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Searching for similar international migration trends across countries in Europe

1. BACKGROUND

Three specific phenomena largely affected international migration patterns in Europe in the second half of the 20th century. Labour shortages in Northern and Western Europe, European decolonisation, and the rise and subsequent collapse of the communist bloc in Central and Eastern Europe all had significant impacts.

Most Northern and Western European countries had to recover from the ravages of the Second World War and experienced unprecedented economic growth from the 1950s to the economic recession of 1973/1974. Post-war reconstruction and rapid economic growth led to a high demand for manual labour in these countries, a demand which could not be met by the domestic labour force.

Another important development after the Second World War was Europe's retreat from its position as world leader. Withdrawal from European colonies often created a vacuum, leaving armed guerrilla wars in its wake. Most anti-colonial movements were finally successful and from the early 1980s onwards only a few small European dependencies have remained.

The end of the Second World War saw Soviet occupation of large parts of Central and Eastern Europe. Soviet predominance in the rest of Eastern Europe was recognised by the West in 1945. Although this predominance was meant to be temporary, a communist bloc vis-à-vis the West was formed. Opposition parties were suppressed and by 1948 the Soviet bloc was fully in place. The east-west divide came to an end in 1989 when the Berlin Wall fell. The demolition of this symbol of the Cold War and the division between East and West may be treated as a precursor of the collapse of communism in Europe. From 1989 onwards, a period of transition started. As a consequence of the downfall of the communist system, several countries, which did not exist in the previous period, were formed (Russia, Ukraine, Belarus, Moldova, Estonia, Latvia, Lithuania, Croatia, Bosnia-Herzegovina, Serbia-Montenegro, Macedonia, Slovenia, the Czech and Slovak republics and (a united) Germany), and others (the Soviet Union, Yugoslavia, Czechoslovakia and East and West Germany) ceased to exist.

International migration in post-war Europe was highly influenced by these historical developments. Although observed migration patterns in Europe in this period seem to show endless diversity, a number of common causes and motives can be distinguished.

Since the aftermath of the Second World War, in non-communist Europe three large overlapping waves of migration could be identified (White, 1993): labour migration (to solve the shortage of labour in Western and Northern Europe), family migration (for family reunification and formation) and post-industrial mobility (involving high-skilled labour, clandestine and asylum migration). In addition to these three migration waves, postcolonial migration flows have to be taken into account. Again, three different waves could be distinguished (Van de Kaa, 1996). The first consisted of returning settlers, public servants and military personnel, migration flows of natives of the former colonies comprised the second, and the third was chain migration.

From the 1960s international migration figures were traditionally low in communist Europe. In spite of those low figures, international labour migration also existed in communist Europe[1], although it reached nowhere near the level of the non-communist countries. The most predominant type of migration in the communist era was long-term migration of certain ethnic groups (mostly Germans or Jews) or of political opponents of the communist regime[2]. After 1988, however, migration figures in the former communist countries (the countries in transition) significantly increased (Okólski, 1998a). Given the turbulent history of Eastern Europe, the potential number of migrants in Eastern Europe was very large (Van de Kaa, 1996). After the collapse of communism, ethnic minorities in Eastern Europe were able (or forced) to migrate to their country of origin, and as a result ethnic migration has once again become significant.

2.   AIM, APPROACH AND DATA

International migration trends in Europe have been discussed extensively in the existing literature. However, the majority of these studies has been mostly descriptive or selectively focused on several countries or a particular part of Europe. This article, therefore, aims to address the issue from an empirical point of view in a pan-European perspective. In an attempt

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[1] Czechoslovakia, for instance, imported labour from Vietnam, Angola, Mongolia and Poland (OECD, 1993 in United Nations, 1998a).

[2] Incidentally, this type of migration was considerably large e.g. from Czechoslovakia in 1967 or from Poland at the beginning of the 1980s.

to support the qualitative description of migration patterns with quantitative data, a multivariate analysis has been conducted. As far as it can be ascertained, in the extensive migration literature about Europe, no attempt using multivariate methods has been made to identify common time trends. In order to fill this gap, a multivariate analysis was conducted on net migration patterns. The underlying expectation was that there are a number of basic trends common to most European countries. The main purpose of this analysis is to find out whether it is possible to establish a classification of countries with similar net migration trends over time.

Before presenting the empirical analysis, however, a short description will be given about the main events that had large impact on international migration in the period from the aftermath of the Second World War to the end of the twentieth century. A qualitative description of international migration in the period from the 1960s until the 1990s is given in section 3, while the results of multivariate analyses are presented in section 4. Finally, section 5 contains some concluding remarks.

Representative data on international migration in Europe are scarce. Immigration and emigration data are far from complete. Especially the Eastern and Southern European countries lack much information on total in- and outflows. In Western Europe some information on total in- and outflow is missing too. France, for instance, does not have emigration data. The data which are available often do not refer to the period before 1985[3]. The availability of specific migration flows between two countries (by age and sex) is, of course, worse than that of total immigration and emigration. Data on specific migration types are even scarcer[4]. Notwithstanding these data problems, however, for most countries relatively long-term time-series are available on computed net international migration (in contrast to the difference between immigration and emigration).

In principle, the European countries can be divided into countries which obtain migration (and other demographic) data by keeping a population register and countries which obtain data by regularly conducting population censuses. This distinction is not a fixed certainty. Countries which keep a population register often conduct surveys to check (and if necessary to update) their population register. On the other hand, countries which conduct censuses often use some registered data on births, deaths and migration to update their population data. A disadvantage of census data with regard to

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[3] Some Northern and Western European countries and Italy, however, do have flow data on total immigration and emigration which refer to a long period of time (see e.g. Bonifazi and Strozza, 2001).

[4] Data on migration types often refer to the channel of entry, which does not necessarily correspond to the real motive for migration.

migration is that they measure transitions instead of moves. Hence, the actual year of moving may remain unknown. The number of transitions between two censuses is often proportionally distributed over the intermediate years, although the national statistics offices of "census countries" may also use more sophisticated methods (see e.g. Istat, 1996). In general the "register countries" compute net migration figures as population growth minus natural increase. Recent values of net migration (*i.e.* from the 1990s) for census countries, on the other hand, may be obtained by direct inter-census surveys. These are provisional estimates that generally are revised by the time data collected by a more recent census will become available.

Contrary to most Western European countries, where population is used to compute net migration, Eastern European countries compute population with *registered* net migration figures since the 1990s. Hence, net migration figures for Eastern European countries in the 1990s are registered net migration figures. A problem with these registered net migration figures in Eastern Europe is the considerable under-registration of emigrants. Mašková and Stašová (2000), for instance, estimated that on an annual basis some 4000-5000 emigrants yearly were not registered in the Czech Republic in the period 1993-1997.

