Aspects of International Labour Mobility
in Southern EU Countries

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Abstract
This paper seeks to identify patterns of migration for five south European countries (France, Italy, Spain, Portugal and Greece) during the years 1985-2001. We use two indices to explore the balance of migration for each country with respect to the (remaining) EU15 and also the SE5 as a whole. We are particularly interested in changes in migratory patterns that have emerged following the Schengen agreement (1995). The balance in bilateral migratory flows between Spain, Portugal, Greece and Italy is considered by examining the Perron-Frobenius root for the matrix over two time periods. The balance is shown to have improved after 1995. Finally, we consider some aspects of non-EU15 migration and the problem of asylum seeking.

JEL Classification: F22, J61, O52

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1. Introduction

Immigration in the northern countries of the European Union has attracted the attention of economists and policymakers in recent years (e.g., Apap, 2001, and Constant and Massey, 2003). The upsurge of illegal immigrants and asylum seekers into the EU, particularly into the northern member states, has caused some concern for their politicians. In this paper we focus our attention on the five southern member countries of the EU, namely, Portugal, Spain, France, Italy and Greece (henceforth,

the SE5 countries). Some examples of recent country-specific work in this area include Lianos et al. (1995) and Kule et al. (2000). Sometimes, because of unavailability of satisfactory data, we have to exclude France and consider the remaining SE4 countries. Although southern Europe includes countries which are not in the EU, due to problems of availability and reliability of relevant migration data, we restrict our analysis to the countries mentioned above. All these countries have long coastlines and similar climatic conditions. Agriculture plays an important role in their economies. They are also all strongholds of the Christian faith. Against these similarities, each of these five countries has a language of its own leading to substantial differences in their cultures. This has created an obstacle towards intra-regional migration, particularly for the unskilled rural labour force. Being sea-faring nations, all these countries enjoyed a colonial past in diverse periods of history and these colonial links have facilitated immigration as well as emigration between colonial partners away from Europe. Therefore, a study of labour mobility in this part of Europe during the recent past should be of considerable interest, especially in the context of the relatively recent entry of several of these states into the EU, and associated economic benefits as the EU moves to facilitate intra-EU migration.

This paper looks at various aspects of labour mobility in this region. In the next section, we discuss the framework of our analysis, namely, the indices used to measure the balance in migration and the methods used in the construction of the time-series of data used in this paper. In section 3, we look at the pattern of migration between each of these countries and the rest of the EU. As the process of union in Europe progresses, we should expect that, to some extent, the European economies would converge in the long term through the transfer of technology and direct investments from the richer to the poorer member states. This, in turn, should lead to more balanced migration (e.g. Krugman, 1987). This may not, of course, be true in the short term. Given our period of observation (1985-2001), we shall see whether there are signs that at least some of the economies are moving towards long-term balance in migration. In section 4, we look at intra-regional labour mobility across the SE4 countries (the relevant data from France being unavailable) and pay particular attention to the effect of the Schengen agreement (1995) on labour mobility within the region. In section 5, we look at migration trends between each SE5 nation and selected destinations outside the EU. In section 6, we briefly discuss the problems of illegal immigration and asylum-seeking faced by this region. Section 7 concludes the paper.

2. Net migration intensity indices and data construction

Intra-regional migration is conceptually related to intra-industry trade in which different varieties of the same commodity are traded between two countries. Price competition explains part of this intra-industry trade, although differences in the particular characteristics of these products also play an important role. Similarly, workers with different types of skill migrate from one country to another with differences in wages being an important motivating factor. There is a large literature on balanced intra-industry trade in trade theory and the index commonly used in this context is (Kenen, 1994):

$$I_k = 1 - \frac{\left| x_{ijk} - x_{jik} \right|}{x_{ijk} + x_{jik}} \qquad (1)$$

The index I_k measures the balance of intra-industry trade for the commodity k between two countries i and j with the value of the export of commodity k from country i to country j being expressed as x_{ijk}. The value of the index lies between 0 and 1 with $I_k=1$ implying perfectly balanced intra-industry trade (i.e. $x_{ijk} = x_{jik}$) and the value $I_k=0$ resulting when k is solely exported or imported. Clearly, from (1), I_k has the same value for the two countries, i and j.

We use the notation m_{ijk} to denote the import of the commodity k by the country i from the country j. Since we are considering only the outflow and inflow of labour in physical units, we shall drop the subscript k from I_k, k being understood as labour in physical units. Note, $x_{ijk} = m_{ijk}$, and since we are using the absolute value of net migration, (1) may be written as,

$$I = 1 - \frac{\left| m_{ij} - m_{ji} \right|}{m_{ij} + m_{ji}} \qquad (2)$$

In the context of migration from a country to the rest of the EU, m_{ij} is immigration into country i from country j, where j is the composite country (the rest of the EU). If $m_{ij} > m_{ji}$, $I = 2m_{ji} / (m_{ij} + m_{ji})$ and if $m_{ij} < m_{ji}$, $I = 2m_{ij} / (m_{ij} + m_{ji})$. Therefore, (2) may be written as,

$$I = 1 - \frac{\left| m_{ij} - m_{ji} \right|}{m_{ij} + m_{ji}} \qquad (3)$$

In (3), j has been replaced with u to represent the rest of the EU. This has been done as a prelude to our discussion in the next section where we consider the migration to and from the remaining 14 EU countries. Note, the composition of the countries within group u will depend on the choice of the particular country i. Later on, when

we discuss bilateral migration, the notation u will be replaced by j.

