows are fairly persistent, even if new directions of flows emerge as the political and economic situation changes, we may expect in future that inflows from Ukraine, Vietnam and Russia will increase in importance, as the attractiveness of Czech Republic will grow.

Quite clearly ethnic migration from Czech Republic has exhausted human resources with very negligible in recent years numbers of *Aussiedler* going to Germany. Return migration of both the Czechs living abroad and *Aussiedler* living in Germany will certainly play increasingly important role, however no large scale return migration is envisaged. Roma community, accounting for some quarter of million people, may generate some emigration, but mostly short term, as this ethnic group is unlikely to assimilate easily into receiving societies and develop sustainable economic basis for settling at the destination. Immigration from the Slovak Republic most likely will remain on the current level for some time, but one may expect that its role will diminish over time as the post-velvet-revolution flows are finished. If we look at the stocks of foreign population most of foreigners came from Ukraine (25%), the Slovak Republic (22%), Vietnam (12%) and Poland (9%). This information is important as it somehow describes the size of migrant networks in the destination.

Economic outlook in the Czech Republic is quite good, despite sluggish growth and budget deficit. European integration should give a new momentum to the increase in the quality of life, a factor which will reduce emigration and increase immigration. A change in the nature of the net migration increase, linked to the significant reduction of the impact of emigration on the overall patterns of the population movements is expected about the year 2020.

These remarks lead us to a simple basic scenario in which the net migration in 2012 would be slightly negative at -3,000 persons yearly. That would mean a fairly substantial sensitiveness

of migrants to opportunities of work in EU-15 countries. Given on one hand factors related to the situation in the Czech Republic, namely that the pattern of net migration gain is, as on Central European standards, well established and economic attractiveness of the country, it is expected that fast recovery, in terms of the magnitude of net migration would occur. In addition, historical experience teaches that removal of restriction on the freedom of movement of labour increases net migration, as it was the case in Spain and Portugal (Figure 1; Section 3.4). It is assumed that the target value in the Base scenario would be net gains of 20,000 per annum.

In the low scenario it was assumed that the minimum net migration will be negative and on the level of -10,000 persons, slightly less than the largest annual loss experienced by Czech Republic after 1994. It was also assumed that the target value would be equal to +4,600, the average net migration estimated for the period 1994-2002. If we look at these assumptions from the perspective of past trends they are equivalent to the lack of effect of accession on the Czech migratory system.

In the high scenario a substantial inflow of foreigners is expected, rising the target value to +40,000 that is on the level of national forecast. It is also assumed that the minimum value of net migration after the end of seven years period when restrictions may be introduced will be positive at +5,000. These assumptions are quite bold, but they take into account the on one hand the economic and developmental potential of the Czech Republic which could be easily justified by the position she occupied before the World War II and on the other hand it takes into account certain reluctance of the Czech to emigrate.

Estonia

Emigration flow from Estonia is directed mainly to Finland and most probably this trend will not change after the entry into the EU. Finland is preferred as a country of destination due its close geographical proximity and relatively low culture and language differences. Besides, the large number of Estonians living already in Finland, 10,839 in 2001 (Table 3, Section 3.6) simplifies the process of moving and integration. From the perspective of Finland as the country mostly involved (Heikkila et al. 2004) the significant inflow of migrants from Estonia seems improbable. It has been estimated that the number of Estonians migrating to Finland would double by 2005-2009 in comparison to the current level of approximately 700. In the long run, the number of immigrants from Estonia is expected to reduce to the current level. Another estimation (Turkki 2002, after Heikkila et al. 2004) suggests that the number of migrants from Estonia to Finland will account for 4,000-5,000 at the beginning of the enlargement process. Projection results presented by Kielyte (2002) are more moderate, but they result most probably from the fact that the data on migration used in estimation were biased, i.e. before the latest post-census adjustment. Emigration into the whole EU in the projection variant assuming high income difference was expected to equal 5,600 persons, and when the low income difference was assumed this figure would amount to 3,500. From the Estonian perspective (Paas et al. 2003) the labour migration from Estonia to EU in the first years of free movement of labour could reach the levels of approximately 2,500-2,800 people per year and then it will be declining.

As regards emigration into the non-EU countries, it should not play an important role as economic factors are of the greatest importance now. Significance of emigration to Russia and other post-Soviet countries will decline and the surplus of flow in the opposite direction is assumed, given the fact that the economic situation in Estonia is expected to increase. Kielyte

(2002) after analysing economic convergence of the Baltic States to the EU and Germany underlines that Estonia seems to follow a stable growth path. However the convergence of income is expected to be reached over a long-term period (app. 20 years), which nevertheless appears to be a very optimistic assumption. It means that on the one hand Estonia will be a quite unattractive country of destination for migrants and on the other hand the existing income gap between Estonia and EU-15 will be a migration incentive for Estonians. The current difference is significant (the income level in PPP in Finland is 3,3 times that of Estonia) and much higher than it was observed at the Southern enlargement of the EU, so the experiences of those countries can not be directly transferred and from this point of view the emigration processes from Estonia could be more substantial.

Taking into consideration the existing migration trends in Estonia and all the forecasts described in the previous sections, as well as above, the individual qualitative scenarios could be presented in details. The results of projections are treated, depending on their source, as pessimistic, neutral or optimistic ones and set references for the Low, Base and High scenarios respectively. There is some uncertainty with regard to the data validity, especially to the way the census adjustment of the population numbers was distributed through the years. The span between the Low and High scenarios in the first post-accession period is therefore assumed to be large, to allow for the possible data errors.

Following the analysis of the recent migration trends, in the Base scenario net migration should not be lower than -3,000 two years after introducing the full freedom of labour movement. Then the increase in net migration can be expected, eventually reaching the target value of +2,000. Reversing of the migration tendencies is expected in 2020, with immigration becoming a dominant component. In the Low scenario, the analogous figures are assumed to equal -6,000 and -500 and in the High scenario 0 and +4,000, respectively.

Hungary

In the case of Hungary, an analysis of the past trends seems to indicate that the assumptions of the recent national population projections presented in Section 6.1 with respect to net migration can constitute a valuable point of reference. With observed net migration levels in the 1990s between +16 and +18 thousand persons a year, long-term target values assumed in the national projection to reach the levels between +4 and +30 thousand persons (Table 7, Section 6.1) seem reasonable. The highest variant of the national projections assuming convergence to net migration levels observed in Western Europe reaches the migration balance of +30,000 by 2030. This number is not far from the one projected by de Beer and van Wissen (1999), where under the assumption of converging demographic patterns in Europe, target value for Hungary was +23,500. Allowing for higher uncertainty with respect to the distant future, the target value for the High scenario in the current projection can be set for +40,000 in 2050 and the Low scenario for +5,000, to be coherent with the national projection. The Base scenario can be assumed to follow the high variant of the national forecast, to reach +20,000 persons yearly by 2050.

An analysis of the GDP level per capita and the contemporary economic situation indicates that Hungary is one of the better-off countries among the new EU members (Table 2, Section 3.4). Therefore, the negative deviations from the current net migration trends are not expected to be a lasting phenomenon. Nevertheless, especially after opening of the Austrian and German labour markets for the citizens of the new EU member countries, a short-term decrease in net migration can be expected for Hungary in all projection variants. Restrictive

immigration policy that may be expected in the nearest future from the Hungarian government (United Nations 2002a) is another indication for the anticipated decrease in net migration. On the other hand, already in the second half of the 1990s the numbers of work permits issued in Hungary to the foreigners nearly doubled (an increase from 21 to 35 thousand between 1995 and 2000, Illés 2004). The main origin of labour migration was Romania, amounting to nearly a half of the total numbers. The same was true for the overall population inflows: in 2001 over 10,000 Romanian citizens, many of whom being ethnic Hungarians, moved to Hungary, what constituted 51.7% of the total immigration (OECD 2004). It can be envisaged that given the economic differences between Hungary and Romania, these streams of labour and ethnic migration will likely remain important for several years, to eventually discontinue in the longer period. Gradually, countries of the former Soviet Union (Ukraine) and Far East (China, Vietnam) can be expected to become the main sources of immigration to Hungary, following the patterns similar to those already observed in the Czech Republic. With regard to the population inflow from Western Europe, in the second half of the 1990s, the stock of long-term migrants residing in Hungary remained practically stable (Illés 2004) and this situation is likely to persist, especially in the near future.