Although computed net migration figures are available for almost all European countries and for a longer period in time, these figures have to be used and interpreted with caution. To start with, these figures do not contain information on the origin and destination and the composition (which nationalities are involved?) of the underlying immigration and emigration flows. Low computed net migration figures, for instance, may be the result of a small inflow and outflow as well as the result of a large inflow and outflow. Furthermore, administrative corrections which are not related to international migration may affect these migration figures. Finally, different methods of collecting data and calculating net migration figures may hamper cross-country comparisons.

The aforementioned disadvantages of computed net international migration data did not keep us from using these data in our attempt to identify common time trends with a multivariate analysis. Not only because we simply had no alternative, but also because we do believe that the available time-series contain a lot of valuable information. Moreover, we conducted analyses on five-year periods and binary data to moderate the disturbing influence of administrative corrections. Hence, this article is based on computed net international migration data for 32 European

countries[5]. Moreover, five countries (the Soviet Union, West Germany, East Germany, Yugoslavia and Czechoslovakia) that ceased to exist are included as well. The data are derived from the Council of Europe (1999 and 2003)[6].

3. INTERNATIONAL MIGRATION PATTERNS IN EUROPE: A QUALITATIVE DESCRIPTION

This section describes (net) international migration patterns in Europe from 1960 onwards. This period is divided into four periods: the 1960s, the 1970s, the 1980s and the 1990s.

3.1 The sixties: high demands for labour

International migration in Europe in the sixties was mainly that of labour migration. The domestic labour force in Western European countries could not match the very high demand for manual labour. Many labour migrants from Southern European made their way to Western Europe (King, 1993; King and Rybaczuk, 1993). Therefore, the labour-exporting countries in Southern Europe (Greece, Italy, Portugal, Spain and Yugoslavia) experienced considerable net emigration in this period (see Figure 1). In the 1960s, average net migration rates[7] (per 1000) varied from -13.9 in Portugal to -1.5 in Yugoslavia. Ireland and Finland too experienced large net emigration, as a result of large labour emigration to the UK and Sweden, respectively (Mac Laughlin, 1993; Hammar, 1995). Large numbers of labour immigrants were responsible for very large average net migration rates per 1000 in West Germany (4.4), Luxemburg (4.5) and Switzerland (6.5). Moreover, Austria, Belgium, France and the Netherlands were important destinations for labour migrants from Southern Europe too.

Contrary to most of the other Western European countries, the very large net immigration in France was not due to labour migration from

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[5] All European countries except Turkey and Cyprus with a population of more than 200,000 persons have been taken into account, unless these countries do not have enough data available.

[6] Source for 1960-1998: Council of Europe (1999); for 1999-2002: Council of Europe (2003). We used Eurostat (2000) data for Greece, the Irish Republic, Spain and the UK for the period 1960-1998, as the Council of Europe data for those countries were not complete. Recent values for non-register (census) countries are often estimates.

[7] A demographic rate is normally defined as the number of events of a specific type in a given time period divided by the number of people at risk of experiencing that type of event in the given time period (Hinde, 1998). Therefore, strictly speaking, the term "rates" is not applicable here.

Southern Europe, but was mainly caused by the political turmoil accompanying the Algerian independence. The upheaval in Algeria caused a very high immigration peak of both returning French nationals and Algerians in 1962 (Garson, 1992).

In the 1960s, all communist countries[8] experienced low net emigration. Before the construction of the Berlin Wall (1961), however, many inhabitants of East Germany migrated to West Germany (Kurthen, 1995). These migrants were called *Übersiedler*. By the end of that decade Czechoslovakia experienced relatively large net emigration in the years around the Prague Spring (1967 and 1968).

Figure 1 — *Average net migration rates in the sixties*

3.2 The seventies: the changeover from labour to family and return migration

At the beginning of the 1970s, most Western and Northern European countries still experienced net immigration. The geographical origin of labour migrants, however, had shifted. Relatively more labour emigrants

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[8] By communist countries we mean all communist countries except Yugoslavia. Yugoslavia did not maintain the communist "rule" of full employment. In response to unemployment the Yugoslav authorities allowed Yugoslav workers to work abroad.

came from the Maghreb area and Turkey, while labour emigration from Southern European countries decreased (Salt, 1976).

Although at the beginning of the 1970s almost all countries in Eastern Europe experienced low net emigration again, in Poland net emigration figures increased considerably. The new political leadership liberalised travel regulations at that time. Many Poles took advantage of these liberalised travel regulations to migrate to the West (Okólski, 1998b). Furthermore, the *Ostpolitik* of the Brandt/Scheel Administration improved relations between West Germany and Poland that enabled more ethnic Germans, who lived in Poland, to emigrate to West Germany (Banchoff, 1999; Bucher, 2000). However, it is difficult to decompose Polish migration figures at the beginning of the 1970s from the large statistical adjustments of the population figures in 1970 and 1978 (Council of Europe, 1999). Hence, computed net emigration could be larger than actual net emigration in this period.

The economic recession of 1973/1974 was a turning point in European migration history. As employment decreased import of foreign labour into Western and Northern European countries was no longer necessary. Moreover, the entry of post-war baby-boomers on the labour market increased the labour supply. Therefore, in the mid-1970s most Western and Northern European governments imposed immigration restrictions (ICMPD, 1994).

As a result of the changing economic situation, many Southern European labour migrants returned to their country of origin. In 1972, Italy was the first Southern European country which became an immigration country (Martin, 1994). Increasing numbers of return migrants from Northern and Western Europe and immigrants from developing countries caused this transition from an emigration to an immigration country (Penninx, 1986 in Montanari and Cortese, 1993). For Irish migrants too, the 1970s were a 'decade of return'. In this decade the Irish Republic experienced net immigration amounting to 102,000. This return migration (from the UK) was probably related to increasing job opportunities in Ireland, created by the setting up of multi-national companies (MNCs) in the high-technology industry. The MNCs were attracted by low wages, grants, taxation concessions and the accession to the European Community (Garvey, 1985).

A consequence of labour immigration was the onset of migration for family reasons. Many labour migrants who did not return to their country of origin decided to bring their family over (family reunification). Also marriage partners of former migrants came over to Western and Northern European countries (family formation).