Although the attraction of having a positive index is appreciated, the economic argument behind switching back and forth between relative emigration and relative immigration figures is not clear. There is also a problem in using this index in the context of intra-regional migration. When I is close to 0, we know that migration is largely one-way but the index does not reveal whether emigration outweighs immigration or otherwise. Hence, we also use another index for measuring the intensity of intra-regional migration.

$$I^* = 1/2 \left[1 - \frac{(m_{iu} - m_{ui})}{(m_{iu} + m_{ui})} \right] = \frac{m_{ui}}{(m_{iu} + m_{ui})} \qquad (4)$$

I^* is our second index of intra-regional migration between the country i and the rest of the EU. Again, the value of the index lies between 0 and 1. When migration is perfectly balanced, $I^* = 0.5$. When there is only emigration from (immigration to) country i without any immigration (emigration) from the rest of Europe, $I^* = 1$ ($I^* = 0$). A sharp rise or fall in I^* should not necessarily be a matter of concern; the volume of emigration or immigration should also be taken into account. What is of real interest is whether the trends of these indices are stable around the value of 0.5. If for some countries the index is stable around a value significantly different from 0.5, then there may be some cause for concern.

The main source for the data used in this paper was provided by Eurostat and key aspects in the selection and manipulation of data are outlined below. The Eurostat database provides three ways (leading to three Series) of achieving aggregate migration data for each country with respect to the rest of the EU. The first (Series 1), is taken directly from the pre-aggregated migration data provided by Eurostat for each individual country to/from the remaining EU15 countries. However, the quality of this series was inadequate for our purposes (the series for the SE5 had many gaps) and was not used. Eurostat also provides disaggregated 'bilateral' data series for emigration and immigration between individual countries within the EU15. Series 2, therefore, was constructed by aggregating this data for each country over the remaining EU15 countries and arriving at aggregate immigration (emigration) for that country based on the 'reported' immigration (emigration) data. However, the emigration series tended to be very patchy and so it was often necessary to use a third

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1. By using the combination of Series 2 and 3 data in this way we hope to produce a more consistent time-series of aggregate intra-European migration than would be achievable by attempting to fill the gaps in Series 1 using Series 2 and 3. The reason for this is that, by incorporating gaps in the bilateral migration between countries, the pre-aggregated data appearing in Series 1will be based on different assumptions compared with the combination of Series 2 and 3 where logical attempts were made to fill

series to fill the gaps.[1] Series 3 was generated by aggregating the bilateral migration data for each country over the remaining EU15 countries arriving at aggregate immigration (emigration) for that country based on the 'reported' emigration (immigration) data.

Finally, by definition total intra-EU15 immigration should equal total intra-EU15 emigration. As this was not the case for our data, we normalised our series using the following formulae:

$$\tilde{m}_{iu}^t = \frac{m_{iu}^t}{\sum_i m_{iu}^t} \times \frac{1}{2}\left(\sum_i m_{iu}^t + \sum_i m_{ui}^t\right) \tag{5}$$

$$\tilde{m}_{ui}^t = \frac{m_{ui}^t}{\sum_i m_{ui}^t} \times \frac{1}{2}\left(\sum_i m_{iu}^t + \sum_i m_{ui}^t\right) \tag{6}$$

where m_{iu}^t and $\tilde{m}_{iu}^t$ (m_{iu}^t and $\tilde{m}_{iu}^t$) are, respectively, the original and normalised values of immigration (emigration) for country i in year t. The remaining terms $\sum_i m_{iu}^t$ and $\sum_i m_{ui}^t$ are, respectively, the total levels of intra-EU immigration and emigration in year t.

So far, we have explained the method of arriving at the final data for the analysis in Section 3 which explores the behaviour of indices measuring the balance of migration of each individual SE5 country with respect to the remaining 14 EU15 countries. However, an identical procedure is followed to arrive at the final aggregated data for the more selective study of the balance of migration of each SE4 country with respect to the remaining SE4 countries in Section 4. The poor quality of the available data for France in this context necessitated its exclusion from this part of the analysis. The disaggregated analysis of bilateral migration between pairs of SE4 countries at the end of Section 4 is based on the data used in the earlier part of Section 4 but in its pre-aggregated form. Finally, in Section 5, which looks at migration outside the EU15 countries, the disaggregated immigration and emigration data provided by Eurostat (and OECD) are employed without modification.

