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HUNGARIAN ACADEMY OF SCIENCES**

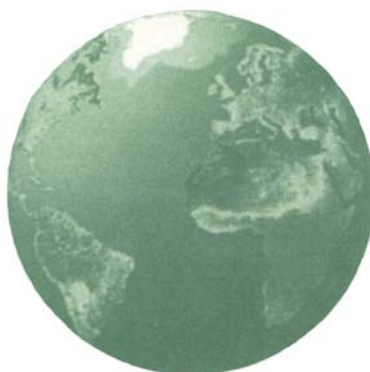
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Klára Fóti

**POTENTIAL MIGRATION FROM HUNGARY
TO AUSTRIA AFTER EU ACCESSION
AND POSSIBLE IMPACTS OF THIS**



1014 Budapest, Orszagház u. 30.
Tel.: (36-1) 224-6760 • Fax: (36-1) 224-6761 • E-mail: vki@vki.hu

SUMMARY

This paper is an attempt to estimate and evaluate the migration potential from Hungary to Austria after EU accession. The analysis is based primarily on current tendencies and also takes account of the main findings of several earlier estimates of migration potential. The paper also focuses on the expected composition of the potential migration.

Most previous studies of migration potential have failed to divulge detailed information on the labour markets of the source and receiving countries. Here, with Hungary as a source country and Austria as a receiver, the author has been able to focus on these issues. She set up a simulation model based on internal mobility within Hungary. Although in general, there are problems with extrapolating from internal mobility to international migration, the results do not seem to contradict other estimates and could serve as a lower estimated limit for cross-border population movement. Furthermore, internal mobility within Hungary has some implications for migration to Austria, especially in relation to its potential scale. The results of the simulation model show that some ten years after free movement of labour has been applied, the annual inflow from seven countries examined would be about 87,000. The order of magnitude seems compatible with most recent estimates, which predict a movement of 85,000 people within ten years, from eight CEE countries. (Romania and Bulgaria are excluded, but the Baltic states included.) The results for Hungary seem to be low (a total annual outflow to the EU of 7000), but they do not contradict previous estimates predicting annual outflows to Austria of 4000.

Recent Austrian plans and likely spontaneous developments both point towards an improvement in the skill levels of potential migrants. The government intends to reinforce and extend the current system of bilateral agreements on cross-border commuters (*Grenzgänger*) and other

commuters (*Pendler*), to cover Slovakia, for instance. These will be temporary arrangements until free movements of labour apply. Work contracts under these agreements have been available primarily to highly skilled workers. The aim of these agreements is to facilitate further regional integration. (Some projects with this aim are already in progress.) It is planned that employment regulated by the bilateral treaties will be removed from the national quota system.

Spontaneous developments could also lead to higher skill levels among potential migrants, for both supply-side and demand-side reasons. As regulations are gradually liberalized, there is less and less 'incentive' to work illegally. Furthermore, closer co-operation between the two countries after Hungary's accession to the EU can make the control mechanism more efficient (for example, discouraging tax evasion). Moreover, some efforts have been made by Hungarian workers to lobby for better, more equal working conditions, through organisations and trade unions. Wage developments in Hungary and the albeit slow process of catching up may also contribute to making would-be commuters more selective in the jobs they take in Austria. On the demand side, the paper shows that even in once relatively underdeveloped Burgenland, the highest number of vacancies are found in jobs requiring some sort of qualification. Demand for highly skilled labour may increase in the coming years and decades, due also to demographic developments. The improvement in the skill levels of potential migrants will alleviate fears of harmful distribution effects of increased migration. The most vulnerable groups – unskilled workers – are not likely to be crowded out of the labour market by a rising inflow of Eastern European labour.

INTRODUCTION*

Most politicians and migration experts agree about the order of magnitude of the potential migration from the Central and East European (CEE) countries to be expected after their accession to the European Union. A major study for the European Commission (Boeri and Brücker 2000) concluded that potential migration would not be on a scale to bring general commotion on labour markets of current members, but Austria and Germany, especially regions close to borders with entrant countries, could be affected more than others. Further focused research is needed to arrive at an estimate of the migration and likely scenario for labour-market integration between Austria/Germany and neighbouring CEE countries, all the more because research on migration potential up to now has lacked detailed information on the labour markets concerned.

This paper is an initial attempt to fill the gap in Hungary's case (i) by estimating the migration potential and (ii) by projecting future impacts from current developments. For the first, I have prepared a simulation model that takes account of the low internal mobility – an important aspect of the Hungarian labour market. With the second, the paper focuses on current and prospective integration of the Austrian and Hungarian labour markets. Although the second seems quite a broad issue, closely related also to trade relations and capital flows, it is essential because recent Austrian research has confirmed that migration to Austria has mainly been driven by demand. (See, for example, Demel and Bender 1999.) It is cogent to know whether this will apply after accession as well.

The paper concentrates mainly on potential movement of labour, but the related topics just mentioned should not be ignored, for they too could have an important impact on migration. For example, both theory and practice suggest that trade developments and capital inflows can affect wage developments to a considerable extent and thereby influence migration decisions. Furthermore, labour-market integration is shaped by trade and capital flows as well. Once this has been realized, it becomes easy to understand that the process has been taking place for some time, especially in the specific case of Hungary and Austria, where economic relations between them had started to intensify even before the *Ostöffnung* and the transition period. This was due partly to measures taken by the Hungarian government in the late 1980s to liberalize foreign direct investment regulations and attract capital, and to earlier efforts to reform the socialist system in Hungary. The starting point for this paper is therefore that labour-market integration between the two countries has been an ongoing, long-term process, which is not expected to undergo further major changes with the single act of EU accession. Recent decisions to introduce a seven-year transition period in the free movement of labour for citizens of candidate countries make this hypothesis even more probable, for it means that the current situation in this respect will remain unchanged. (The Europe Agreements of the 1990s left regulations on labour migration from the CEE within the competence of individual EU members.)