On the other hand, the labour Emigration to Germany and Austria is expected to influence the Hungarian population flows, especially bearing in mind the migration history and the presence of significant migrant networks in these countries (Table 3, Section 3.6). Therefore, in all projection variants the visible decreases in net migration levels can be safely assumed. Unlike in the case of the Czech Republic, presence of ethnic and labour migration from Romania is expected to ensure the positive values of net migration in Hungary even shortly after the opening of the German and Austrian labour markets for Hungarian citizens. Given the high past values of net migration, only in the Low variant the net migration is assumed to fall down to zero in 2012. In the High variant, only a slight decrease from the levels observed in the 1990s is assumed to the level of +12,000 persons a year. The minimum for the Base variant can be thus simply taken as the mean of the Low and High values, thus by +6,000 persons. A rather slow increase from the minimum values to the target values in the mid-range period is primarily intended to reflect the diminishing impact of ethnic and labour immigration from Romania, following the assumed improvement of the economic situation in the latter country. The impact of emigration on the shape of the overall net migration trend is assumed to be significantly reduced by 2020.

Latvia

Direction and intensity of migration processes in Latvia has been strongly influenced by the events following the rise and collapse of the former Soviet Union. As a result, Latvia is a distinctly multiethnic society with only 57.7% of Latvians (Table 1, Section 3.1). Nevertheless, the migration trends seem to have stabilized over the recent years. The migration volumes have been decreasing, but the pace of emigration decline is currently greater and the impact of net migration on changes in population number is much less significant than it used to be previously, yet still it intensifies the development of depopulation. Besides, it must be emphasized that the most of the emigration from Latvia has been directed to Russia rather than to the EU. Although the share of emigration to the EU increased, due to decline in the overall volume of population outflow, it decreased in numbers. It is also worth mentioning that in the first years after regaining of independence emigration from Latvia to the Western European countries increased, but still it was not a mass wave of emigration. Therefore there is no reason to predict a mass population outflow after the EU enlargement.

According to Kielyte (2002) if the free mobility of labour between Latvia and the EU was introduced and the income difference remained high (70%), 9,600 persons per year were expected to emigrate. If the income difference is low (50 %), the number of migrants would amount to 6,000. Paas et al. (2003) gives the number of 5,000-6,000 emigrants per year, with reference to the labour migration only. The figures that can be derived from projection prepared by Alvarez-Plata et al. (2003) are incomparably greater and it comes out that the total emigration from Latvia would peak at ca. 20,000 persons a year.

For these reasons, in the current study it is assumed that in the Base scenario after the introduction of free mobility of labour the net migration will be negative at the level of –5,000 persons a year. In the Low and High variants, the respective minimum figures are assumed to be –8,000 and –2,000. Similarly to the data situation of Estonia, the Latvian estimates of net migration leave some uncertainty as to the distribution of the census adjustment over time. Therefore, the span between the Low and High scenarios in the first post-accession period is assumed to be large also in the case of Latvia.

In the long run, Latvia is expected to become a receiving country and in the baseline scenario the net migration will stabilize at the level of +3,500 people. If the economic development proceeds faster, the expected net migration will account for +7,000 (High scenario) and in pessimistic scenario the decrease in number of population due to migration in the long run is going to be –1,000 persons a year. Similarly to Estonia, an increase in importance of the population inflows is expected for 2020.

Lithuania

Lithuania is the biggest of the three Baltic republics and with 3.5 million of people constitutes the largest migration potential. Still, in comparison with the EU the population of Lithuania represents a very small number and labour migration from this country will not exert significant pressure on the EU labour market. Moreover, the Lithuanian labour market is considered to be the least flexible among the Baltic countries. Other discrepancies regard the character of migration processes. On the one hand, net migration seems to have been increasing only slightly until 2000. Most probably, this results from the method of post-census adjustment and such substantial change was not in fact observed so the figures for 2001 and 2002 should be treated with appropriate caution.

According to Kielyte (2002), with the same reservation as in the case of Estonia, i.e. that the bias for Lithuania is more significant as the emigration is almost not registered at all, the yearly emigration from Lithuania to the EU after the accession will amount to 9,250-14,800 depending on the income difference. Therefore, total net migration after introduction of free mobility of labour will most probably (Base scenario) reach the level of –20,000. This value is about the level observed for 2000, as the economic incentives to migrate seems to fall in importance because the Lithuanian economy has been constantly improving and reached a mighty 8.9% growth last year. In the Low scenario the equivalent value would be –25,000 and in the High scenario –15,000.

Due to the high economic development, a substantial growth in net migration is predicted after the initial decline and in the Base scenario it would converge to +5,000 which is higher than the value forecasted by the Lithuanian Statistics Institute. A change in the nature of the net migration increase (from accelerating to decelerating growth) is expected about the year 2020. If a slow development is assumed the net migration will remain negative and reach the

level of -1,500 (Low scenario). In the High (optimistic) variant, Lithuania will eventually become a receiving country with net migration level at +10,000, which corresponds with the asymptotic value set by de Beer and van Wissen (1999) in their Uniformity scenario.

Poland

Historically Poland has been one of the largest emigration countries in Europe. Germany has been the prime destination for emigration, both for the ethnic Poles and for the *Aussiedler*. Last years brought about significant changes which occurred as a consequence of the political and socio-economic changes in Central Europe. The immigration, rather insignificant in the past, became an increasingly important phenomenon in Poland. Net migration losses after 1994 oscillated between 20 and 30 thousand, 25 thousand on the average.

In the short run the factors which could contribute to emigration are high unemployment and substantial migration networks abroad. The factors stimulating immigration are relatively strong medium term economic development and attractiveness of Poland for return migrants. It should be noted that short-term migration, both legal and illegal, is an important component of the migration processes in Poland.

As the migration data have been adjusted to take into account migration unregistered by official statistics, we do not have to account for an expected statistical artefact occurring from the registration of migrants who would report their migration when it would be possible to legalize it, but who have migrated in the past. The basic scenario assumes that there will be a moderate increase of emigration reaching after 2011, over two times the level of the average net migration loss over the last decade, that is -60,000 persons a year. It is also assumed that in medium term the attractiveness of Poland as a migration destination will be rising. Such a change from a country losing population to a country gaining population has been experienced in the last half century by the EU member states of the Mediterranean basin. In the case of Poland, switch from a sending to a receiving country is very likely due to both return migration of Polish diaspora and expected inflow of foreigners from the former Soviet Union and South-Eastern Asia, which will follow the economic development of Poland. It is assumed that net migration gain may reach the level of +15,000 persons around 2030.

In the High scenario it was assumed that there will be an extremely limited impact of the liberalization of movement of labour within the EU on emigration from Poland. The minimum value of net migration is set at -30,000 thousand, some 5,000 less than the average value for the last decade. In the medium term the net migration would reach +50,000, a rather moderate value given the size of the country and a prospective economic development assumed to be generated by the European integration.