3. SE5 Intra-European Migration Intensity and Balance

Figures 1 and 2 and Table 1 deal with migration between each SE5 country and the

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gaps in the reported *bilateral* migration. Some remaining gaps in the bilateral migration data were also filled by averaging the two contiguous values (the year before and the year after the gap). Finally, our time-series include values reported in Eurostat (2003) as provisional or estimated. Details about this and our data manipulations can be obtained on request from the corresponding author.

remaining 14 EU15 countries. Looking at the time-series of index *I* in Figure 1, it seems that after the Schengen treaty the net migration pattern for Greece, Italy and Portugal is reasonably balanced (above *I* = 0.8).
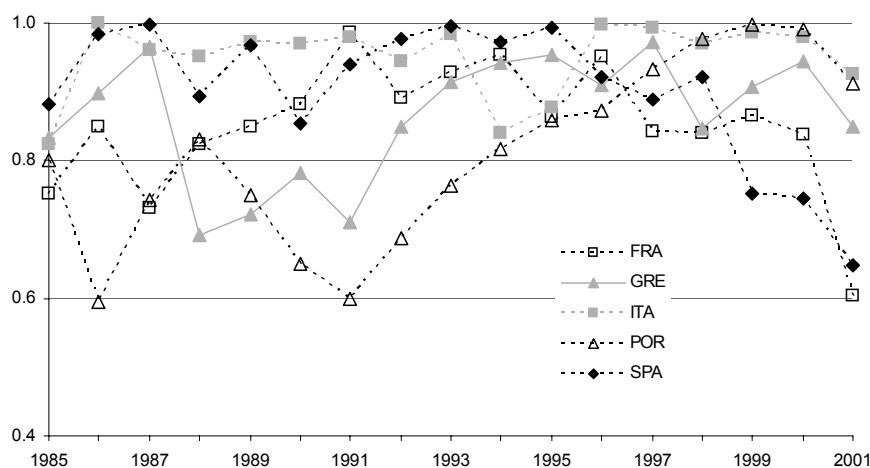

Figure 1 Intra-EU15 Migration Index *I* by SE5 Country

In the case of Portugal, and to a lesser extent Greece, the balance of migration has changed dramatically. Italy's migration, on the other hand, has been relatively balanced throughout. There are two countries, France and Spain, which exhibit notable declines in the balance of migration in the post-Schengen period. First, in the case of Spain, the inflow of migrants has increasingly outstripped the outflow of emigrants, whilst the reverse has been true for France. In Figure 2, the index *I** is continuously declining for Spain in the post-Schengen period (with the 2001 value of *I** much lower than the balanced migration value of 0.5) while in the case of France *I** is continuously increasing and is closer to the 0.7 mark in 2001. In recent years Spain has done well in attracting foreign direct investments (FDI) and both Spain and Portugal benefit from more favourable climatic conditions relative to their north European counterparts. This has led to improvements in their tourism industry and the immigration of prospective hotel-owners and workers in the tourism industry from other countries in the EU. Indeed the relative fortunes of Spain and France are to some extent interrelated. Whilst Spain has enjoyed above average real GDP growth and a marked decline in the rate of unemployment over the period of our study, real GDP growth in France has hovered around the EU15 average and unemployment rates have risen slightly. Migration flows seem to have followed economic success.
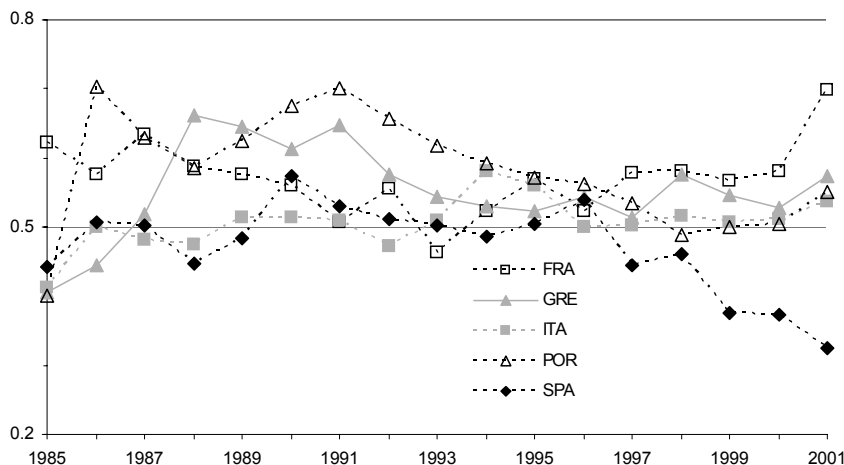
Figure 2 Intra-EU15 Migration Index *I** by SE5 Country

Table 1 provides further insight into the effect of the Schengen agreement on the balance of migration (*I*-index) between each SE5 country and the rest of the EU. The first column shows the overall average value of *I* between 1989 and 2001 for each SE5 country. The second and third columns present the average value of *I* for the pre-Schengen (1989-1994) and the post-Schengen (1995-2001) periods. The fourth, fifth and sixth columns present the P-values for three well-known (2-sided) t-tests for verifying whether the changes in index *I* between the pre-Schengen and the post-Schengen periods are statistically significant. The F-test was carried out to verify whether the variance of the data changed significantly between the two periods, which was necessary for the pooled variances test in column five, which assumes the same variance across periods.