The paper first gives a brief and critical overall view of the published estimates for potential migrants made so far. It then presents the main results of the simulation model and interprets them in the light of the previous estimates. The second section analyses the current available data on migration from Hungary to Austria, including the number and structure of the commuters, based on official Austrian and Hungarian data and recent Hungarian empirical surveys. The third section touches on possible economic developments in Hungary that

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could affect migration and commuting (e.g. wage developments within the context of the transition period so far and possible changes in labour mobility due to regional development). Migration to Austria has been driven hitherto by demand. This is not expected to change much, and in terms of the future inflow of Hungarian labour into Austria, this is an important issue. The same section therefore looks at some current data on labour demand in Austria. The final section evaluates the findings and tries to forecast possible consequences of future migration patterns.

1) PREVIOUS ESTIMATES OF NUMBERS OF POTENTIAL MIGRANTS

There is keen political and research interest in potential migration from CEE to current EU member-states. This reflects strong fears of massive migration from candidate countries into neighbouring EU member-states once membership and free movement of labour apply to them. Several studies have therefore been made in the last couple of years to estimate the potential migration, but these present numerous problems of methodology, evaluation and comparability. According to Peter Huber, a well-known Austrian expert, there have been no less than 24 such estimates so far, with results for the ten candidate countries varying considerably from 41,000 to 680,000 migrants a year. This spread over an order of magnitude, he adds, is due to various different methods being applied and to the various scenarios on which the forecasts were based.

Even in cases where the results have been similar, they are often difficult to evaluate and compare, as they have been obtained by different methods. Each of the two commonest approaches has its limitations and advantages and disadvantages. For example, the empirical findings of a survey about plans to migrate, taken at a certain

time, may be strongly influenced by current political and economic events at home and so scarcely reflect migration potential in the future. (The fact that a survey shows only a snapshot is emphasized also by Landesmann 1999, p. 2.) Econometric analysis based on macro data has no such disadvantage, but incomplete data can prevent this kind of research from giving a clear picture of the composition of potential migration, which is important especially a political point of view.¹ Estimates of this kind also have their own limitations because although their starting point, income differentials, is among the most important rationales behind migration decisions, other factors could also play a significant role. Unsurprisingly, estimates based only on income differentials seem to confirm fears of massive migration. According to one well-known example, Franzmeyer and Brücker (1997), the number of potential CEE migrants could lie between 340,000 and 680,000 persons.

So far there have been relatively few empirical surveys carried out in candidate countries to establish people's migration intentions. One, taken in 1996 in Hungary, Poland, the Czech Republic and Slovakia, put the number of 'actual' migrants who had taken some direct steps (e.g., submitted an official request for a work permit) at about 700,000 (Fassmann and Hintermann 1997). The figure in Hungary alone was about 60,000, which seems realistic, as another poll, the Hungarian Household Panel Survey (HPP), found a similar number (57,000–101,000) seriously intending to migrate. (They responded in the affirmative in consecutive surveys in 1993 and 1994. See Sik 1998.)

Apart from its big advantage of recording responses at more than one point in time, the HHP also provides useful information on the composition of the potential migrants. The main results here match inter-

¹ For example, such CEE/EU studies have yet to address the issue of skill composition, although other international studies have done so (Borjas 1999). (I am grateful to Michael Landesmann for reminding me of this.)

national experience: they are mostly young, highly qualified males (Sik 1998). The HHP revealed hardly any change in migration potential during the 1990s, with a consistent 6 per cent expressing such intentions in 1993, 1994 and 1997. (Some 3–4 per cent of respondents envisaged short-term work abroad and 1–2 per cent wanted to emigrate.)

Although surveys taken at several points in time are undoubtedly more reliable than those taken at only one point, Landesmann's criticism seems to apply to the HHP as well, since it covers a relatively short period when economic growth was still sluggish. (Stronger expansion of 4–5 per cent annual GDP growth began in 1997, although it still did not translate into improved living standards.)

The other estimates also have numerous problems. One difficulty with empirical surveys lies in statistical errors deriving from sampling. In the 1996 survey mentioned earlier, which was carried out by the Institute for City and Regional Research of the Austrian Academy of Sciences, August Gächter (2000) points to the confidence interval and contradictions between the estimated results and reality. Although it revealed some interesting findings about the composition of the potential migrants, some of the groups were so small that it was hard to reach meaningful, statistically significant conclusions from them. Another problem with empirical surveys in general is often that the questions are too general. They only inquire into the respondents' intentions of staying abroad, but do not go into detail about their specific plans on arrival. It then becomes hard to draw any conclusions about the expected labour migration. The problem over the total migration potential also applies to the HHP.

With these caveats in mind, it is still worth drawing some conclusions about the potential numbers of migrants to Austria from some CEE countries, including Hungary. However, it is worth also taking into account the simulation model I have pre-

pared. This and the results from it are the subject of the next section.