In general it can be said that net migration figures in non-communist Europe levelled out in the second half of the 1970s. Most countries had low net immigration. At first glance it seems illogical that both labour-importing and labour-exporting countries experienced net immigration in the second half of the 1970s. Emigration from former labour-importing countries to former labour-exporting countries in Europe was larger than the opposite immigration flow for the purpose of family reunification. However, we also have to take intercontinental migration into account here. A high incidence of family reunification migration from Turkey and the Maghreb area can explain the net immigration into labour-importing countries. As already indicated, immigration into labour-exporting countries in Southern Europe in the form of return migration from former labour-importing countries was larger than emigration because of family reunification. Moreover, there was considerable return migration from Latin America and from Africa (mainly to Portugal) (Barsotti and Lecchini, 1994; Rocha-Trindade, 1995). Austria, Switzerland and West Germany developed guest worker policies that attempted to preclude family reunion or long-term sojourns (Lahav, 1995 in United Nations, 1998b). Return migration and the absence of family reunion on a large scale caused net emigration in Austria and Switzerland.

In Portugal and the Netherlands postcolonial migration was very prominent during the 1970s. 'The Carnation Revolution' of April 1974, which overthrew the dictatorship of Salazar's successor Caetano, ended the ongoing wars against liberation movements in the Portuguese empire. Many *retornados* from the PALOP (*Países Africanos de Língua Oficial Portuguesa*) caused large net immigration numbers in this period. Especially in 1975, immigration peaked, when Angola, Cape Verde, Guinea-Bissau (in 1974), Mozambique and São Tomé and Príncipe became independent and Portuguese troops left East Timor (Lewis and Williams, 1985 in King and Rybaczuk, 1993; Solé, 1995; Rocha-Trindade, 1995). In 1975 the independence of Surinam initiated a large flow of migrants from Surinam to the Netherlands. Moreover, a treaty between Surinam and the Netherlands, in which Surinamese could choose between Dutch and Surinamese nationality in the first five years after independence, caused ongoing large inflows of Surinamese in the second half of the 1970s (De Beer, 1997).

While the 1970s was a turbulent decade with respect to international migration in non-communist Europe, the migration pattern in communist Europe remained the same. Similar to the first half of the 1970s communist countries had low net emigration figures in the second half of the 1970s.

3.3 The eighties: from a 'period of rest' to high inflows of asylum seekers and ethnic migrants

As a consequence of the economic crisis, which started in the course of the 1970s, in the first half of the 1980s migration figures in Europe did not reach the level of the previous periods. Family and return migration, which followed the labour migration of the 1960s and the first half of the 1970s, decreased while the post-industrial wave had not yet really started. In the second half of the 1980s, however, immigration figures rose sharply, due to the radical political, economic and social changes, which followed the end of the Cold War and the collapse of the communist system. Many non-communist countries in Northern and Western Europe, as well as Greece, were the main destination countries of post-industrial migrants (asylum seekers, clandestine or high-skilled labour migrants). In the EU West Germany had by far the largest inflow of asylum seekers (Eurostat, 1997). Compared to other countries West Germany was more amenable regarding the right of asylum (Fijalkovski, 1993; Kurthen, 1995; Wendt, 1997).

During the 1980s, less restrictive emigration policies caused increasing net emigration in all communist countries. As a consequence of the political changes in Eastern Europe, a large number of ethnic Germans (*Übersiedler* and *Aussiedler*) entered West Germany. In the 1980s most *Aussiedler* came from Poland (633,000), followed by the Soviet Union (177,000) and Romania (151,000) (Fleischer and Proebsting, 1989; Münz *et al.*, 1997; Bürkner, 1998)[9]. Another example of mass migration from Eastern Europe in the second half of the 1980s is the migration of 220,000 ethnic Turks from Bulgaria to Turkey (Bobeva, 1994).

3.4 The nineties: towards converging migration patterns?

In the 1990s the post-industrial migration wave continued. By then, however, the countries in Southern Europe also experienced net immigration. Especially asylum migration was very high in Western Europe in the first half of the 1990s. The war in the former Yugoslavia was one of the main causes of this large inflow of asylum migrants. Germany had by far the largest inflow of asylum seekers in the EU (about 60% of the total inflow in the EU) (Wendt, 1997). In the second half of the 1990s asylum migration to Western Europe decreased (UNHCR, 2000). Stricter asylum policies and the end of the war in Bosnia-Herzegovina were the main causes of this decrease (Van Selm-Thorburn, 1998; OECD, 1999).

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[9] Data: Bundesverwaltungsamt.

Ethnic migration from Central and Eastern Europe to Germany (and to a lesser extent to Finland and Greece) also reached a high level in the 1990s. The origin of ethnic immigration to Germany had shifted, however, with most of the *Aussiedler* coming from the former Soviet Union. In the second half of the 1990s ethnic migration to Germany did not reach the level of the first half of the 1990s (Münz *et al.*, 1997; Bürkner, 1998).

Since the end of the 1980s, emigration from former communist countries to the West (mainly Germany, U.S. and Greece) and to Israel increased sharply. Many people in Central and Eastern European countries were determined to move to the West but were not given the chance to do so (Okólski, 1998a). Within the Soviet Union Slavs (Russians, Belarussians and Ukrainians) were the most mobile groups (Frejka *et al.*, 1999). Labour shortages in newly developed regions and Russification induced the Slavs to migrate to other parts of the Soviet Union. After the disintegration of the Soviet Union many Slavs were exposed to pressure to return. Therefore, Russia, Ukraine and Belarus experienced net immigration from other former Soviet states. However, similarly to other former communist countries, these countries experienced net emigration to other (non-Soviet) countries (Belozor, 1996; Zlotnik, 1998; Frejka *et al.*, 1999). By the end of the nineties, the large pool of Slavs in the Baltic, Central Asian and Transcaucasian states and Moldova had shrunk (OECD, 1999), resulting in a declining repatriation of Slavs in the former Soviet Union.

Considering the overall net migration pattern in Europe for the 1990s (see Figure 2), most of the Western European countries concerned had become net immigration countries. Ethnic migration in Eastern Europe seemed to decrease as well. Therefore, we may tentatively state that differences in net migration rates across countries converged in the 1990s.