The Low scenario is based on a relatively unlikely possibility of the collapse of economy in Poland which could happen for example in the case of populist parties taking over the power, which may lead to a collapse of public finances and the decreasing quality of living in Poland. Such changes may generate relatively large emigration after the introduction of liberalization of the mobility of labour within the EU. Simultaneously, unattractive shape of economy would result in limited immigration. High emigration and low immigration would result in large net migration losses assumed to reach the minimum of -80,000 after 2011. This value is much lower than what was observed in the last decade, but not that low as extremely high net migration losses observed in the 1989 or 1990. It is also assumed that in the medium term the net migration would stabilize at a level of -20,000 persons per year, thus slightly more than

the average values observed in the last decade. In all scenarios, the impact of emigration on the net migration changes in Poland is expected to weaken after 2020.

Slovak Republic

Slovak Republic is a country which in the last years has relentlessly pursued economic and fiscal reforms. These reforms, combined with high domestic demand, lead to robust economic growth and inflow of direct foreign investment. The Slovak Republic has never had a tradition of large emigration, however population exchange with the Czech Republic constitutes, for historical reasons, an important component of international migration. Our estimates show that in the last several years net losses of the Slovak Republic slightly exceeded 1,000 persons per year and are similar to those presented by the OECD (2003). Later OECD estimates show gains of slightly more than a thousand persons per year (OECD 2004) in the period 1998-2001. Apart of the Czech Republic, the main sources of immigrants have been and most probably will be Ukraine, Germany and Poland. Emigrants go mostly to the Czech Republic, Germany and Austria.

Factors which may impact emigration from the Slovak Republic are ethnic migration, political instability and unemployment. There are substantial ethnic minorities: Roma and Hungarian which may emigrate if there are incentives strong enough to mobilize them. However, so far ethnic emigration has been limited as very few ethnic Hungarians emigrated to Hungary and there is a lack of "home country" for Roma, what can be used as a predictor of low ethnic migration in future.

The Slovak Republic has had populist and anti-European governments in the past, what lead to delays in the integration processes and in the membership of the country in NATO. By no means is the country immune from similar problems in future, what may lead to economic and political turbulences, resulting in a decrease in immigration and increase in outmigration. This possible development is taken into account in the Low scenario.

Unemployment, traditionally high in the Slovak Republic, will mostly contribute to short term pendulum labour migration, which is outside the scope of this study. Simultaneously, as the Slovak Republic is a transit country, one may expect migration, where migrants would use Slovak soil as a stop over on their way to the Western Europe, as well as a destination.

In the Base scenario it is assumed that the minimum value of net migration reached after 2011 would be -3,000, twice the lowest estimated value from the last decade. The target level is assumed to be at the level of +2,500 persons per year, a modest gain reflecting a somewhat marginal role the Slovak Republic has played in the past in the European migration system.

In High scenario, it was assumed that due to dynamic economic development the accession to the EU will have a very limited impact on emigration and that the immigration will remain relatively high. These assumptions would result in only slightly lower than observed recently net migration at -2,000 persons a year and in medium term, a target value for net migration was set at +10,000.

Low scenario assumes the minimum value of net migration at -6,000, which is quite a low level given the Slovak historical emigration patterns, and the medium term stabilization of the net migration around -3,000 persons per year.

Slovenia

For Slovenia, the official national projection of net migration fixed at +2,000 persons a year appears to be much underestimated, especially in the light of the recent migration history and the high level of the economic development of the country. With regard to the GDP level per capita, the contemporary situation of Slovenia can be compared with the pre-accession Greece and Spain (Table 2, Section 3.4). Therefore, as in the two latter countries net migration did not decrease in the post accession period, one can assume that this can also be the case of Slovenia, at least in the Base and High projection variants. With regard to the migration exchange with the Western countries of the European Union emigration from Slovenia outnumbers immigration (Zavratnik Zimic 2004). Nevertheless, as Slovenia has one of the lowest mobility rates among the new EU member countries, no significant increase in emigration can be therefore envisaged.

For the mentioned reasons, net migration projections proposed by Malačič (2003), assuming increasing net migration numbers reaching the levels between +5,200 and +13,500 by 2036, with the most likely scenario of +8,800 migrants a year, seem very reasonable. On that basis, the target values of net migration for 2050 can be specified as +5,000 in the Low variant, +15,000 in the High variant, and a mean of +10,000 as the Base, thus the most likely variant. Such figures generally follow the projection outline of Malačič (2003), additionally assuming bigger long-term deviations of yearly net migration balance.

Due to the high level of economic development, in none of the variants emigration is anticipated to become more important than immigration in shaping the Slovene migratory flows. By 2020, the impact of emigration on the shape of the overall net migration trend is expected to diminish significantly. Only in the Low variant, assuming a short-term stagnation of economy, the minimum value of net migration after obtaining access to the Western European labour markets is expected to temporarily fall down to zero. In the Base variant, the short-period minimum after introducing the full freedom of movement policy by the 'old' EU member countries is expected to stay at the average observed levels of net migration from the most recent years (2000-2002), thus about +3,500 persons a year. The period of minimum values is expected to follow a short-term increase in net migration due to the expected population inflow most notably from the other post-Yugoslav republics and to some extent possibly also from the other new EU members. For the sake of symmetry, the minimum value for the High variant can be therefore assumed about +7,000 persons yearly shortly after applying the freedom of movement policy by Germany and Austria, the most important migration partners of Slovenia.

Cyprus

For Cyprus, the unstable political situation of the country, in particular the yet unresolved issue of unification with the northern (Turkish) part of the island, *a priori* affects all the predictions of migration developments. Nevertheless, regardless of any future political developments, this projection is done exclusively for the government-controlled area.

In the recent years, the trend of international migration of Cyprus was decreasing from very high values in the beginning of the 1990s to moderate values around 2000, only to start to slowly increase again afterwards to the level of almost +7,000 persons in 2002. To some extent this can be likely related to the return of the Cypriot diaspora that emigrated earlier, until the late 1980s (Brey 1997, Wanner 2002). This return migration can be expected to

continue for some years, eventually to slowly disappear and to be replaced by the immigrants of non-Cypriot origins. Therefore, although in the last decade net migration ranged between +4,000 and +7,000 persons a year, what can be seen as relatively high, in the future it is expected to oscillate around the lower of these numbers. The net migration of +4,000 persons a year is therefore assumed as the target value for the Base scenario, and the value of +7,000 for the High scenario, the latter anticipating a significant inflow of the non-Cypriot population. In the Low scenario, assuming restrictive immigration and settlement policy in the future, yearly net migration inflows are assumed to converge to a target value of +1,000 persons a year, still remaining positive due to a high level of socioeconomic development of Cyprus. As the current average tendency can be expected to continue for the next couple of years after the EU accession, the decline in immigration levels can be thus anticipated to start around 2010.

These assumptions are to some extent consistent with the ones made by the national statistical authorities in the recent population projections, where a migration balance reached by 2050 was assumed at the level of +3,000 (see Section 6.1). A bigger value assumed for the Base scenario reflects an assumption about the expected inflow of a number of wealthy West Europeans that would purchase immobile property on the island and eventually settle there, as it was already the case of the Spanish and Portuguese Mediterranean and Atlantic islands.

Malta

For Malta, the target values for all scenarios are assumed to be similar to the ones for Cyprus in relative terms. In the Base scenario it is therefore envisaged that net migration would eventually reach the levels of +2,000 persons a year by 2050, with the respective values for the Low and High scenarios equalling +500 and +3,500. The scenarios primarily reflect the isolated character of the Maltese Islands and the fact that no drastic changes in the migration patterns are expected due to the absence of transition periods in the access to the remaining labour markets of the EU. Moreover, the expectation of continuity of the return migration trend that started in the mid-1970s (cf. Cauchi 1999) is implicitly included in this assumption. The inflow of immigrants however is expected to saturate the possibilities of their reception, and certain regulations reducing immigration are expected to be introduced soon. This would result in a decelerating growth of net migration since an inflection point of the overall immigration tendency, assumed for 2010.