2) SIMULATION MODEL BASED ON HUNGARY'S INTERNAL MOBILITY, COMPARED WITH OTHER ESTIMATES

In an attempt to consider other factors than income differentials, the model also considers internal mobility within Hungary.² The results refer to migration potential from eight countries (Hungary, Poland, Slovenia, Slovakia, the Czech Republic, Poland, Romania and Bulgaria).

As a starting point, I took the migration parameter first applied for CEE migration potential by Franzmeyer and Brücker (1997) and later adopted by others. (0.008 for 10 per cent in GDP differential). To make the comparison with the model on Hungary's internal mobility, I tried first to estimate the potential purely on income differentials. The results would reflect, of course, a high migration flow (*Tables 1 and 2*). Apart from the calls of comparison, I found it necessary to make estimates based on income differentials only also because the model has some distinguishing features from those described in the previous section (and from the initial attempt – see Note 2.) They are as follows:

- (1) In the past few years, the basic item of data used in almost all models (GDP/per capita at PPP) has undergone revision in all candidate countries to make it compatible with calculations in the EU. This has changed the values considerably.

² Thomas Straubhaar and I (Straubhaar and Fóti 1999) estimated migration potential with the help of a similar model. I would like here to express thanks to him and a colleague of his, Hubertus Hille. Although the starting point for the calculations was the same migration coefficient that I have applied now, I have updated and improved my part and therefore take full responsibility for the model presented here.

- (2) As the first wave of accession countries approaches, developments can be forecast more clearly and specifications for the model tuned and improved. One big advance was settlement of the timetable (eight CEE countries admitted in 2004 and two more in 2007).
- (3) Future developments are of special importance in the model, so that the added certainties contribute to gaining a realistic picture. However, the forecast starts only at 2006, four years later than those in most of the other models. On the other hand, current signs of recession in the world economy were not visible earlier.
- (4) I included in the simulation only countries of special importance as sources of potential migrants to Austria. (I omitted the Baltic states.) Since Romania and Bulgaria will be admitted to the Union in the second wave, a couple of years later, the forecast in their case starts in 2010, by which time I assume that they too will be covered by free labour-movement provisions.
- (5) The economies of the CEE countries have been growing at different speeds and I have differentiated between them according to their prospective growth rates.

For growth rates, I set up optimistic and pessimistic scenarios.³ In the optimistic scenario, Poland, Hungary and Slovenia seemed to be the fastest growers and I estimated their growth rate at a constant 4 per cent over the whole period. (Much higher estimates advanced by high-ranking government officials in Hungary I dismissed as unrealistic, especially over the longer term.) I assumed that growth in the other candidate countries could also be influenced by the accession, and so for the Czech Republic

³ In the optimistic scenario, I tried to be more cautious this time, in view of current developments in the world economy. Instead of forecasting real annual GDP growth of 6 per cent for all the CEE countries examined, my improved and updated model differentiated among countries and over time. (See *Tables 11–17* in the Appendix.)

and Slovakia I calculated initially with 3 per cent growth, and later, when the 2004 accession date became clear, I raised it to 4 per cent. In Romania, my initial estimate was 2 per cent, gradually improving after 2004 to 3 per cent. However, it was assumed that the rate would catch up those of other countries in the region only after accession, which I assumed would take place in 2010. Bulgaria is expected to enter the EU at the same time, but its growth rate was estimated at 3 per cent from an earlier date. Meanwhile the growth rate in the EU was put at 2 per cent for the whole period. In the pessimistic scenario, growth was put at a constant 2 per cent for the candidate countries and the existing EU. (For the data applied, see *Tables 11–17* in the Appendix.)

In the other two estimates, labelled ‘low migration flow’, the low internal mobility in Hungary was also considered. I calculated across the whole region with the Hungarian rate of mobility, on the assumption that this would not differ to any considerable extent. (The assumption is supported by the many common factors, such as poor infrastructure, high transport costs, scarcity of rented housing, *etc.*) As a result, the original 0.008 migration parameter declined to 0.0015. Otherwise, the same data were applied (GDP/capita in PPP, real growth rate, differences in GDP/capita values relative to the EU average, populations, and population growth rate).

The results differ greatly, due to the considerable difference in the two migration parameters applied (annual averages for 2006–18 estimated from 37,000 or 28,000 to 7,000 or 5,000). However, I think it is realistic to assume that the migration potential will lie between the two indicative extremes. The upper limit seems unrealistic even compared with earlier research, although results for the early period are not far from these. According to Brücker and Boeri (2000), potential annual flow from the CEE 8 (excluding Bulgaria and Romania, but including the Baltic states) could be put at an initial 200,000, declining to 85,000 by the end of the first ten-year period. Sinn *et al.* estimated the initial

Table 1
Migration potential from CEE countries to the EU in 2006–18, based on income differentials (high migration flow) and with a catching-up process