4.   EMPIRICAL CLASSIFICATIONS OF COUNTRIES

European migration patterns in the second half of the twentieth century show a seemingly endless variety between countries, as well as over time. Nevertheless, a number of common causes and motives can be observed, as seen in the previous sections. Common causes may lead to common structural trends for groups of countries. A multivariate analysis on net migration patterns was conducted to identify these common time trends. The underlying expectation is that there are a number of basic trends which apply to most European countries. These trends, thus, form a summary description of European (net) migration since the beginning of the sixties. For the empirical application, the period 1960-2002 is divided into two periods: the

Figure 2 — *Average net migration rates in the nineties*
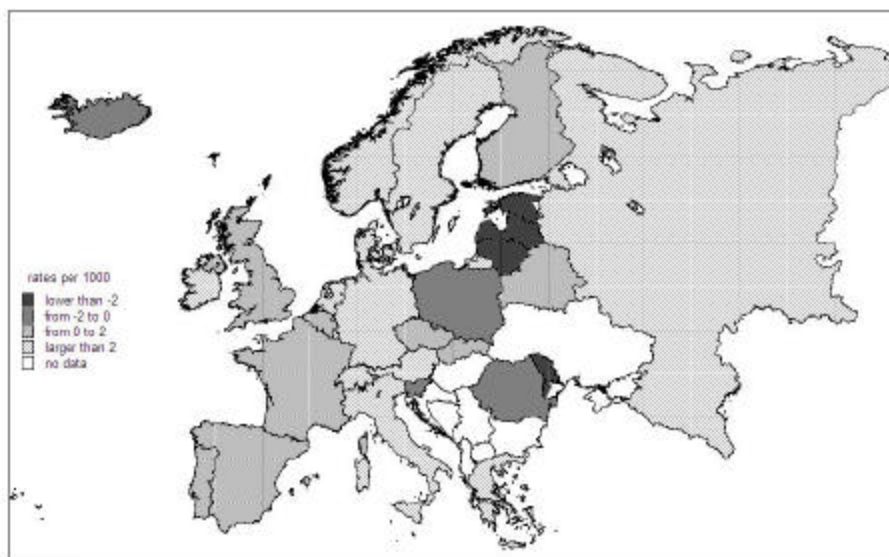
era of the Cold War (1960-1989) and the post-communist period (1991-2002). The year 1990 was a very turbulent year in European (migration) history. Many people from former communist countries in Europe used their regained freedom to try to emigrate to the West. Moreover, in 1990 net migration from East Germany to West Germany could be both international as well as internal. For consistency and comparability reasons, the year 1990 was not taken into account in the analyses.

4.1 The era of the Cold War

Cluster analysis has been used to substantiate the qualitative description of the international migration pattern in Europe in 1960-1989. There are two popular kinds of clustering techniques: hierarchical and partitioning techniques. Hierarchical techniques appear best suited if the data form groups of a natural hierarchical nature, such as biological type specimens, which may be grouped into species, which, in turn, may be grouped into genera *etc*. (Dillon and Goldstein, 1984). The group of separate European countries does not have such a nature. Moreover, we decided to use K-means cluster analysis as, contrary to hierarchical cluster techniques, this partitioning cluster technique is able to assign countries with some missing values to clusters. Two K-means cluster analyses were conducted. Firstly, a cluster analysis in which the variables are six five-year periods (1960-1964,

1965-1969, …, 1985-1989). These five-year periods were used to mitigate disturbing effects of particular years with exceptionally high or low net migration figures (*i.e.* years in which statistical adjustments occurred or in which colonies became independent). Secondly, a K-means cluster analysis that comprised separate years was conducted. For this cluster analysis, it is important whether a country was a net immigration country or a net emigration country. Positive migration rates are coded as '1' and negative migration rates are coded as '0'. In this way it is possible to consider individual years, for instance the recession year of 1967, without having to deal with the problem of extreme net migration for particular countries in particular years. The number of clusters is determined on the basis of the average Euclidean distance to the cluster centre.

Figure 3 shows that there are four natural clusters in the analysis of six five-year periods. However, if we use more than three clusters, in general one large cluster of countries, which lack extreme migration rates, is formed together with a number of clusters containing only one country with a more or less unique net migration pattern. As the aim of the analysis is to find clusters of countries with similar migration patterns, clusters of one country only are not applicable. Therefore, the number of clusters is fixed at three. Albania, Bulgaria, Hungary, Malta and the Soviet Union have been excluded from the analysis, because these countries lack sufficient data. The results of this K-means cluster analysis are presented in Figure 4.

Figure 3 – *Average Euclidean distance to cluster centre, 1960-1989 (5-year periods)*
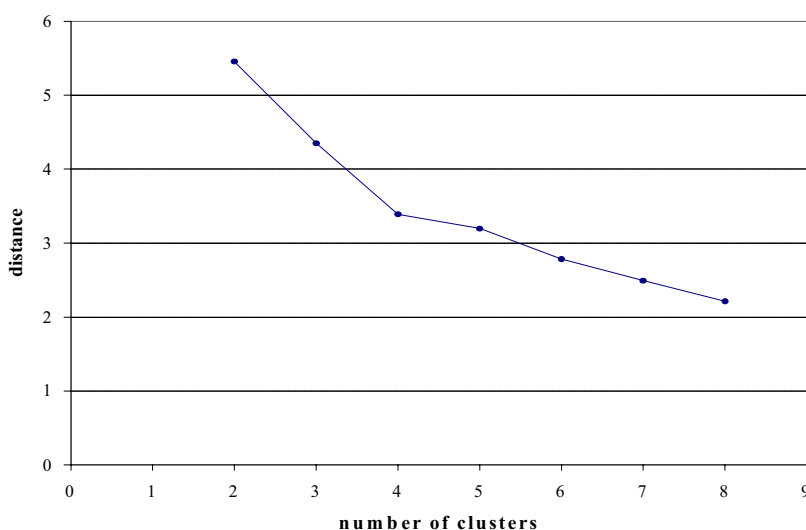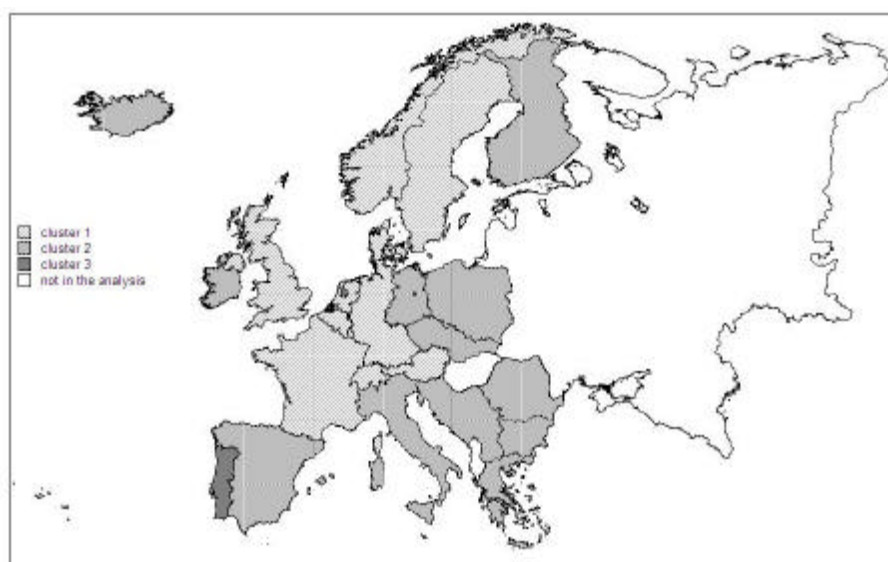
Figure 4 – *Results of K-means cluster analysis (3 clusters) of net migration rates, 1960-1989 (5-year periods)*

Cluster centres

	Cluster (N)		
	1 (11)	2 (12)	3 (1)
1960-1964	2.98	-2.86	-8.74
1965-1969	1.62	-1.92	-19.10
1970-1974	2.21	-0.50	-5.19
1975-1979	0.62	0.30	9.43
1980-1984	0.70	-0.27	0.45
1985-1989	2.68	-0.99	-4.55

Note: unweighted average net migration per 1000.