* * *

The EU accession framework for Bulgaria and Romania (for the purpose of this study assumed since 2007) and the economic situation in these countries will most certainly lead to delays in the proposed scheme, resulting in following the first-round new EU member countries in their migration development patterns with a time lag. For this reason, the scenarios for both these countries will differ slightly from those presented for the rest of the Central and Eastern European countries.

Bulgaria

Especially after the fall of the communist system, Bulgaria was among the largest emigration countries in Central and Eastern Europe. The main component of the population outflow, the ethnically-driven migration of the Bulgarian Turks and Pomaks to Turkey that played a significant role in the late 1980s and early 1990s, is likely to loss in significance in the future.

Instead, immigration flows that used to be negligible in the past are likely to gain in importance, if not *per se*, then due to the position of the Balkans as an important transit channel to the West (European Parliament 1998). Nevertheless, emigration tendencies are expected to continue for some time, especially as there is a very large income gap between Bulgaria and the Western European countries. Recently, the GDP (PPP) of Bulgaria amounted only to 28.6% of the average for the 'old' EU-15 countries (Table 2, Section 3.4).

In the Base scenario, a moderate increase of emigration is expected after the EU enlargement and the final lifting of the restrictions imposed on the movement of the labour force. The minimum value of net migration assumed for 2015, amounting to –35,000 persons yearly, is about 1.5 times lower from the value observed for 2000, i.e. –25,000. In this scenario, emigration is expected to remain the main factor shaping the mid-range period population flows. Both types of immigration, with the intention to settle and with transit to the West in prospect, are expected to gain in importance in the long run, especially if Turkey eventually does not join the European Union (which is very hard to predict at the moment). Eventually, Bulgaria is expected to become a net immigration country around 2030, with the target migration gains of +2,500 persons a year within the projection horizon.

The High scenario assumes a continuous economic growth and an increase in the attractiveness of Bulgaria as a migration destination for the people from outside the EU. Still, due to the fact that the growth would start from the very low levels, a short-term decrease in net migration seems unavoidable even in this variant of the projection. The minimum post-accession value is set at –25,000 persons, which is about the one observed for 2000. In the long run, the transit role of the Balkans is assumed to be even more important than in the Base scenario, generating net population inflows of +15,000 persons a year.

In the Low scenario, a long-term stagnation of the economy is assumed, the push effects of which would not be even countered by the anticipated gains from the EU accession. In this variant, after liberalisation of labour force movement, net migration is expected to fall down to the levels about 2 times lower than the ones observed in the second half of the 1990s, thus to the annual migration balance of –45,000 persons. It is assumed that in the long-range period net migration would stabilize at a level of –10,000 persons per year, i.e. less than a half of the values observed in the second half of the 1990s.

As the 2001 census adjustment appears to have been applied to the population figures (and thus also net migration) rather uniformly until 2000, the short-term predictions may bear a substantial data-related bias. To allow for the possible differences in the projected net migration trajectories, resulting from the past problems of measurement, the short-term span between the Low and High scenarios in the first post-accession period (2003-2007) was assumed to be relatively large. For all the scenarios, changes in the net migration tendencies, linked with the decrease of importance of emigration (whether complete in the High scenario, or only partial in the Low one) are expected around 2025.

Romania

The scenarios proposed for Romania are similar to the ones discussed above for Bulgaria, due to the similar history, geographical location and the level of socio-economic development. In the late 1980s and in the 1990s also Romania was one of the major sending countries in Central and Eastern Europe. An important part of population movements was the emigration of ethnic German *Aussiedler* to Germany and Hungarians to Hungary (cf. Section 5.2). The

German population does not constitute a significant migration potential any more, as the vast majority of it already migrated in the late 1980s and early 1990s, with the peak of over 111,000 in 1990 alone (Gallagher and Tucker 2000). The share of Hungarians in turn amounted in 2002 to 6.6% of the overall population of Romania (Table 1, Section 3.2) and their emigration is expected to continue for some more years, diminishing as the economic conditions in Romania will be improving. At the same time, similarly to the case of Bulgaria, immigration is expected to slowly gain in importance, due to the likely membership of Romania in the European Union and to the position of the Balkans as a transit channel to the West. Changes in the net migration patterns are expected for 2025, when immigration is anticipated to become much more important than initially. The emigration trends are expected to persist at least in the mid-range period, as the convergence of Romanian economy to the Western European standards will likely take some time due to the size of the income gap. In 2001, the GDP (PPP) of Romania was only 24.2% of the 'old' EU-15 average (Table 2, Section 3.4).

The Base scenario assumes a visible increase of emigration shortly after the EU enlargement and introducing the policy of freedom of movement of the labour force. The minimum value of net migration assumed for 2015 amounts to -50,000 persons, i.e. is about two times lower than the value observed for 2002. In this scenario, emigration is expected to influence the mid-range period population flows until about 2030, when Romania is expected to turn into a net immigration country. In the long run, the expected target values of net migration are assumed to amount +6,000 persons a year at the end of the projection period.

The High scenario also assumes also a short-term decrease in net migration levels, although not as sharp as in the Base scenario, followed by a relative quick recovery due to the high dynamics of the economic growth. Again, due to the very low initial level of economic development, a short-term decline in net migration is inevitable even in the High scenario. The minimum post-accession value of migration balance is set at -40,000 persons. In the long-range period, due to the very much increased attractiveness of Romania as both the destination and transit country, the target net migration gains are assumed to reach the level of +40,000 persons a year.

In the Low scenario, the Romanian economy is expected to stagnate and then slowly recover, which, combined with the opening of the EU labour markets, would generate significant population outflows. In this variant, the net migration is expected to fall down to the levels significantly lower than the ones observed in the second half of the 1990s, yet still much higher than the ones from the period 1990-1992. The minimum post-accession annual migration balance is thus assumed to equal -70,000 persons annually. Eventually, in the long run net migration is expected to stabilize at a level of -30,000 persons per year, similarly to the latest observed values from the 1990s.

Such assumptions for the Base scenario resemble the ones made by Kupiszewski (2002a), who assumed slight economic growth for all the Central European countries except Romania (Bulgaria was not included in the study). Under the assumption of an increase in the level of control of international migration in all the countries with positive economic growth, a decrease in international migration was expected. Also the return migration of German *Aussiedler* was assumed to diminish and eventually disappear. With regard to the EU admission, assumed for 2004 for the Czech Republic, Estonia, Hungary, Poland and Slovenia, a slight temporary increase in migration from these countries to Austria and Germany and vice versa was expected, declining over time. Kupiszewski (2002a) also assumed an increase

in migration between the new EU members. Rigorous migration policies applied by the EU are supposed to reduce immigration from outside the EU, however one should not expect drastic changes in that respect (Korcelli 1998, Kupiszewski 2001).

It is worth noting that all the scenarios presented above are less dramatic than the mid-range ones proposed by Alvarez-Plata et al. (2003), or the short-range ones proposed by Orowski and Zienkowski (1998), where the authors assumed and projected mass migration from the new EU member countries to the EU-15. Alvarez-Plata et al. (2003) arrived at the numbers of foreign population from the new EU member and accession countries living in the EU-15, increasing from 1.3 million in 2004 to about 3.8 million in 2030 (i.e. by 2.5 million people) in the main projection variant, under the assumptions about the economic circumstances roughly corresponding to the foundations of the Base scenario in the current projection.