Year	Romania	Bulgaria	Poland	Hungary	Slovakia	Czech Republic	Slovenia	Σ	Σ PL, H, SK, CZ, SLO
2006	...	...	171889	34260	21770	31978	3476	263373	263373
2007	...	...	168758	33160	21279	30847	3216	257258	257258
2008	...	...	165599	32059	20783	29710	2954	251104	251104
2009	...	...	162412	30959	20283	28567	2690	244910	244910
2010	128490	46566	159195	29872	19779	27418	2423	413743	238687
Σ 2006-2010	128490	46566	827852	160309	103893	148519	14759	1430388	1255332
∅	...	...	165570	32062	20779	29704	2952	286078	251066
2011	126558	45785	155947	28783	19270	26263	2155	404761	232417
2012	124636	45010	152668	27691	18757	25100	1883	395745	226098
2013	122724	44242	149354	26596	18238	23930	1609	386694	219728
2014	120821	43481	146006	25497	17715	22752	1332	377604	213302
2015	118926	42725	142622	24395	17186	21565	1052	368471	206820
2016	117040	41976	139200	23288	16651	20369	769	359293	200277
2017	115162	41232	135739	22176	16110	19164	483	350065	193671
2018	113292	40494	132236	21059	15564	17948	192	340785	186999
Σ 2011-1018	959159	344946	1153772	199486	139490	177090	9476	2983418	1679313
∅	119894.9	43118.25	144221.5	24935.69	17436.19	22136.2	1184.5	372927.2	209914
Σ 2006-2018	1087649	391512	1981624	359794	243383	325609	24235	4413806	2934645
∅	120850	43501	152433	27676	18722	25047	1864	339524	225742

Source: Own calculations based on the data from the WIIW (population) and Deutsche Bank (GDP).

Table 2
Migration potential from CEE countries to the EU in 2006–18, based on income differentials (high migration flow) and the same (stagnant) growth in both regions

Year	Romania	Bulgaria	Poland	Hungary	Slovakia	Czech Republic	Slovenia	Σ	Σ PL, H, SK, CZ, SLO
2006	...	...	187150	39120	23405	35694	4848	290217	290217
2007	...	...	186623	38827	23328	35498	4822	289096	289096
2008	...	...	186096	38536	23251	35302	4795	287981	287981
2009	...	...	185572	38247	23174	35108	4769	286871	286871
2010	132049	48381	185049	37980	23098	34915	4743	466215	285785
Σ 2006-2010	132049	48381	930490	192710	116255	176517	23977	1620380	1439950
∅	...	...	186098	38542	23251	35303	4795	324076	287990
2011	130992	47891	184527	37715	23022	34723	4718	463587	284704
2012	129944	47405	184007	37451	22946	34532	4692	460976	283627
2013	128904	46924	183488	37189	22870	34342	4667	458384	282556
2014	127873	46448	182970	36929	22795	34153	4641	455810	281489
2015	126849	45977	182455	36671	22720	33965	4616	453253	280427
2016	125834	45511	181940	36415	22645	33779	4591	450715	279369
2017	124827	45049	181427	36160	22570	33593	4566	448193	278317
2018	123828	44592	180916	35908	22496	33408	4541	445689	277268
Σ 2011-1018	1019053	369798	1461729	294439	182063	272495	37031	3636608	2247757
∅	127381,6	46224,72	182716,1	36804,87	22757,88	34061,84	4628,933	454575,9	280970
Σ 2006-2018	1151101	418179	2392219	487149	298318	449012	61009	5256987	3687707
∅	127900	46464	184017	37473	22948	34539	4693	404384	283670

Source as Table 1.

figure at 240,000, declining to 125,000 by the end of the first ten years. In my simulation model, the initial 2006 figure is 263,000, with a slower decline to a maximum of 187,000.

However, the lowest limit also seems unrealistic, as mobility in Hungary is very low. A distinction needs making between international migration and internal mobility. It would be a mistake to extrapolate from low internal mobility to low motivation for international migration.⁴ Reasons for the former are very specific to CEE countries. (Details for Hungary appear later in the paper.) However, low internal mobility has direct implications for potential migration to Austria mainly through commuter numbers. These could be worth considering when calculating the lowest limit of migration potential.

The potential number of Hungarians over the whole period examined (between 2006 – the earliest date when free movement of labour could be applied after the earliest possible accession – and 2018), the average annual migration flow could be less than 20,000.⁵ Of these, the people who choose Austria would be well below 10,000 (according to the experience, more than half the Hungarians who go to the EU prefer Germany). The initial total outflow from the country of around 20,000 could decline to 10,000 towards the end of the second decade, meaning a potential migration of less than 5,000 a year to Austria by that time. This corresponds to other estimates (surveys and econometric models). They ‘forecast annual migration flows from Hungary to Austria in the region of 4000 people over a period of about ten years’ (Cséfalvay, Matolcsy and Landesmann 1999).

⁴ For example, large disparities in human capital endowments between regions within one country could contribute to low internal mobility, whereas this applies less to international migration.

⁵ In the initial model, where Straubhaar considered the experiences of migration from the less developed Mediterranean member countries (Greece, Portugal and Spain), Hungary’s potential was estimated at 13,000 (Straubhaar and Föti 1999).

When estimating potential migration from Hungary to Austria, it is worthwhile distinguishing clearly between migrants and commuters, which only a few estimates have done. The annual increase in the flow of commuters has been put at about 2500 in some estimates (scenario with rapid equalization of wage levels) and 4000 in others (assuming slow nominal wage catch-up), for a period of 7–8 years (see Cséfalvay *et al.* 1999). The gravity model of Peter Huber (1998) also sought to estimate commuter numbers. He estimated that about 17,000 Hungarian, Czech and Slovenian commuters would be working in directly neighbouring Austrian regions five years after the introduction of free movement of labour, and a further 32,000 in urban areas, especially Vienna.⁶

Looking at Austrian Labour Office (AMS) data at the end of the 1990s (1998), this estimate seems quite high, as the total numbers of all workers from all three countries (not just commuters) stood at less than 19,000 (6067 from Slovenia, 3982 from the Czech Republic and 8675 from Hungary). Huber’s estimate may seem realistic taking into account the other estimate of a 2500 annual increase from Hungary, for example. Nor do results of the Hungarian Household Panel contradict these findings, as 0.2 per cent of respondents (about 15,000 people) said in two consecutive years that they would like to work in Austria for a short time. (Of course, this does not mean that all would be commuters, but the number can be regarded as a proxy in view of the short period cited.) Interestingly, almost the same number for cross-border migration from Hungary to Austria emerged from the 1996 empirical survey in the Visegrád countries⁷ (Fassmann and Hintermann 1997), although their estimate of 16,000 is the lower limit of a very wide range, where the upper limit is a massive 524,000. For as one study

⁶ According to some Austrian experts, the highest proportion of commuters would come from Slovakia. They assume that the number of potential Slovak commuters after EU accession would be about 100,000 (quoted in Walterskirchen 2000).