K-means cluster analysis with 3 clusters groups the countries in Europe into two large clusters. Cluster 1 consists of the Western and Northern European countries, Finland and Ireland excepted. The cluster centre of this cluster is high in the period 1960-1974. This is mainly attributed to labour and (post)colonial immigration. In the period 1975-1984 net migration rates are lower. Labour and (post)colonial immigration decreased and return migration of former labour migrants increased. In the second half of the 1980s migration rates were higher again. Increasing numbers of asylum

seekers were one of the main causes of this increase in net migration rates. Cluster 2 contains both the former labour-exporting countries and the former communist countries. The cluster centres of 1960-1964 and 1965-1969 indicate large net emigration. Southern European countries, Finland and Ireland experienced much labour emigration in this period. In addition, East Germany, Poland and Romania experienced considerable net emigration in the first half of the 1960s. The cluster centres in the period 1970-1984 are less negative. The communist countries had had low emigration rates and the mass labour emigration from the non-communist countries in this cluster had ended. Increasing emigration figures from the communist countries are responsible for the large negative cluster centre in the period 1985-1989. Portugal is the only country in cluster 3. Portugal experienced distinct negative net migration during the period 1960-1990. The only exception is the period 1974-1979. This corresponds with the net migration figures of the other former labour-exporting countries in Southern Europe. However, the positive net migration in Portugal was much higher. Furthermore, net migration figures in the 1960s and 1980s were considerably lower than those of other Southern European countries.

Figure 6 presents the results of the K-means cluster analysis with binary net migration data. In this analysis the number of clusters is fixed at five (see Figure 5). Missing values are excluded pairwise. Thus, Bulgaria and Hungary can be included in the analysis despite the fact that these countries do not have data for the entire period. Albania and the Soviet Union are excluded from the analysis, because of insufficient data. Malta and Iceland are also excluded from the analysis. Since the absolute values of net migration in these countries are very low, the importance of net immigration or net emigration is not significant.

In general it can be said that the countries in clusters 1 and 2 are non-communist countries which were labour-importing until about 1975. The countries in clusters 3 and 4 are non-communist countries, which were labour-exporting until about 1975. Cluster 5 comprises all the communist countries.

The countries in clusters 1 and 2 predominantly experienced net immigration in the period 1960-1990. The years of economic recession were exceptions. The countries in cluster 1 have a net migration pattern, which is standard for Western Europe. Austria, Denmark, Luxemburg, the Netherlands and West Germany experienced net emigration in 1967 or 1968, brought on by the economic recession of 1967. The economic recession of 1973/1974 caused net emigration in Austria, Denmark, Switzerland and West Germany in 1975 and 1976. Sweden had already experienced net emigration in 1972 and 1973. From around 1970 the Finnish government

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Figure 5 – *Average Euclidean distance to cluster centre,*
1960-1989 (binary data)
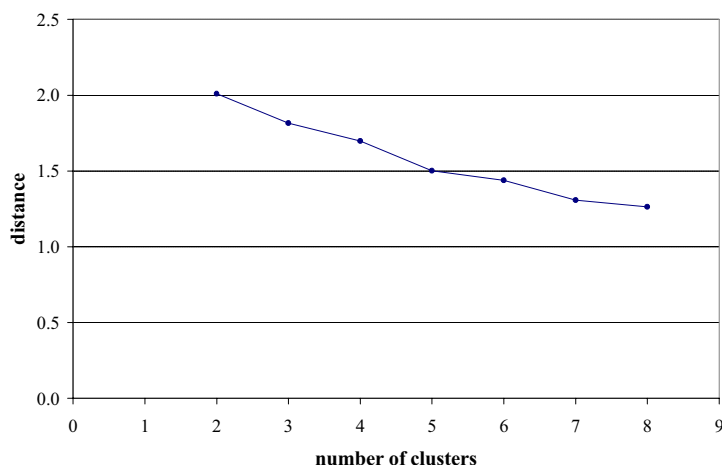
embarked on a programme to stem the flow of population and income to Sweden. One policy measure was to encourage Swedish textile industries to set up production facilities in Finland instead of employing Finnish labour in Sweden (Hammar, 1995). The results of multivariate regression analyses to explain migration from Sweden to Finland in the period 1963-1975, conducted by Hietala (1978), demonstrate that the encouragement of direct investments by Swedish enterprises in Finland was the most effective economic policy to stimulate (return) migration from Sweden to Finland. Many countries in cluster 1 had net emigration in 1982. In this year the family reunification wave had ebbed and the post-industrial wave had not yet really started. Belgium is the only country in cluster 2. In general net migration in Belgium was positive during the years 1962-1977, negative between 1980 and 1987 and positive again after 1987. Belgium experienced substantial return migration and emigration of Belgian nationals in the first half of the 1980s. At the same time the Turkish and Moroccan population in Belgium had largely exhausted the means for family reunification (Lievens, 2000). Without this net emigration in the 1980s Belgium would have belonged to the countries in cluster 1.

The countries in clusters 3 and 4 are the former labour-exporting countries and the UK. Cluster 3 contains countries (Finland, Greece and the UK) which experienced net emigration in the 1960s and net immigration in the 1980s. Net migration in the 1970s is different for these countries. Finland had net immigration in 1971-1974. In this period many former labour migrants returned from Sweden (Lundh and Ohlsson, 1994). In the other