7.3. Quantification of the theoretical assumptions

There is no single determined way to quantify the theoretical assumptions on net migration scenarios presented in Section 7.2. Unfortunately, Central and Eastern European countries experienced strong irregularities in international migration flows in the late 1980s and early 1990s. This leads to a conclusion that only the figures after around 1994 can be seen as realisations of durable migration tendencies, rather than as a consequence of the political changes. For this reason, no long-term formal extrapolation of the past trends in the form of time series models should be reasonably performed in these cases, due to the shortage of observations and thus of the degrees of freedom. Even for Malta and Cyprus, i.e. countries that country did not experience any substantial political changes that would strongly influence migratory flows, extrapolation of the trends for almost 70 years ahead seems not feasible.

Due to the differences in migration history of particular countries, as well as to the different framework of the EU accession and of introducing the policy of freedom of movement, the methodology of quantification of the assumptions is presented separately for three groups of countries. Firstly, the study focuses on eight Central and Eastern European countries that are members of the EU since 1st May 2004, i.e. on the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, the Slovak Republic and Slovenia. Secondly, due to the similarity of migration history, geographical location and the political features, the second-round Balkan accession countries (Bulgaria and Romania) are discussed. Finally, due to the specificity of Cyprus and Malta, the methodology for these countries is presented separately.

For the 8 Central and Eastern European countries, the methodology of quantification of the assumptions is rather mechanistic and fairly simple from a mathematical point of view. To start with, the procedure of quantification of the assumptions for the eight Central and Eastern European member countries on the basis of the data from the period 1994-2002 is as follows:

- (1) For 2003, an extrapolation of the trend from the years 1994-2002 (or shorter, if there was a break in series, like in the case of Hungary and the Baltic States, where the forecast period started appropriately earlier) was assumed in the Base variant. Different trends have been examined for this purpose, and the ones best fitting the observed data (i.e. with the lowest p-values of the F test) have been chosen for the extrapolation. The trends were:
 - § linear for Hungary and the Slovak Republic ($p \bullet 0.00$);
 - § logarithmic for Estonia and Latvia ($p \bullet 0.00$);

§ quadratic for Lithuania ($p = 0.00$);

§ cubic for Slovenia, with a dummy variable for 1999 ($p = 0.03$).

In these cases, values for the Low and High variants have been obtained respectively as the lower and upper ends of the 80% confidence intervals of the forecasts. If the trend estimation error was very high, like in the case of the Czech Republic and Poland, the Base value for 2003 was assumed to equal the average from 1994-2002, while the High and Low values – respectively the maximum and minimum numbers from that period, accordingly increased or decreased by 20%. The obtained net migration numbers for 2003 (NM_{2003}) constitute a basis for the further analysis.

- (2) Minimum values of net migration (NM_{min}) are expected for 2012, after the most likely date of opening of the labour market by Germany, the major migration partner of the countries under study. Net migration is assumed to stay at its minimum level for one year, until 2013. The minimum value is chosen following the qualitative assumptions on net migration developments presented in Section 7.2, separately for each country and for each of the variants (Base, High and Low). It is worth noting that for example in the case of Slovenia and Hungary, the minimum values are substantially higher than for the other countries, reflecting the good and stable economic situation.
- (3) For the short-term post-accession period (2004-2012), it is expected that population movements in the countries under study will be mainly influenced by labour emigration, related to the gradual opening of the EU labour markets in 2004, 2006, 2009 and 2011. Following the argumentation on the expected opening schedule presented in Section 7.1, a simple calculation scheme is thus proposed: given the NM_{min} values for 2012, the difference ($NM_{2003} - NM_{min}$) can be distributed proportionally to the current stocks of migrants in the particular countries of the EU-15 that are about to open in the subsequent years (i.e. proportionally to the respective figures from Table 3, Section 3.6). The stocks can be seen as a proxy variable for the past migration history involving particular countries. Distribution of the difference ($NM_{2003} - NM_{min}$), i.e. of the whole accession-related migration wave, by countries and accession phases is thus as follows (Table 11):

Table 11. Assumptions on distribution of the post-accession migration wave

Year*	Freedom of labour	BG*	CZ	EE	HU	LV	LT	PL	RO*	SK	SI
2004	IE, SE, UK	4%	4%	9%	11%	19%	17%	9%	5%	1%	2%
2006	BE, DK, FI, LU, NL	3%	5%	66%	5%	10%	13%	4%	3%	5%	2%
2009	ES, FR, GR, IT, PT	52%	16%	3%	8%	7%	8%	18%	45%	12%	10%
2011-2012	AT, DE	41%	75%	21%	76%	63%	62%	69%	47%	81%	86%
Total	All EU-15	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

* For BG and RO, the structures follow 3 years later (i.e. in 2007, 2009, 2012 and 2014-2015, respectively).

Source: own computations

With respect to the last, biggest flow expected after opening the German labour market in 2011, three-quarters of this flow are to be attributed to 2011 and the remaining one-quarter to 2012, reaching the assumed minimum. This distribution reflects an assumption of a key role of German migration policy in shaping emigration from the

new EU member countries and its expected opening for the labour force inflow only in 2011 with its direct impact continuing until 2012.

- (4) Target values of net migration (NM_T) for the year 2050 are chosen for all the countries and variants separately, following the qualitative analysis presented in Section 7.2. The Base and High target values are expected to reflect an supposition of convergence of migration trends in particular clusters of European countries and thus to be to some extent similar in relative terms (yet not necessarily identical) within the specific groups mentioned in Section 7.2.
- (5) The minimum values for 2012-2013 and the target values for 2050 are bridged using an approximation of a logistic curve, derived from the following equation¹⁹:

$$f(t) = NM_{\min} + \frac{NM_T - NM_{\min}}{1 + e^{-Rt}}.$$

In this formula, R denotes a growth rate, and t is the time argument of the logistic function, closely tied with the moment of changes in long-term migration patterns assumed for the particular countries in Section 7.2. Such a moment is associated with the value of $t = 0$, with values for the other years fixed symmetrically around it. For example, as for the vast majority of countries under study the year of changes in migration patterns (and thus, the inflection point of the curve) is assumed for 2020, the value of t changes from -6 for 2014 to $+30$ for 2050. The inflection point therefore reflects the differentiation between the mid-range and long-range assumptions presented in Section 7.2. For simplicity, the value of R is fixed at 0.5, to assure a smooth and not too sharp bridging from the initial to the target values.

The usage of a logistic curve reflects an assumption of growing impact of population inflow on migration processes in Central Europe in the mid-range post-accession period. Features of the logistic curve reflect the characteristics that can be attributed to the immigrant populations, mainly a constrained character of the growth of foreign populations. With all other factors equal, the increase in the numbers of immigrants is thus supposed to be proportional to the existing population (an implicitly assumed role of the networks) and proportional to the amount of available resources (a role of policy constraints, assuming e.g. introduction of immigration quotas).

- (6) The values for the last projection period (2050-2070) are kept constant at their target levels reached for 2050.

The net migration development scheme for Bulgaria and Romania is assumed to follow a similar pattern to the Central and Eastern European new member countries, yet with a time delay resulting from a different accession framework. It is supposed that these countries will join the EU in 2007 and that a similar schedule of gradual opening of Western European labour markets will be imposed on them. The following changes to the scheme proposed above have to be therefore included in the assumptions for Bulgaria and Romania:

- (a) For 2003-2006, an extrapolation of a linear trend from the years 1994-2002 is assumed in the Base variant for Romania ($p \cdot 0.00$). Values for the Low and High variants are then obtained as the respective ends of the 80% confidence intervals of the forecasts.

¹⁹ Logistic curve (Verhulst 1845) is a well-established tool of mathematical demography used to model constrained population growth.