   Table 1 provides an interesting insight into the mobility of labour from each SE5 country to the rest of the EU. In the case of Italy the change in the average index value seems to be negligible. All three tests for the equality of means fail to reject the null hypothesis. In the case of France, the index falls from 0.91 to 0.83 over the two periods, but the change is insignificant at the 5% level for all three tests of the equality of means, though the Welch test just manages to reject the null hypothesis at the 10% level.[2] On the other hand, for Portugal the index increases very significantly with all three tests yielding P-values of below 0.5%. Greece also experiences a sig-

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2. Although the change in the index for France is notable, a large standard deviation reduces its statistical significance.

nificant increase in the index with all three tests comfortably rejecting the null hypothesis at the 10% level. However, whilst the pooled t-test rejects the equal means hypothesis at the 5% level, the use of the pooled test is put into question by the F-test of equal variances which rejects the equality of variances at the 10% level. Finally, like France, Spain experiences a decline in the average value of the index I. However, in this case the change is clearly significant at the 10% level. To summarise, the balance of migration has improved significantly for Greece and Portugal, but has deteriorated significantly in the case of Spain.

Table 1. A Comparison of Average Migration Index I for Intra EU15 Migration by SE5 Country over period 1 (1989-1994) and period 2 (1995-2001)

	Overall Average I (1989-2001)	Period 1 Average I (1989-1994)	Period 2 Average I (1995-2001)	Regular P-value	Welch P-Value	Pooled P-Value	F-test P-Value
FRA	0.87	0.91	0.83	11.75	9.55	10.06	6.24
GRE	0.87	0.82	0.91	8.61	7.69	4.60	5.24
ITA	0.96	0.95	0.96	65.64	64.78	63.97	29.82
POR	0.83	0.71	0.93	0.25	0.05	0.01	22.08
SPA	0.89	0.95	0.84	7.92	5.91	6.26	3.42

On the whole, the trend of intra-EU migration seems to be quite balanced in the post-Schengen period for Greece, Italy and Portugal. For France and Spain there seems to be an adjustment problem in the post-Schengen period. Even then, the mean of index I for these two countries seems to be reasonably high (above the 0.8 mark i.e. the extent of the imbalance is less than 20% of the total flow of migrants).

4. Intra-regional migration within the SE4 countries.

In this section, we examine the balance in intra-regional migration within the southern countries of the EU. Unfortunately, data for France at the required level of disaggregation was not available. Therefore, here we concentrate on the SE4 countries: Portugal, Spain, Italy and Greece. Figures 3 and 4 and Tables 2 and 3 provide the necessary background for the discussion in this section.

The story for each of these 4 countries needs to be told separately. In the pre-Schengen period net immigration to Italy from the remaining SE4 countries was positive. This is evident from Figure 4. In the post-Schengen period, both I and I^* indicate the move towards balanced migration. In Table 2, all three tests on the equality of the average index I in the pre- and post-Schengen periods strongly reject the null hypothesis. In fact, between 1999 and 2001, more Italians migrated to the remaining SE4 countries than arrived from SE4 countries. It seems that Spain has

become more attractive to Italian migrants. This is also supported by a comparison of bilateral indices in Table 3. Greece seems to be a country of net emigrants within the SE4. Although the balance seems to be improving in Figures 3 and 4, much of the improvement is before the Schengen agreement. According to Table 2 all three tests fail to reject the null hypothesis, i.e. the average index I has not changed significantly in the post-Schengen period. For Portugal, in Figure 3, the balance of migration seems to have improved significantly in the 1990's and particularly after the Schengen agreement. Portugal is still a net emigrant country, but it seems that the relative outflow of emigrants is gradually falling over the last decade. In Table 2, all three tests strongly reject the null hypothesis, indicating that the change in the average index over the two periods is *highly* significant. Spain is again a story of success: from the position of being a country with almost balanced migration, it has become a country of net immigrants from the remaining SE4 countries. Like the EU15 countries, it seems that Spain is also a favourite country of destination for the emigrants from the other SE4 countries. This sudden rush of immigrants seems to have occurred in the post-Schengen period (from about 1997).
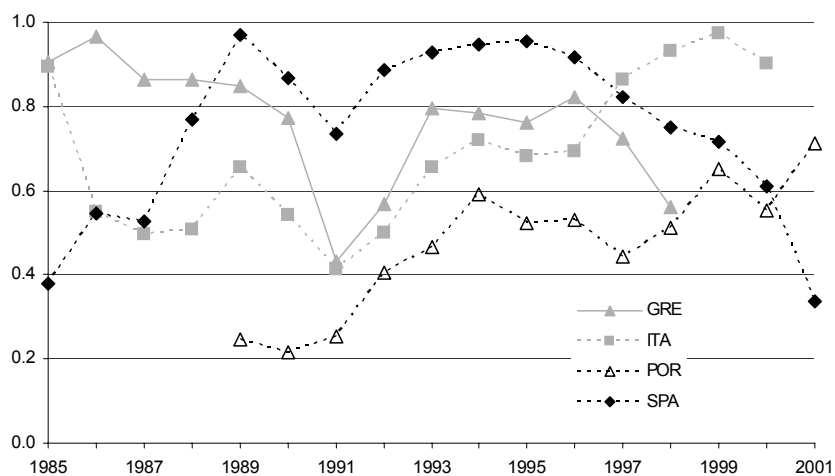