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Figure 6 – *Results of K-means cluster analysis (5 clusters) of binary net migration data, 1960-1989*[a]
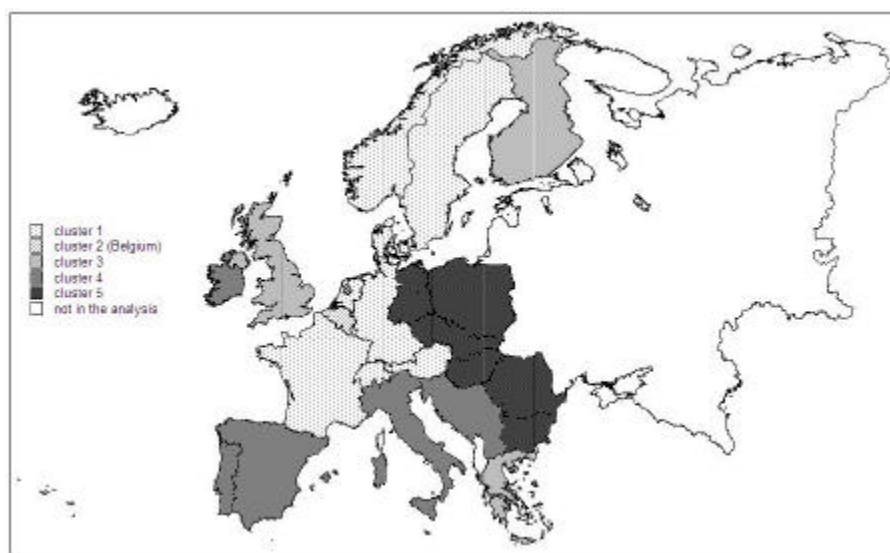
Net migration pattern[b]

Cluster (N)	Period		
	1960-1974	1975-1979	1980-1989
1 (9)	+	+	+
2 (1)	+	+	-
3 (3)	-	+	+
4 (4)	-	+	-
5 (6)	-	-	-

Notes: [a] Clusters based on all years 1960-1989.
Positive net migration: 1; negative net migration: 0.
[b] +: net immigration; –: net emigration.

years of the 1970s Finland experienced net emigration. In the period 1960-1974 many Greek labour migrants made their way to Western Europe (especially to West Germany and Belgium). In the period 1975-1989 net migration was positive. Return migration of former labour migrants accounted for the period 1975-1979. From 1980 Greece had become a net importer of labour. Since the second half of the 1980s, Greece had to deal with increasing political immigration. The number of asylum seekers

increased. Moreover, increasing numbers of Pontian Greeks from the former Soviet Union and ethnic Albanian Greeks entered the country (Lazaridis, 1996; Sarris and Zografakis, 1999). The UK is the only country in cluster 3 that is not a labour-exporting country. Similar to Finland and Greece, the UK experienced net emigration in the 1960s and net immigration in the 1980s. However, the net emigration years in the 1960s were not due to labour emigration but to emigration to the United Sates and the British dominions that still occurred on a large scale (Coleman, 1995). Contrary to Finland and Greece the UK experienced net immigration in 1960-1963. This net immigration was the result of immigration from the West Indies that peaked in 1961 and immigration from the Indian subcontinent that started in the early 1960s (Thomas-Hope, 1994). Predominantly the countries in cluster 4 show net emigration in the 1960s and 1980s and net immigration in the second half of the 1970s. All countries in this cluster experienced labour emigration during the labour migration wave. Italian, Portuguese, Spanish and Yugoslavian (labour) emigrants went to several Western and Northern European countries, (Latin) America and Australia. Irish (labour) emigrants went almost solely to the UK and the United States. In the second half of the 1970s, after the economic recession of 1973/1974, many of these labour emigrants returned.

Bulgaria, Czechoslovakia, East Germany, Hungary, Poland and Romania make up cluster 5. These communist countries had predominantly net emigration during the entire period 1960-1989.

The results of the two cluster analyses demonstrate that countries in Europe in the period 1960-1989 can roughly be divided into three groups with different international migration patterns. Austria, Belgium, Denmark, France, Luxemburg, the Netherlands, Norway, Sweden, Switzerland, the UK and West Germany comprise the non-communist countries, which imported labour until about 1975 (the so-called labour-importing countries). Finland, Greece, Ireland, Italy, Portugal, Spain and Yugoslavia comprise the non-communist countries, which exported labour until about 1975 (constituting the labour-exporting countries). Bulgaria, Czechoslovakia, East Germany, Hungary, Poland and Romania comprise the communist countries. Figure 7 shows the net migration trend and level for these three groups of countries.

As we see in Figure 7 the differences between the clusters peaked in the 1960s. In the period 1970-1984 these differences decreased sharply. The differences increased again when the post-industrial movement wave started (in the second half of the 1980s). Net migration rates in labour-importing countries were higher than in communist countries in the entire period 1960-1989. In the 1960s net emigration was larger in the labour-exporting countries than in the communist countries. In the first half of the 1970s net

Figure 7 – *Net migration (rates per 1000) for labour-importing, labour-exporting and communist countries in Europe, 1960-1989 (5-year periods)*[a]
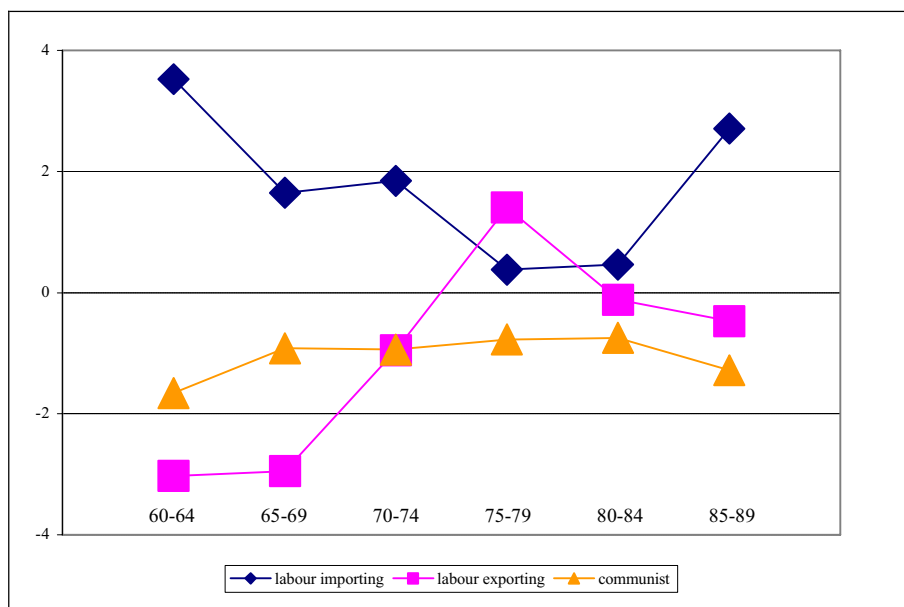

Note: [a] No data for Bulgaria 1979-1989, Hungary 1960-1969, West Germany 1970 and Yugoslavia 1962.

emigration rates from countries in these two clusters were about the same. In the period 1975-1989 net migration rates were higher in the labour-exporting countries than in the communist countries. In the first half of the 1970s the labour-exporting countries experienced net immigration which was even relatively larger than in the labour-importing countries.