As for Bulgaria the trend estimation error was very high, like in the case of the Czech Republic and Poland, the Base value for 2001 (the first year estimated after the break in series) was assumed in the average height from 1994-2000, while the High and Low values were taken as the maximum / minimum numbers from that period, increased or decreased respectively by 20%. The numbers for 2001 are then kept constant until 2006. This methodology has been applied to arrive at the projected initial net migration numbers before the expected EU accession, thus until 2006 (NM_{2006}).

- (b) For the aforesaid reasons, the minimum values of net migration (NM_{min}) are expected to be reached in 2015 and stay at their minimum levels for one year, until 2016. The procedure described previously for the eight new EU members under items (2), (3), (4), (5) and (6) is to be applied also in this case, with all the necessary time adjustments and following the distribution of the post-accession migration wave over time illustrated in Table 11.
- (c) The minimum values for 2015-2016 and the target values for 2050 are bridged also using a logistic curve similar to the one described under item (5). The time argument t of the function is set symmetrically around the inflection point having $t = 0$ in the year 2025, and thus changing from $t = -9$ in 2016 to $t = +25$ in 2050.

Regardless of the specificity of Cyprus and Malta, also in these cases only the start values of the projection (NM_{2003}) have been obtained from a linear extrapolation of the trend from the period 1980-2002 in the Base scenario and from the respective limits of the 80% confidence intervals in the Low and High variants. The linear trend appeared to sufficiently fit the past data, with the p-values equalling 0.01 for Cyprus and 0.07 for Malta. The target values for 2050 (N_T) taking into the account the character of migration processes expected to take place in the Mediterranean island countries are set separately, following the qualitative analysis presented in Section 7.2. Finally, following the established methodology, the values for 2003 and 2050 are bridged using a logistic curve with a growth rate $R = 0.5$, having its inflection point assumed for 2010 in the case of Malta and 2015 for Cyprus. The difference in the inflection years reflects an assumption of a much more strict migration policy in Malta, than in Cyprus, as in the latter case there were no provisions in the EU accession that would restrict the freedom of movement of persons. The assumptions for quantification of the migration scenarios are summarised in Table 12.

Table 12. Quantitative net migration assumptions for the new EU member and accession countries

Country	Observed (2002)	Minimum values (2012-13)			Target values (2050)			Negative levels of net migration			Inflection Year
		Low	Base	High	Low	Base	High	Low	Base	High	
Czech Republic	7 111	-10 000	-3 000	5 000	4 600	20 000	40 000	2009-21	2011-16	none	2020
Estonia ¹⁾	-1 264	-6 000	-3 000	0	-500	2 000	4 000	all	2006-20	none	2020
Hungary ²⁾	16 658	0	6 000	12 000	5 000	20 000	40 000	none	none	none	2020
Latvia ³⁾	-5 159	-8 000	-5 000	-2 000	-1 000	3 500	7 000	all	to 2020	2011-17	2020
Lithuania ²⁾	-20 330	-25 000	-20 000	-15 000	-1 500	5 000	10 000	all	to 2022	to 2020	2020
Poland	-22 091	-80 000	-60 000	-30 000	-20 000	15 000	50 000	all	to 2022	to 2018	2020
Slovak Republic	-1 381	-6 000	-3 000	-2 000	-3 000	2 500	10 000	all	to 2020	to 2016	2020
Slovenia	2 208	0	3 500	7 000	5 000	10 000	15 000	none	none	none	2020
Bulgaria ²⁾⁴⁾	-24 991	-45 000	-35 000	-25 000	-10 000	2 500	15 000	all	to 2030	to 2026	2025
Romania ⁴⁾	-25 665	-70 000	-50 000	-40 000	-30 000	6 000	40 000	all	to 2029	to 2024	2025
Cyprus	6 883	n.a.	n.a.	n.a.	1 000	4 000	7 000	none	none	none	2015
Malta	1 087	n.a.	n.a.	n.a.	500	2 000	3 500	none	none	none	2010

¹⁾ Observed value for 1999, prior to break in series; ²⁾ Observed value for 2000; ³⁾ Observed value for 2001; ⁴⁾ Minimum values for 2015-16.

Source: own assumptions and calculations

Once the overall net migration levels have been projected according to the proposed scheme, age and sex-specific net migration patterns have been applied to the projected values for the period 2003-2070. As long as net migration was negative, or, in the case of net immigration countries, until the inflection year, the age- and sex-specific rates have been fixed at their average levels from five latest observed years (four in the case of Romania or one in the case of Cyprus, cf. Section 4.3). The average distributions that have been presented in Figure 3 in Section 4.3 were used in order to smoothen any local irregularities that might have occurred within the sample period. After finally reaching positive net migration levels, respectively after the inflection year, the average age and sex structure of net migration for the EU-15 from the second half of the 1990s (also presented in Section 4.3) was assumed. If the positive net migration levels have not been reached in the whole projection period (for some of the countries in the Low variant), then the initial structure is kept until the end.

7.4. Overview of migration scenarios by countries

The current part of the report presents a detailed overview of migration scenarios by countries. For each country, the expected changes in the projection period are provided for all scenarios following the path outlined in Section 7.2 according to the quantification scheme proposed in Section 7.3. Table 13, as well as a set of graphs presented in Figure 15, illustrates three variants of migration flows (Base, High and Low) for the twelve countries under study until 2050. In all cases, migration is afterwards assumed to remain constant until the end of the projection period, i.e. until 2070.

According to the simulations, for all twelve new EU member and accession countries together, the migration balance is expected to turn positive around 2024 in the Base scenario, around 2019 in the High scenario, and remain negative throughout the whole projection horizon in the Low variant. In the Base scenario, the cumulated mid-range net population loss due to migration in the 12 countries under study is going to amount to ca. 1.4 million by 2030, which amounts to slightly less than 60% of the 2.5 million arrived at by Alvarez-Plata et al. (2003) for the same period.