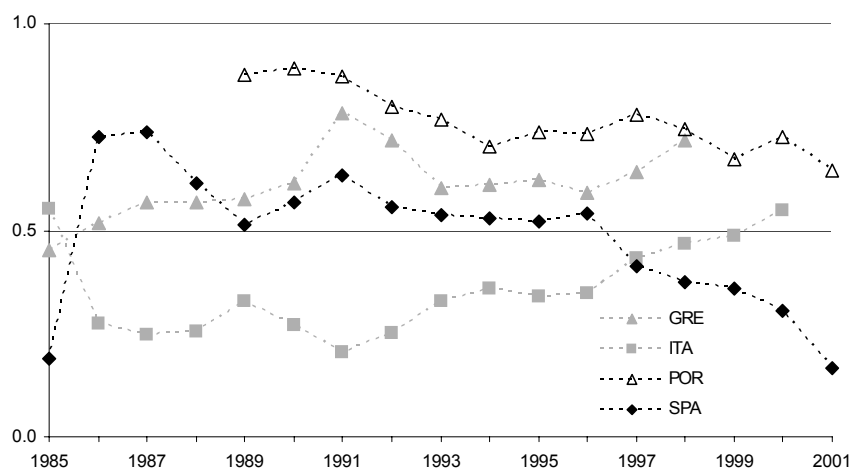**Figure 3** Intra-SE4 Migration Index *I* by SE4 Country

Figure 4 Intra-SE4 Migration Index *I** by SE4 Country

Table 2. A Comparison of Average Migration Index *I* for Intra SE4 Migration over period 1 (1989-1994) and period 2 (1995-2001)

	Overall Average *I* (1989-2001)	Period 1 Average *I* (1989-1994)	Period 2 Average *I* (1995-2001)	Regular P-value	Welch P-Value	Pooled P-Value	F-test P-Value
GRE	0.71	0.70	0.72	87.00	86.37	87.37	28.04
ITA	0.71	0.58	0.84	1.30	0.44	0.37	43.83
POR	0.47	0.36	0.56	3.70	2.24	1.37	13.71
SPA	0.80	0.89	0.73	12.42	10.21	11.02	3.14

Table 3 presents matrices of the average bilateral migration indices (*I*) for the periods 1992-94 and 1996-98 which can be used to determine whether the overall flow of migration within the SE4 countries is becoming more balanced after 1995 or not. For measuring the overall improvement of the balance in migration we shall use the Perron-Frobenius root of the matrix of average bilateral migration indices (*I*). The characteristic root or the eigenvalue (*s*) of a matrix ($A = [a_{ij}]$) is a scalar representation of the matrix ($Ax = sx$) using the vector *x* for transformation. The maximal eigenvalue of the matrix *A*, denoted by *r*, is called the Perron-Frobenius root, which is always positive in the case of non-negative matrices. The Perron-Frobenius root and the associated vector have been used in many contexts in economics, e.g., in linear growth models (see Dorfman, Samuelson and Solow, 1958) and studies of

inter-industry linkages (see Dietzenbacher, 1992 and Mamat, 1997). The Perron-Frobenius root, r, has the property that it increases with respect to an increase in any element a_{ij} of a non-negative matrix. Hence in the context of the matrix of indices as in Table 3, an increase in r may be interpreted as indicating an increase in the balance of net migration across the SE4 countries. The Perron-Frobenius roots for the two matrices in Table 3 are respectively, $r_1 = 2.76$ and $r_2 = 2.93$. Remembering that in case of perfect isolation A is a unit matrix and r attains its minimum value 1. Using 1 as the base value, we can say that the overall balance in migration within the SE4 countries has improved by $0.17/0.176 \approx 10\%$. This is a move in the expected direction but not very impressive. From a different angle, under perfectly balanced migration, all the elements of the matrix A are 1. Since $\sum x_i = 1$ and for any matrix of indices (I), $a_{ij} \leq 1$, r attains its maximum value n (4 in this case). Hence, the value of $r = 2.93$ is well short of perfectly balanced.