⁷ The Czech Republic, Hungary, Poland and Slovakia.

Table 3
Migration potential from CEE countries to the EU in 2006–18, based on internal mobility within Hungary (low migration flow) and with a catching-up process

Year	Romania	Bulgaria	Poland	Hungary	Slovakia	Czech Republic	Slovenia	Σ	Σ PL, H, SK, CZ, SLO
2006	...	...	30993	6168	3921	5801	626	47509	47509
2007	...	...	30563	5991	3848	5619	580	46601	46601
2008	...	...	30122	5812	3773	5434	534	45675	45675
2009	...	...	29669	5634	3697	5245	487	44732	44732
2010	23168	8379	29204	5454	3618	5054	439	75317	43770
Σ 2006-2010	23168	8379	150552	29059	18858	27152	2666	259834	228287
∅	...	...	30110	5812	3772	5430	533	51967	45657
2011	22954	8288	28727	5272	3538	4859	391	74029	42787
2012	22737	8196	28238	5087	3456	4661	342	72718	41784
2013	22518	8104	27735	4900	3373	4459	293	71382	40760
2014	22297	8011	27219	4711	3287	4254	242	70022	39715
2015	22072	7917	26690	4520	3200	4046	192	68637	38648
2016	21845	7823	26148	4326	3110	3834	140	67226	37558
2017	21615	7728	25591	4130	3019	3618	88	65790	36446
2018	21383	7633	25020	3932	2925	3399	35	64326	35311
Σ 2011-1018	177421	63700	215369	36879	25908	33130	1723	554130	313009
∅	22178	7962	26921	4610	3238	4141	215	69266	39126
Σ 2006-2018	200589	72079	365921	65938	44766	60282	4390	813964	541296
∅	22288	8009	28148	5072	3444	4637	338	62613	41638

Source as Table 1.

Table 4
Migration potential from CEE countries to the EU based on internal mobility within Hungary (low migration flow), with same (stagnant) growth in both regions

Year	Romania	Bulgaria	Poland	Hungary	Slovakia	Czech Republic	Slovenia	Σ	Σ PL, H, SK, CZ, SLO
2006	...	...	34951	7335	4371	6726	909	54292	54292
2007	...	...	34989	7304	4372	6715	906	54285	54285
2008	...	...	35027	7273	4373	6704	903	54279	54279
2009	...	...	35066	7242	4373	6693	900	54274	54274
2010	24759	9071	35104	7215	4374	6682	896	88102	54271
Σ 2006-2010	24759	9071	175137	36368	21863	33520	4514	305232	271402
∅	...	...	35027	7274	4373	6704	903	61046	54280
2011	24682	9025	35143	7188	4375	6671	893	87976	54270
2012	24605	8978	35181	7161	4376	6660	890	87851	54268
2013	24528	8932	35220	7134	4377	6649	887	87726	54266
2014	24451	8886	35258	7107	4378	6638	884	87602	54265
2015	24375	8840	35297	7081	4379	6627	881	87479	54264
2016	24298	8795	35336	7054	4379	6616	878	87356	54263
2017	24223	8749	35374	7028	4380	6605	875	87234	54262
2018	24147	8704	35413	7001	4381	6594	872	87112	54261
Σ 2011-1018	195308	70910	282223	56753	35025	53057	7061	700336	434119
∅	24413	8864	35278	7094	4378	6632	883	87542	54265
Σ 2006-2018	220067	79981	457360	93121	56888	86577	11575	1005568	705520
∅	24452	8887	35182	7163	4376	6660	890	77351	54271

Source as Table 1.

of the future of Hungarian-Austrian relations notes, the lower limit is 'generally accepted as being the more realistic' (Cséfalvay and Matolcsy 1999).

As regards flow data (as opposed to stock, which was used by Huber) and the total number of workers from the CEE countries, the estimate by Franzmeyer and Brückner (1997) is that 23,000–45,000 people a year could migrate to Austria. Dietz and Walterskirchen (1998) arrived at similar results by similar methods, concluding that 30,000–40,000 people would go there. These estimates are based only on income differences, but Walterskirchen assumes in the light of migration experiences from the Southern countries, about 200,000 Eastern Europeans could migrate to Austria after EU accession, over a period of ten years.⁸

Some interesting empirical surveys were carried out in Hungarian regions bordering on Austria recently, among current commuters and among those planning to go abroad. These also yield some findings about the potential number of commuters and/or migrants. First, however, it is worth looking at the present situation: the composition of Hungarian workers employed in Austria today.

3) HUNGARIAN WORKERS IN AUSTRIA – NUMBERS AND PATTERNS

This section begins by reviewing some features of Austrian employment of Hungarians. Some data on commuters are then analysed. Finally, the characteristics and composition of the commuters are examined on the basis of recent empirical surveys.