4.2 The post-communist era

K-means cluster analysis has also been used to substantiate the qualitative description of the international migration pattern in Europe 1991-2002. The variables in this cluster analysis are three four-year periods (1991-1994, 1995-1998 and 1999-2002). Again the number of clusters is determined on the basis of the average Euclidean distance to the cluster centre. In this case there are five natural clusters (see Figure 8). Albania, Bulgaria, Hungary, Ukraine and the former Yugoslavian republics (Slovenia excepted) are excluded from the analysis, because of insufficient data. The results of this K-means cluster analysis are presented in Figure 9.

Figure 8 – *Average Euclidean distance to cluster centre,*
1991-2002 (4-year periods)
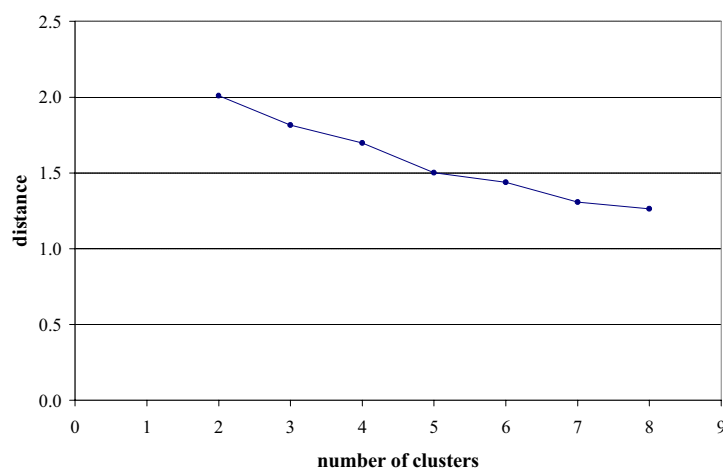
Clusters 1, 2 and 3 roughly consist of the Western European countries and the two Slavic former Soviet states. Luxemburg is the only country in cluster 1. Luxemburg had very high immigration rates for all three periods (1991-1994, 1995-1998 and 1999-2002). In general the countries in cluster 2 (the Irish Republic, Iceland, Portugal and Spain) experienced net migration rates that fluctuated around zero in the period 1991-1994. The migration rates sharply increase in these countries as of the second half of the 1990s. The booming economy in the Irish Republic attracted many labour and return migrants. Moreover, asylum seekers "discovered" the Irish Republic as a potential destination country in the second half of the 1990s. Large regularisations of clandestines and the economic crisis in Latin America were the causes of this sharp increase in Spain and Portugal. Cluster 3 comprises the remaining Western European countries, except France, and the Slavic former Soviet states. These countries experienced positive net migration in all three periods. However, unlike the countries in cluster 3, these countries did not show increasing net immigration rates. The immigration rates in the second half of the 1990s were lower than those in the first half of the 1990s as many of these countries tightened up their immigration legislation and the turmoil in the Balkans subsided in the course of the 1990s. Cluster 4 contains former communist countries[10]. These

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[10] Cluster 4 also comprises France. France experienced net immigration rates which were on average considerably lower than those in the other Western European countries.

Figure 9 – *Results of K-means cluster analysis (5 clusters) of net migration*
rates, 1991-2002 (4-year periods)
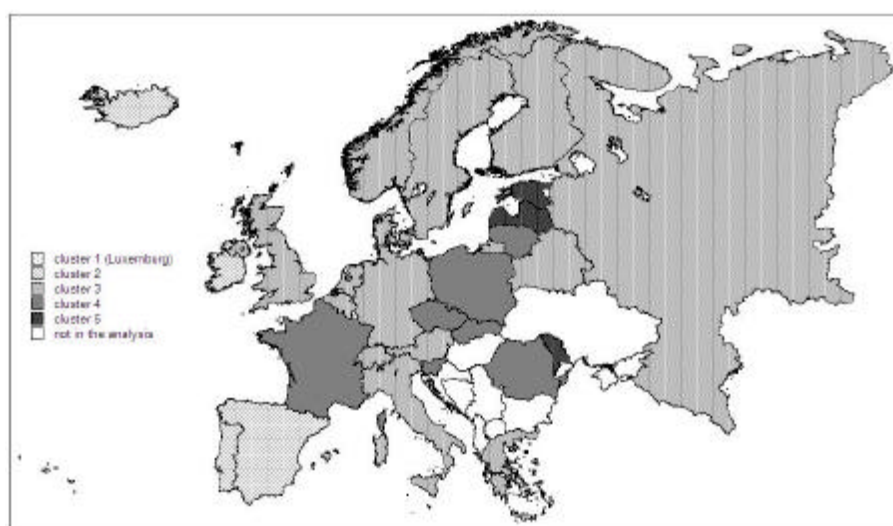
Cluster centres

|	Cluster (N)				
	1 (1)	2 (4)	3 (15)	4 (7)	5 (3)
1991-1994	10.62	0.10	3.45	-0.65	-10.55
1995-1998	9.63	1.53	1.62	-0.04	-3.00
1999-2002	6.83	5.54	2.44	0.12	-1.01

Note: unweighted average net migration per 1000.

countries showed net emigration rates in the 1990s. In the first half of this
period, just after the collapse of communism, net emigration from these
countries was larger than in the second half. The former Soviet republics
Estonia, Latvia and Moldova make up cluster 5. These countries experienced
very large net emigration in the first half of the 1990s. In the second half of
the 1990s and in the beginning of the new millennium net emigration rates
were lower; however, these countries still had the largest emigration rates in
Europe.

The result of the cluster analysis shows that the former communist
countries in Europe can be divided into three groups with different
international migration patterns in the post-communist era. The Czech
Republic, Poland, Romania, the Slovak Republic and Slovenia are the non-

Soviet former communist countries. Russia and Belarus constitute the Slavic former Soviet states. Estonia, Latvia, Lithuania and Moldova comprise the non-Slavic former Soviet states. Figure 10 shows the net migration trend and level for these three groups of countries and the Western European countries in the period 1991-2002.