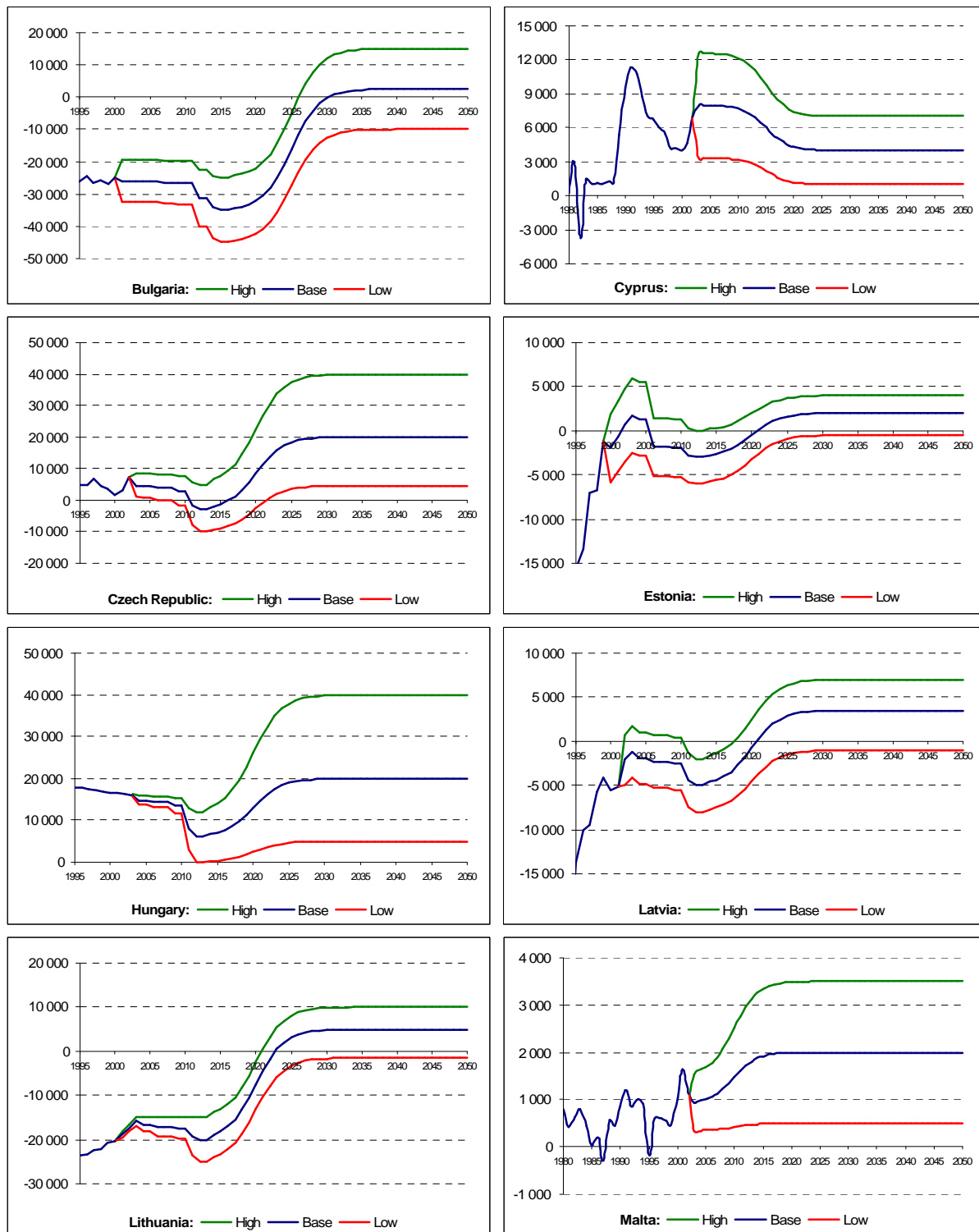
In terms of projected numbers of migrants from the new EU member and accession countries, the Base scenario outlined above can be seen as rather modest among the other results of the similar research. Nevertheless, including the High and Low scenarios, which can be interpreted as the margins of error of the projection, allows for deviations that reflect either very optimistic or very pessimistic assumptions on the socio-economic developments of the countries under study. This is especially important as in the case of the methodology applied here, there is no formal statistical way of determining *ex ante* the size of the prediction error.

Table 13. An overview of overall net migration scenarios for the new EU member and accession countries, 2004-2050

Country	Scenario	2004	2006	2008	2010	2012	2014	2016	2020	2025	2030	2050
Bulgaria	Base	-26 000	-26 000	-26 341	-26 606	-31 287	-34 072	-35 000	-32 155	-16 250	-345	2 500
	High	-19 557	-19 557	-19 763	-19 923	-22 754	-24 439	-25 000	-21 966	-5 000	11 966	15 000
	Low	-32 548	-32 548	-33 019	-33 386	-39 862	-43 716	-45 000	-42 345	-27 500	-12 655	-10 000
Cyprus	Base	7 972	7 944	7 871	7 686	7 261	6 482	5 506	4 303	4 027	4 002	4 000
	High	12 591	12 552	12 449	12 188	11 589	10 494	9 119	7 426	7 038	7 003	7 000
	Low	3 353	3 337	3 294	3 184	2 932	2 471	1 892	1 179	1 016	1 001	1 000
Czech Rep.	Base	4 317	3 912	3 912	2 664	-3 000	-1 909	-258	8 500	18 255	19 846	20 000
	High	8 407	8 218	8 218	7 637	5 000	6 660	9 172	22 500	37 345	39 766	40 000
	Low	703	110	110	-1 715	-10 000	-9 308	-8 260	-2 700	3 492	4 502	4 600
Estonia	Base	1 302	-1 840	-1 840	-1 990	-3 000	-2 763	-2 404	-500	1 621	1 967	2 000
	High	5 447	1 469	1 469	1 279	0	190	477	2 000	3 697	3 973	4 000
	Low	-2 843	-5 149	-5 149	-5 259	-6 000	-5 739	-5 344	-3 250	-917	-537	-500
Hungary	Base	14 838	14 359	14 359	13 540	6 000	6 664	7 669	13 000	18 938	19 906	20 000
	High	15 835	15 628	15 628	15 272	12 000	13 328	15 338	26 000	37 876	39 813	40 000
	Low	13 840	13 091	13 091	11 808	0	237	596	2 500	4 621	4 967	5 000
Latvia	Base	-1 903	-2 288	-2 288	-2 568	-5 000	-4 597	-3 987	-750	2 855	3 443	3 500
	High	1 012	637	637	365	-2 000	-1 573	-927	2 500	6 317	6 940	7 000
	Low	-4 817	-5 213	-5 213	-5 501	-8 000	-7 668	-7 166	-4 500	-1 531	-1 047	-1 000
Lithuania	Base	-16 569	-17 092	-17 092	-17 418	-20 000	-18 814	-17 020	-7 500	3 104	4 833	5 000
	High	-14 928	-14 939	-14 939	-14 945	-15 000	-13 814	-12 020	-2 500	8 104	9 833	10 000
	Low	-18 210	-19 245	-19 245	-19 891	-25 000	-23 885	-22 199	-13 250	-3 283	-1 657	-1 500
Malta	Base	985	1 062	1 221	1 467	1 713	1 873	1 949	1 993	1 999	2 000	2 000
	High	1 627	1 768	2 062	2 517	2 971	3 266	3 407	3 487	3 499	3 500	3 500
	Low	343	355	380	418	456	480	492	499	500	500	500
Poland	Base	-27 926	-29 474	-29 474	-35 786	-60 000	-56 443	-51 060	-22 500	9 311	14 498	15 000
	High	-18 150	-18 722	-18 722	-21 054	-30 000	-26 206	-20 464	10 000	43 931	49 465	50 000
	Low	-38 949	-40 929	-40 929	-49 009	-80 000	-77 154	-72 848	-50 000	-24 551	-20 402	-20 000
Romania	Base	-16 761	-11 223	-13 250	-14 295	-31 634	-45 409	-50 000	-45 752	-22 000	1 752	6 000
	High	-9 920	-3 505	-5 412	-6 397	-22 715	-35 679	-40 000	-33 931	0	33 931	40 000
	Low	-23 603	-18 941	-21 609	-22 986	-45 817	-63 954	-70 000	-66 966	-50 000	-33 034	-30 000
Slovak Rep.	Base	-2 319	-2 354	-2 354	-2 440	-3 000	-2 739	-2 344	-250	2 083	2 463	2 500
	High	-395	-476	-476	-679	-2 000	-1 431	-570	4 000	9 090	9 920	10 000
	Low	-4 270	-4 358	-4 358	-4 575	-6 000	-5 858	-5 642	-4 500	-3 228	-3 020	-3 000
Slovenia	Base	6 125	6 080	6 080	5 810	3 500	3 808	4 275	6 750	9 507	9 956	10 000
	High	12 191	12 100	12 100	11 567	7 000	7 379	7 954	11 000	14 393	14 946	15 000
	Low	60	59	59	53	0	237	596	2 500	4 621	4 967	5 000
EUR-12	Base	-55 940	-56 914	-59 195	-69 936	-138 447	-147 918	-142 674	-74 862	33 449	84 322	92 500
	High	-5 840	-4 827	-6 749	-12 172	-55 909	-61 825	-53 514	30 516	166 289	231 055	241 500
	Low	-106 939	-109 429	-112 588	-126 859	-217 292	-233 857	-232 882	-180 832	-96 760	-56 415	-49 900