⁸ Walterskirchen notes elsewhere in his article that the biggest flow of 123,000 could be expected from Poland. According to findings by Polish researchers (Orlowski and Zienkowski, 1999), a range of 23,000–61,000 seems realistic.

3.1. Overview

It is difficult to compare data from the population census or Fremdeninformationssystem (FIS, aliens' register) with those from the Austrian Labour Office (AMS) as the coverage is different in part. Nonetheless, employment is clearly the dominant activity among Hungarians resident in Austria. (According to FIS, there were 15,493 residents with Hungarian citizenship in mid-2000. According to the AMS, there were 11,071 Hungarians employed in Austria at that time.) The dominance of the employed has been increasing for a couple of decades: 61 per cent of Hungarians in Austria were employed at the beginning of the 1970s and 66.4 per cent in 1991. Although comparable data has not been available since then, FIS shows that some 70 per cent of the registered Hungarian population in Austria in 1998 were employed (wage or salary earners). The increase persisted despite a slight fall in employment in the second half of the 1990s 'almost certainly as a consequence of the restrictive employment policy towards persons of third country origin' (Intensification 1999). The only explanation for this is that the Hungarian resident population decreased even more. This is supported by data from FIS, which show a slight decline in 1995. *Table 5* shows that the geographical concentration of employees from Hungary has been increasing.

The geographical structure reflects certain features. Perhaps the most conspicuous is the importance of distance (which also explains the dominance of employment). Employment is increasingly concentrated in the bordering province of Burgenland, following a shift in the 1990s from Vienna, although Vienna's share of all Hungarian employees has not decreased as much as Burgenland's has increased. This 'can be taken as a signal for the emerging economic reintegration of the

Table 5
Hungarian employees* in Austria by provinces,
annual averages, 1992–9

		1992	1993	1994	1995	1996	1997	1998	1999
Burgenland	Persons	2143	2936	3223	3322	3335	3365	3525	3712
	%	28	29	33	34	36	34	41	41
Carinthia	Persons	123	133	131	128	120	114	111	108
	%	2	1	1	1	1	1	1	1
Lower Austria	Persons	1592	2124	2091	2019	1850	1793	1740	1784
	%	21	21	21	21	20	20	20	20
Upper Austria	Persons	744	858	795	748	683	640	614	600
	%	10	9	8	8	7	7	7	7
Salzburg	Persons	191	266	226	197	188	176	164	186
	%	2	3	2	2	2	2	2	2
Styria	Persons	567	635	614	599	579	544	506	523
	%	7	6	6	6	6	6	6	6
Tyrol	Persons	192	285	254	233	231	198	178	216
	%	2	3	3	2	3	2	2	2
Vorarlberg	Persons	162	221	201	191	175	151	139	129
	%	2	2	2	2	2	2	2	1
Vienna	Persons	2043	2521	2338	2194	2003	1882	1697	1711
	%	26	25	24	23	22	21	20	19
Total**	Persons	7756	9978	9875	9631	9164	8864	8675	8968
	%	100	100	100	100	100	100	100	100

* Employees of Hungarian citizenship with a work permit ('Bewilligungspflichtig Beschäftigte').

** There may be differences in total sums due to rounding.

Source: Austrian Labour Office (AMS).

whole region, comparable to the Austro-Swiss or Austro-German border regions after the WWII' (Intensification 1999.) Support for this assumption comes from the fact that about half the foreigners employed in Burgenland are Hungarians. (Altogether 6900 foreigners were employed in Burgenland in 1998. As Table 1 shows, 3525 of these were Hungarians. The respective figures in 1999 were: 7200 and 3712.) However, there could certainly be additional explanations. Policy measures such restrictive immigration policies and bilateral agreements must also have played a role. An indication of the former is a fall in the number employed in Vienna from 2521 in 1993 to 1711 at the end of the decade.⁹ Bilateral agreements for an exchange of trainees and border commuters, which were concluded in 1997 and came into force in 1998, are reflected in

⁹ However, Vienna's share of resident Hungarians is still higher than its share of Hungarian employees. The gap is smaller in Burgenland's case. The respective figures in July 2000 were 25.8 per cent and 30.7 per cent. (Source: FIS, see Biffl 2001.)

the increase of employment in Burgenland in 1998 and 1999.

It is worth looking at the composition of the Hungarian employees by demographic characteristics such as age and gender (Table 6). The gender differences are smallest in the youngest age groups and greatest in the prime age group (30–39). These features are understandable, but the proportion of women is generally very low, and in the younger age groups, it declined during the 1990s. This may reflect a change in occupational structure. (Further details on the age and gender patterns appear later.)

Table 6
Structure of the population of Hungarians
working in Austria by age group and gender,
%

Year	Age groups											
	15–18		19–24		25–29		30–39		40–49		50–54	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1992	1	1	8	7	12	5	32	6	19	4	2	0
1993	1	1	7	7	12	6	31	6	20	4	3	1
1994	1	1	6	6	12	6	30	6	23	5	3	1
1995	1	0	5	5	11	6	29	6	25	5	4	1
1996	1	0	4	4	11	6	28	6	28	5	5	1
1997	1	0	3	3	10	5	27	6	30	5	6	1
1998	0	0	3	2	8	5	27	6	31	5	7	1
1999	0	0	4	2	8	3	26	6	31	5	7	1

Note: Older age groups take inconsiderable shares. Percentages may not add up to 100 due to rounding.