Table 3. Average SE4 Bilateral Migration Index I (1992-1994) and (1996-1998)

		1992 - 94					1996-98		
	GRE	ITA	POR	SPA		GRE	ITA	POR	SPA
GRE	1.000	0.671	0.490	0.732	GRE	1.000	0.677	0.547	0.745
ITA	0.671	1.000	0.393	0.661	ITA	0.677	1.000	0.462	0.870
POR	0.490	0.393	1.000	0.543	POR	0.547	0.462	1.000	0.516
SPA	0.732	0.661	0.543	1.000	SPA	0.745	0.870	0.516	1.000

Whilst the matrices in Table 3 summarise the story of bilateral migration between pairs of SE4 countries, they tell us nothing about the direction or relative importance of the bilateral migratory flows. We now briefly discuss these matters. In the case of Italy, which saw a regular net inflow of migrants from Spain, Portugal and Greece in the pre-Schengen period, the post-Schengen period brought a decline in the net inflow of migrants from Portugal and a reversal in the direction of net migration from 1997 onwards with a net outflow of migrants to Spain. The latter is particularly noteworthy given that the total annual flow of migrants (immigrants + emigrants) between Spain and Italy is around 2,500 (roughly 4 times the size of the flow between Portugal and Italy). The pattern of migration between Italy and Greece has remained fairly stable with total annual flows of around 1300. The balance of migration between Portugal and Spain has also remained fairly constant over the period of our study, with a net migrant flow from the former to the latter, although the magnitude of the migratory flows has increased significantly in recent years, climbing from around 1000 in 1992 to just under 5000 in 2001. Finally, whilst Greece saw a

net inflow of migrants from both Spain and Portugal in the pre-Schengen period, there was a reversal in the pattern of net migration with Spain in the post-Schengen period. However, these two migratory channels are relatively unimportant, with total annual flows of migrants of between 40 and 100.

Although data constraints prevented the inclusion of France in the above analysis, it is worth noting that patterns of migration within the SE5 help to explain a large part of the net outflow of migrants from France in recent times. According to OECD figures in 1982, Portugal, Italy and Spain were the largest EU15 contributors to France's stock of foreign population with respective shares of 21%, 9% and 9%. By 1999, the share of each of these nationalities in France's stock of foreign population had declined (respectively, 17%, 6% and 5%), which is even more significant given that France's total stock of foreign population also decreased over this period.

5. Migration between the SE5 countries and selected non-EU countries

Fassmann and Munz (1992) draw attention to a new pattern of migration in the 1980s, with the SE4 seeing a net inflow of immigrants. This change was especially notable in the case of Italy. Political conflicts in the Middle East, South America and Africa, are identified as the primary motivation for these new surges of immigration. Indeed, as might be expected, many of the migratory flows have colonial links. However, the entry into the EC of Greece (1981), Spain and Portugal (1986), along with associated economic growth, are other explanatory factors. France, on the other hand, has a long history as one of Europe's most important destinations for immigrants, due in part to high post-war economic growth and the effects of returning overseas residents in the process of decolonisation.

Tables 4 and 5 present, respectively, the average immigration flows between four of the SE5 countries and the average emigration flows between three of the SE5 countries with respect to non-EU15 countries or regions over different time periods (all destination or origin countries for which the maximum flow appearing in any one period is below 4% are excluded). At the bottom of each category is the figure for the *average* annual immigration or emigration of that country (in thousands) over the stated time period. All other elements in the table are represented as a percentage of this total.

Beginning with immigration in Table 4, it is clear that whilst Italy, Portugal and Spain have experienced increasing immigration (substantial in the case of Spain and to a lesser extent Italy), total immigration into Greece has been declining. All figures in the Table should be set against these trends. All four nations, however, receive less than 50% of their immigrants from other EU15 countries. Greece has seen a sharp drop in its inflow of Poles relative to the late 1980s, but continues to have a

steady flow of immigrants from East European states (especially Bulgaria) and Egypt. Immigration from other EU15 states has declined dramatically. Spain too has seen a decline in the importance of EU15 immigrants and a sharp rise in the number and proportion of immigrants from Morocco, Colombia and Ecuador (the latter two being former colonies). Traditional inflows from Venezuela and Argentina have remained similar in volume but set against a heavy rise in total immigrant numbers, have fallen dramatically in importance. Similarly, Italy has witnessed a dramatic fall in the relative importance of EU15 immigration along with declines in the relative numbers from traditional sources such as the US, Switzerland and Argentina. Again, origin countries of increased importance include Morocco as well as Albania and Romania. From the available data for Portugal it is less easy to establish patterns with much confidence. However, in contrast to the other three countries, immigration from the other EU15 states has grown considerably in the last 10 years. Apart from a modest increase in immigration from Cape Verde, all other key sources of immigration in the early 1990s have declined in importance in relative terms. This is especially true for Brazil and Angola, each of which accounted for about 20% of Portugal's immigration in the early 1990s falling to below 10% by 1996-2001.

We now turn to Table 5 and the issue of emigration. We begin by noting that given the relatively low level of political importance attached to emigration, the figures here are sketchy and are likely, if anything, to understate the true extent of the emigratory flows. In particular, the figures for *total* emigration should be treated with some caution. Nevertheless, comparison of the figures over the three countries for which data was available is quite revealing. Whilst Italy has a long and strong tradition of emigration to other EU15 countries, substantial movement of migrants to the EU15 from Portugal is a relatively recent phenomenon. In complete contrast, Spain's record is of relatively small emigratory flows to the EU15 countries. Indeed, whilst the flow of emigrants from Italy and Portugal is quite concentrated (although Portugal has seen a heavy decline since the late 1980s in emigration to North America), there is no such concentration of Spanish migrants, who are spread thinly over a very large range of destinations.