Figure 10 – *Net migration (rates per 1000) for Western European countries, non-Soviet former communist countries, Slavic former Soviet states and non-Slavic former Soviet states in Europe, 1991-2002 (4-year periods)*[a]
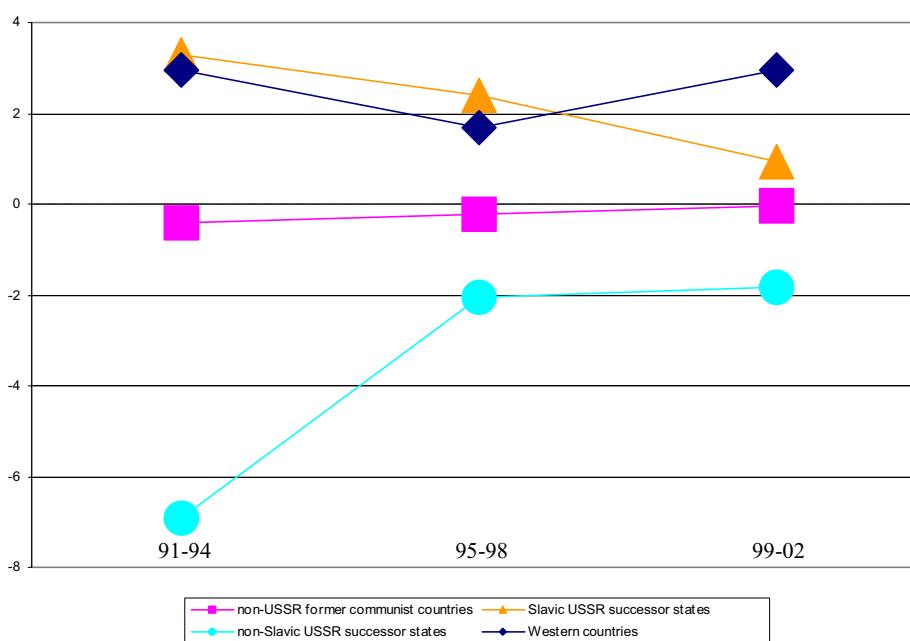
Note: [a] No data for the successor states of the Soviet Union 1991, Slovenia 1991, the Czech and Slovak Republic 1991-1992, Greece 2001 and 2002, Italy 2002, Romania 2001, the UK 1998 and Malta 1998.

Figure 10 shows that in the period 1991-1998 the net migration pattern in Western European countries and Slavic former Soviet states is quite similar, although the causes behind these migration patterns are different. Both Western European and Slavic former Soviet states experienced large net immigration. Net immigration in the second half of the 1990s was smaller than at the beginning of the decade. However, net immigration increased again in the Western countries in the period 1999-2002, while it further decreased in the Slavic former Soviet states. On average the non-Soviet former communist countries had low negative migration rates in the

1990s, which became slightly positive in the new millennium. Net emigration in the non-Slavic former Soviet states was very large. However, in the period 1995-2002 net emigration was considerably lower than in the period 1991-1994.

5. CONCLUSION

In this article an extensive description of international net migration in Europe in the period 1960-2002 was given. Subsequently, K-means cluster analysis was applied to net migration data to substantiate this qualitative description. The main purpose of this analysis was to find out whether it is possible to establish a classification of countries with similar net migration trends over time. Net migration numbers, which are computed as population growth minus natural increase, were used for the analysis. Although the use of computed net migration data has some disadvantages (see section 2) and the data should be treated with caution, we may conclude that these data are useful for comparing net migration trends of many countries with long term series. After all the analysis revealed fairly homogenous groups of countries. For the Western European countries a subdivision could be made between (former) labour-importing and labour-exporting countries for the period 1960-1989. In the last decade of the 20th century, however, this distinction had faded away. The former communist countries on the other hand, were a fairly homogeneous group of countries until 1989, but could be divided into non-Soviet former communist countries, Slavic former Soviet states and non-Slavic Soviet states after the collapse of communism in Europe.

For non-communist Europe three overlapping waves of mobility can be distinguished after the Second World War: the labour migration wave, the family reunification wave and the post-industrial movement wave (White, 1993). These waves of mobility find expression in the net migration pattern of all Western European countries. However, the timing, effect and size of these waves differed in the labour-importing and labour-exporting countries. In general, the former labour-importing countries in Western Europe experienced net immigration in the entire period 1960-2002. Net immigration into these countries was on a higher level in the period 1960-1974 (labour immigration) than in the period 1976-1985 (immigration through family reunification but also emigration through return migration). The second half of the 1980s marked the beginning of the post-industrial wave when net immigration increased again. Generally, the former labour-exporting countries experienced net emigration in the period 1960-1974 (labour emigration) and net immigration in the period 1975-1980 (return

migration). In the second half of the 1990s all former labour-exporting countries had become net immigration countries[11]. In Western Europe the nature of the post-industrial migration wave, which peaked in the first half of the 1990s (especially because of asylum migration), changed in the 1990s. After the collapse of communism asylum seekers and clandestines no longer came only from the south, but from the east as well.

The countries in communist Europe had low emigration rates in the period 1960-1985. In communist Europe many people wanted to migrate to the West. Until the end of the 1980s these people had little opportunity to do so. In the second half of the 1980s net emigration in communist Europe increased as a result of less restrictive emigration policies. Many ethnic Germans, Greeks and Jews left Eastern Europe. In the early 1990s (after the collapse of communism) migration figures in Central and Eastern Europe increased considerably. After the disintegration of the Soviet Union many Slavs returned to their country of origin. Therefore, the Slavic former Soviet states experienced large net immigration in the 1990s. On the other hand, the non-Slavic former Soviet states experienced large net emigration in this period. In the second half of the 1990s this ethnic migration flow decreased as the large pool of Slavs in other former Soviet states had shrunk. The non-Soviet former communist countries experienced low net emigration in the 1990s.

All things considered, it may be said that the multivariate analysis on computed net migration data verifies the qualitative description of international migration patterns in Europe in the period 1960-2002. However, the results of cluster analyses also revealed two findings which cannot be easily traced in the existing literature. Firstly, we saw that after 1980 the former labour-exporting countries can be divided into two groups: those that experienced net immigration in the period 1980-1989 (Finland and Greece) and those that encountered net emigration in this period (Ireland, Italy, Portugal, Spain and Yugoslavia). So, the transition to immigration country was different for these two groups of countries. We have to keep in mind, however, that the quality of the computed net migration estimates may play a part here. Especially for Italy population reconstructions between 1981 and 1991 seem to be highly influenced by different coverage errors between the two successive censuses (Istat, 1996).

Secondly, we saw that the successor states of the Soviet Union can be divided into the Slavic and the non-Slavic states, which experienced considerable net immigration and emigration, respectively. Many scholars

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[11] The Irish Republic (in 1991) and Portugal (in 1993) were the last two former labour-exporting countries that became net immigration countries.

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assume that the Russian Federation is the only successor state of the Soviet Union which has experienced net immigration after the disintegration of the Soviet Union. The results of the cluster analysis for the post-communist era showed, however, that the Belarussian (and probably also the Ukrainian) net migration pattern has been comparable to that of the Russian Federation since the early 1990s.

Identical net migration patterns may hide as much as they reveal. In order to obtain more insight into the differences in migration processes two additional elements should be introduced, viz. explanatory models and a focus on flows. Nevertheless, these subsequent analyses may benefit from the insights in the European migration structure obtained from this study.

Acknowledgements

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