Source: Austrian Labour Office (AMS)

The educational attainment structure, on the other hand, seems surprising

Table 7
Hungarian employees in Austria by economic sectors and occupations in the 1990s annual averages,
Austrian categories, 1992–9

	Agriculture and forestry	Construction	Metal and electrical	Wood industry	Textile industry	Food Industry	Unskilled	Commercial occupations	Transport. Workers	Employees in tourism	Cleaners	Technicians	Clerks	Health Employees.	Education and culture	Total
1992	161	1151	1935	359	166	305	237	235	401	1156	146	334	345	208	240	7756
%	2	15	25	5	2	4	3	3	5	15	2	4	4	3	3	
1993	265	1396	2378	448	212	406	312	305	536	1597	185	420	454	292	316	9978
%	3	14	24	4	2	4	3	3	5	16	2	4	5	3	3	
1994	297	1443	2308	450	196	420	316	304	569	1569	180	399	410	281	286	9875
%	3	15	23	5	2	4	3	3	6	16	2	4	4	3	3	
1995	350	1417	2247	445	178	425	301	264	631	1533	151	370	373	271	254	9631
%	4	15	23	5	2	4	3	3	7	16	2	4	4	3	3	
1996	441	1346	2174	412	162	423	253	240	611	1426	129	338	328	253	236	9164
%	5	15	24	4	2	5	3	3	7	16	1	4	4	3	3	
1997	580	1281	2116	395	140	418	227	225	577	1290	122	332	319	241	235	8864
%	7	14	24	4	2	5	3	3	7	15	1	4	4	3	3	
1998	666	1269	2041	386	130	408	222	206	564	1279	113	325	296	212	221	8675
%	8	15	24	4	1	5	3	2	7	15	1	4	3	2	3	
1999	771	1252	2065	376	133	452	261	194	594	1417	111	325	286	196	205	8968
%	9	14	23	4	1	5	3	2	7	16	1	4	3	2	2	

Source: Austrian Labour Office (AMS)

Note: Sectors and occupations are indicated only where numbers are high enough to be expressed in percentages. The total is not therefore the sum of the numbers given.

at first sight, especially in the light of general impressions of skill patterns among CEE migrants. Migration research carried out in Austria in the 1990s has shown that the qualification levels of migrants are considerably higher than those of 'traditional' migrant workers from Turkey or former Yugoslavia (Demel and Bender 1999).¹⁰ High skill levels among Hungarians, Czechs and Slovenians were also revealed in an empirical study of an explorative nature (and far from representative).¹¹ Not all of this information is corroborated by the AMS data, although it turned out that the latter are not gathered

on a regular basis. Educational attainment becomes relevant mainly if workers become unemployed.¹² The AMS data will therefore contain serious distortions because high-skilled employees are heavily underrepresented.

The proportion of CEE migrants in Austria with a secondary-school leaving certificate is thought to be about 10 per cent.¹³ This could only be confirmed by data from the 2001 census, which are not yet available. If data by occupations or economic sectors are examined, however, a higher incidence seems much more realistic (*Table 4*).

Although the categories may seem to be confusing, since economic sectors and occupations are mingled, the data in *Table 4* may be revealing. If only the categories

¹⁰ The authors refer, among other work, to 1997 research by Biffl, Deutsch, Lutz, Marterbauer, and Hofinger *et al.*, and 1995 research by Faßmann, Kohlbacher and Reeger. However, they add that there has been little detailed study of skill levels and data is lacking in many cases.

¹¹ A mere 165 Hungarian, Czech and Slovenian migrants were selected by snowball sampling, with the associated risk of serious distortions.

¹² Information provided by the AMS. I am grateful for the help of Katharina Demel.

¹³ I am grateful for this information to Gudrun Biffl.

are considered where there is clear reference to occupation (clerks, technicians, health employees, educational and cultural occupations), the assumption of a 10 per cent share for secondary schooling seems realistic¹⁴. In principle, it is also possible to draw some conclusions on skill levels from employment patterns purely by economic sectors. But looking at the 1998 data, for example, the figures on Hungarian, Slovenian and Czech employees do not suggest much difference from the pattern for all foreign workers in Austria.¹⁵ It has to be noted, however, that educational attainment could give a clearer picture of skill level than occupational categories do. Experience suggests that employment in lower jobs than skills warrant is quite widespread among foreign labour in Austria. The explorative study mentioned earlier found that such cases made up a third of the respondents (Demel and Bender 1999).

3.2. Employment under bilateral agreements: trainees and commuters

There are two bilateral agreements regulating special kinds of employment of Hungarians in Austria. Both concluded in 1997, they allow quotas to be set each year for trainees and for commuters. In the first year, 1998, the number of trainees was set at 300 and that of commuters at 550. The quotas gradually increased in subsequent years: 300 and 650 in 1999, 400 and 900

¹⁴ However, market traders, showmen and musicians are listed among educational and cultural occupations and their numbers could be high, so that the relatively high share of this category could be misleading. In economic sectors such as tourism, however, occupations requiring a secondary schooling could be concealed in some cases.

¹⁵ In four sectors usually considered less skill-intensive (manufacturing, construction, hotels and restaurants, and trade/maintenance), the share of employment exceeds 60 per cent in both cases (for all foreign workers, and for Czechs, Slovenians and Hungarians).

in 2000, and 600 and 1200 in 2001 (Source: Ministry of Family and Social Affairs, Budapest; Labour Office of Vas County, and Free Movement 2001.)