Finally, although the appropriate data for a breakdown of emigration and immigration flows for France was not available, it is possible to say something about trends in French migration by studying OECD figures on the stock of foreign population. Such discussions must be tentative given that the foreign population in France will naturally increase as immigrants have children and will also be affected by naturalisation policies. However, there are a few points worth noting. First, as identified at the end of Section 4, EU15 countries have a large representation in France's foreign population stock, especially Portugal. Moroccans and Algerians are the se-

cond and third biggest groups after Portugal, with the former increasing modestly in numbers and the latter decreasing sharply since 1982. Finally, the total foreign population has decreased between 1982 and 1999 reflecting, amongst other things, the significant net outflow of migrants to the EU15 indicated in Figure 2.

Table 4. Average Annual Non EU15 Immigration Patterns for the SE5 countries

	1986-90	1991-93	1996-98		1986-90	1991-95	1996-01
GREECE				SPAIN			
EU15 (%)	24.5	15.6	15.9	EU15 (%)	46.0	32.9	19.4
Bulgaria (%)	3.2	5.1	8.8	Switzerland (%)	7.5	11.5	2.3
Cyprus (%)	4.0	1.3	0.4	Romania (%)[‡]	-	0.2	4.1
Poland (%)	10.1	1.6	2.2	Morocco (%)	4.4	11.5	10.8
Romania (%)	2.1	3.5	4.7	Caribbean (%)	1.5	4.2	3.7
Albania (%)	3.7	12.4	3.5	Argentina (%)	7.9	5.4	3.8
Fmr Soviet Union (%)	14.7	30.3	19.8	Colombia (%)	1.1	1.5	12.3
Egypt (%)	4.6	5.8	7.4	Ecuador (%)	0.4	0.4	17.4
TOTAL (000s)	36.7	26.2	19.0	Venezuela (%)	8.4	4.6	2.5
				TOTAL (000s)	24.6	33.3	178.9
	1986-90	1991-95	1996-01			1992-95	1996-01
ITALY[†]				PORTUGAL			
EU15 (%)	28.7	16.4	12.4	EU15 (%)		23.8	46.2
Switzerland (%)	6.7	4.3	3.0	Angola (%)		17.1	9.8
Romania (%)[††]	-	2.6	6.0	Cape Verde (%)		7.6	8.6
Albania (%)[††]	-	3.7	12.2	Guinea Bissau (%)		8.6	6.7
Morocco (%)[††]	16.7	5.7	10.4	US (%)		5.0	2.1
US (%)	4.9	2.7	1.9	Brazil (%)		18.2	8.9
Argentina (%)	6.8	3.7	1.2	TOTAL (000s)		8.6	10.9
TOTAL (000s)	102.8	134.3	187.3				

[†] *Excludes 1993, 1998 and 1999*
[††] *Due to data being unavailable, these figures are based on annual averages excluding 1991-1994 for Romania and Albania and 1986-1989 for Morocco.*
[‡] *Due to data being unavailable, these figures are based on annual averages excluding 1991.*
Dashes indicate data unavailable.

6. Asylum-seeking and Illegal immigration

West Europe has always been a prime target for asylum-seekers from Asia, Africa and Latin America. In 2000, the total numbers of asylum applications to the EU15 countries was about 363,100[3]. About 43% of this number (158,900) sought asylum either in the UK or in Germany. In 1996, the total number of asylum applications to EU15 countries was 227, 800. This represents a rise of about 60% in 5 years. Compared to these figures, only 57,000 applications were made in the SE5 countries in 2000. France and Italy (38,700 and 8,100) are the two countries where most of the applications were made. Spain attracted 7,900 asylum seekers, most of which came from Asia and Africa. Asylum seeking in Greece and Portugal was negligible. Actually, the total number of asylum-seekers in SE5 countries dropped from 59,800 in 1999 to 57,000 in 2000. The only country which suffered an upsurge of asylum-seekers is France, where the figure went up from 30,900 to 38,700. As would be expected, this picture is also reflected in the recorded asylum inflows. However, when we look at the magnitude of these applications against the total population of each destination country, the SE5 countries rank amongst the lowest in Europe. Indeed, in terms of asylum applications per unit population in 2002, of the EU15 countries Germany and France share 9/10th rank, followed by Greece in 12th place, Spain 13th, Italy 14th and Portugal 15th (UNHCR, Population Data Unit).

As in the case of legal immigration, language, economic prosperity and the existence of a multicultural tradition heavily influence the decision of asylum-seekers. The pattern of asylum seeking in the SE5 countries seems to confirm this. The growth in the number of asylum-seekers in Europe has caused some political problems in certain countries in Europe, particularly in the UK and Germany. Asylum seeking is often related to illegal immigration. Many of those who are unsuccessful in their asylum-application disappear within the country to work illegally and inflate the number of illegal immigrants. Moreover, sometimes it takes a while to determine whether an applicant is a genuine asylum-seeker or an economic immigrant. Some theoretical research on illegal immigration may be found in Agiomirgianakis and Zervoyanni (1999 and 2001). Illegal immigration costs the state a substantial amount of money in legal bills. The European countries have recently started to toughen their stance against asylum seeking. Fortunately, it is not a big problem in SE5 countries. France is used to getting asylum-seekers from the turbulent countries in south-eastern Asia and Africa. Given the size of the country, the numbers are not particularly high. Spain gets its asylum seekers from South America but again South Ame-

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3. The data in this section, unless otherwise stated, were reproduced from Eurostat (2002).

rica receives a substantial amount of immigrants from Spain and Italy.