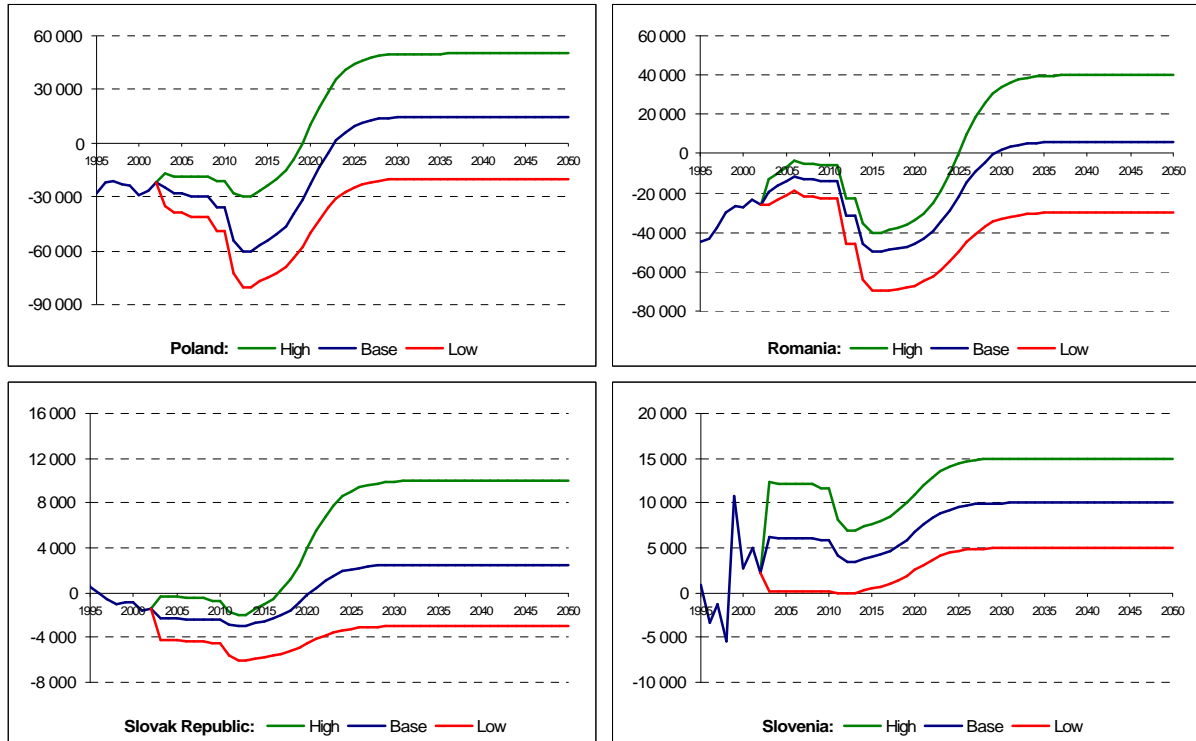
Source: own computations

Figure 15. Net migration scenarios for the new EU member and accession countries, 1994-2050



Source: own computations

Figure 15. (continued)



Source: own computations

8. Summary and conclusions

To conduct this study we looked into the extensive literature on theories of international migration. We are not the first to notice that these theories are far too fragmented and self-contained to provide a useful framework for migration forecasting. However, it turned out that the analysis of factors underlying international migration and their possible development is very helpful for setting migration scenarios.

As it was mentioned in this report and discussed in length elsewhere (Kupiszewski 2002b) we believe that the existing methodologies of forecasting of international migration are far from satisfactory and that in many cases their flaws made the forecasts very doubtful. For that reason we used a simple method of knowledge-based scenario setting, first creating qualitative scenarios and then quantifying them. This method gives the researchers much more control over the results and allows to directly apply the knowledge of past migration trends and migration situation in each country. It should be also noted that such approach becomes more and more popular in demographic forecasting. The quantification of the qualitative scenarios was fairly straightforward, as it depended on only two variables: the minimum value of net migration to be reached after removal of all restrictions on labour movement within the EU, and the maximum value net migration may take in medium term.

Forecasting international migration is a very difficult task. It has been unsuccessful in the past and there is little chance that it we will ever be able to provide highly reliable medium- and long term migration forecasts in the future. The main reason for this rather pessimistic statement is that international migration is highly sensitive to two unpredictable factors: migration policies and political developments. The former depends on the views of governments, which change every several years as dictated by the results of elections, and on the pressure of the electorate. Much more impact on migration has the latter factor – political disturbances. Change of political systems, as for example the fall of communism, or wars, as the recent one in the former Yugoslavia, generate a very strong push factor to migrate to the population which, otherwise, would be immobile. We tried to accommodate into our forecast the possible impact of migration policies, but explicitly declined to consider the consequences of possible future political upheavals and, in particular, the armed conflicts. As a result we eliminated from the scenarios typical for international migration peaks of migration flows.

We also studied population and migration forecasts prepared by the national official forecasters, the United Nations, as well as the research institutions. However, we did not aim at using their assumptions as a direct input to our forecast. Instead, we used them as a source of knowledge and as a controlling factor, to make sure that our assumptions are not completely incoherent with the assumptions of national forecasters, who have a very deep knowledge of their national population systems. In some rare cases we consciously ignored assumptions from the other forecasts, when we thought that they might be unreasonable.

From the presented analysis it can be clearly seen that it is expected that the increase of emigration from the new EU member and accession countries to the 15 Western European countries of the former EU-15 will be temporary in nature and that in the long run a decline of this trend can be anticipated. Increase of population movements in the opposite direction is also anticipated, concerning return migration in the first place. Moreover, the accession will likely increase the attractiveness of the new EU members for the immigrants from outside the EU, both as migration destinations and ways of transit to the West. With regard to the

directions of migratory flows, Germany will likely retain its position as the key migration partner for the Central and Eastern European EU member countries, most notably for Poland – the main migration country in the region. It is envisaged that in the period under study (until 2050) all the new EU members will eventually become immigration countries.

Table 14 shows a one-digit summary of various scenarios adopted in this study. In the Base scenario, which is considered to be the most probable, the net loss of the region over the period 2003-2030 would amount to 1.4 million, a number which is in line with some of the forecasts prepared earlier (Straubhaar 2001). As it was assumed that in the long term all 12 countries would become net gainers, over a period of half century their cumulated net migration would be positive at over 430 thousand persons.

Table 14. Cumulated net migration for the international migration scenarios in the new EU member and accession countries, 2003-2050

Scenario and period	Cumulated net migration for the new EU member and accession countries, thousands
Low scenario, 2003-2030	-4 010
Base scenario, 2003-2030	-1 405
High scenario, 2003-2030	1 234
Low scenario, 2003-2050	-5 019
Base scenario, 2003-2050	432
High scenario, 2003-2050	6 048

Source: own computations

Low scenario assumes economic stagnation in all new EU and accession countries. It generates a massive net loss of 4 million persons until 2030 and a further million within the next 20 years. These numbers should, however, be treated with extreme caution, as they were calculated to provide the Low scenario for each country separately but not for the entire European Union. It is highly improbable that the conditions for high net migration losses occur in all these countries simultaneously and would last for almost 30 or even 50 years.

In the High scenario the total gains for all 12 countries up to 2030 are set to reach 1.2 million persons, with gains over the period 2003-2050 going up to over six million. Remarks from the previous paragraph on the interpretation of these values remain in force.

The Low and High scenarios should be treated with much reservation as they were devised to show what we believe are extreme values in a non-violent development of economy, rather than to constitute a migration forecast *per se*.

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