Illegal immigration, by its nature, is unlikely to be fully or accurately measured and where estimates exist at all, they tend to be very tentative. Figures reported in the IOM World Migration Report (2000), set an upper limit on unauthorised migrants in Europe at below 2 million for 1991, rising to around 3 million by 1998. However, according to the Committee on Migration, Refugees and Demography (2001), the volume of illegal migrants might represent between 10 and 15% of the existing migrant population or between 20 and 30% of registered migrant inflows, thus giving rise to a very wide range of estimates.

7. Conclusion

This paper began by exploring the pattern of migration between the southern states of the EU and the rest of the EU15, focusing particularly on the effect of the Schengen agreement on the balance of migration. Using two indices to measure the balance of migration, we have shown that Portugal, Greece and Italy are experiencing reasonably balanced migration with the rest of the EU15. There is an upsurge of net immigration into Spain and an upsurge of net emigration from France to the rest of the EU. We looked at the effect of the Schengen agreement on the balance of bilateral migration amongst Greece, Italy, Spain and Portugal (the relevant data from France being unavailable) collectively using the Perron-Frobenius root of the matrix of bilateral migration. It seems that the balance of migration has improved since 1995 but there is scope for further improvement in the index. Although the mobility of labour between the EU15 and the SE5 countries is most important, all the countries experience substantial mobility of labour with the countries outside the EU15, particularly with the neighbouring countries (like Switzerland) and with countries sharing the same language and historical ties. Finally, we briefly discussed the issue of asylum seekers into the SE5 countries. We noted that, relative to the size of their population, the SE5 countries are at the bottom of the list of EU countries receiving asylum applications.

References

Agiomirgianakis, G., and Zervoyanni, A., 1999, "Illegal Immigration and Macroeconomic Policy Games in Small Open Economies with Heterogeneous Labour", *Department of Economics Discussion Paper No. 59*, London: City University.

Agiomirgianakis, G., and Zervoyanni, A., 2001, "Macroeconomic Equilibrium with Illegal Immigration", *Journal of Policy Modelling*, 23, 1-16.

Apap, J., 2001, "Shaping Europe's Migration Policy", *CEPS Working Document No. 179*.

Constant, A., and Massey, D. S., 2003, "Self-Selection, Earnings, and Out-Migration: A Longitudinal Study of Immigrants to Germany", *Journal of Population Economics*, 14, 631-53.

DICE Reports on Intra-European Mobility, 2001, CES-Ifo Forum, Munich: Ifo Institute for Economic Research.

Dietzenbacher, E., 1992, "The Measurement of Interindustry Linkages: Key Sectors in Netherlands", *Economic Modelling*, 9, 419-37.

Dorfman, R., Samuelson, P.A. and Solow, R., 1958, *Linear Programming and Economic Analysis*, London: McGraw-Hill.

Eurostat, 2002, *European Social Statistics: Migration,* Eurostat: Luxembourg.

Eurostat, 2003, *Population and Social Conditions: International Migration Flows*, Eurostat: Luxembourg.

Fassmann, H., and Munz, R., 1992, "Patterns and Trends of Migration in Western Europe", *Population and Development Review*, 18, 457-80.

IOM (International Organisation for Migration), 2000, *World Migration Report*, UN publications: Geneva.

Kenen, P.B., 1994, *The International Economy*, London: Cambridge University Press.

Krugman, P.R., 1987, Economic Integration in Europe: Some Conceptual Issues, in T. Padra Schioppa (ed.) *Efficiency, Stability and Equity*, Oxford: Oxford University Press.

Kule, D., Mancelliari, A., and Papapagonas, H., Quirici, S., and Sanfey, P., 2000, "The Causes and Consequences of Albanian Emigration during Transition: Evidence from Micro Data", *Department of Economics Discussion Paper No. 00/04*, University of Southampton, UK.

Lianos, T. P., Sarris, A., and Katseli, L. T., 1995, "The Impact of Illegal Immigration on Local Labour Markets: the Case of Northern Greece", Paper presented at a CEPR workshop on The Political Economy of Illegal Immigration, Halkidiki.

Mamat, M.N.B., 1997, *Interindustry Linkages and the Unbalanced Growth Approach to Economic Development with special reference to the Malaysian Economy*, Unpublished Ph.D. thesis, University of Hull.

OECD, 2002, *Trends in International Migration: Continuous Reporting System on Migration*, OECD: Paris.

UNHCR (United Nations High Commissioner for Refugees), Population Data Unit.