With trainees, employment may last from six months to a year, with a possible extension up to a maximum of 18 months, depending on the current labour-market situation. Trainees should be between 18 and 35 years of age, speak German, have the qualifications for the job, and also have work experience of at least 2–3 years in a corresponding job. In principle, the AMS helps to place applicants, but experience suggests that most applications are approved after the applicant has concluded a contract with an Austrian employer. By the third year, the scheme was proving popular, with many more people working under it in 2000 than in the previous year. In 1999, many trainees were being employed in cities: 20.8 per cent went to Vienna, 12.7 per cent to Graz and 12.1 per cent to Salzburg. A year later, the destinations were more diversified, with fewer going to cities (14.9 per cent to Vienna, 14.4 to Salzburg and 9.3 per cent to Graz) and more to smaller places close to the Hungarian border or to resorts (e.g. Wiener Neustadt, Feldbach, Feldkirchen and Knittenfeld).¹⁶ The composition shows the usual picture of male domination and most people well below the age limit of 35.

Table 8
Gender composition of Hungarian trainees in Austria, 1999 and 2000

Year	Male	Female	Total	Male	Female	Total
	Persons			Percentages		
1999	143	31	174	82.2	17.8	100.0
Extension	8	1	9	88.9	11.1	100.0
2000	312	46	358	87.2	12.8	100.0
Extension	1	2	3	33.3	66.7	100.0

Source: Hungarian Labour Office (OMKMK), Budapest. See Fóti and Németh 2001.

¹⁶ See Fóti and Németh 2001.

Table 9
Age composition of Hungarian trainees in Austria, 1999 and 2000

Year	<25	26–30	31–35	36–40	Total	<25	26–30	31–35	36–40	Total
	Numbers					Percentages				
1999	69	61	43	1	174	39.7	35.1	24.7	0.5	100.0
Extension	6	2	1	-	9	66.7	22.2	11.1	-	100.0
2000	158	127	72	-	357	44.3	35.6	20.1	-	100.0
Extension	1	2	-	-	3	33.3	66.7	-	-	100.0

Source as Table 8.

Border areas where Hungarians may work are listed in the agreement on cross-border commuters.¹⁷ The duration can be a maximum of six months, but it is renewable at six-month intervals. Although it includes no age criteria, most cross-border commuters are below the age 30. It can be assumed that their skill levels are lower than those of the trainees, as the agreement makes no qualification or language-knowledge stipulations. For the last two years, however, the agreement has capped the numbers who can work in one neighbouring district of Lower Austria – Bruck an der Leitha – while limiting the numbers employable in agriculture, tourism (*Gastgewerbe*) and other sectors in Burgenland.¹⁸

¹⁷ The Austrian act on aliens of 1997 narrowed the definition of *Grenzgänger* and distinguished them from *grenzüberschreitende Pendler*. The former covers those who commute daily to work and therefore need a work permit but no residence permit. The latter work beyond the border districts and need both. The terminology is confusing, as *Pendler* means commuter, but not necessarily one who commutes daily. In the Hungarian terminology, the *Grenzgänger* are called as ‘cross-border commuters’, which I adopt in this paper. The number of *Pendler* is much smaller all over Austria – the total being only 400 in July 1999 and 600 in July 2000, of which 140 were Hungarians (Biffel 2001). The districts covered are Bruck an der Leitha, Neusiedl am See, Eisenstadt, (including Rust), Mattersburg, Güssing, Oberpullendorf and Oberwart.

¹⁸ A share of 11–12 per cent may work in Bruck an der Leitha, while in Burgenland, 24–8 per cent may

Although the numbers set under the agreement on cross-border commuters were increased gradually over the last few years, even the last figure (up

to 1200 persons) is less than the actual number involved in the mid-1990s. For example, as many as 2000 were employed in 1994, according to the figures of the Austrian Ministry of Labour and Social Affairs.¹⁹ The situation remains similar today, and there could conceivably be quite a number of cross-border commuters not working under the agreement. The rela-

Table 10
The structure of cross-border commuting by citizenship and target province, July 2000

Citizenship	Lower Austria	Burgenland	Styria	Carinthia	Upper Austria	Total
Bosnian		1				1
Croatian			1			1
Poles	3					3
Slovak	623	156			1	780
Slovene	1	56	539	57		653
Czech	786	1			133	920
Turkish			1			1
Hungarian	101	2725				2826
Other		959			6	966
Total	1515	3898	541	57	140	6149

Source: Austrian Ministry of Interior (see G. Biffel, 2001).

tively long traditions of Hungarian cross-border commuting into Austria and perhaps the agreement itself suggest that Hungarians are by far the largest contingent of such employees. *Table 7* shows that altogether 2826 Hungarians were working in Austria as cross-border commuters in July 2000, including 101 in Lower Austria (obviously Bruck an der Leitha). Of the 2725 commuters in Burgenland, it can be assumed that the majority were not em-

work in agriculture, 22–4 per cent in tourism and 35–43 per cent in other sectors.

¹⁹ See Intensification 1999.

ployed under the agreement.²⁰ (However, in 1999, when the limit was only 600, there were actually 1227 valid permits, including the high number of the extensions, some continuing from the previous year.) All the workers in Bruck an der Leitha, on the other hand, may have been covered by the agreement, as the limit in 2000 stood at 110.

Noticeably fewer cross-border commuters come from Slovakia or the Czech Republic than from Hungary. (A similar agreement with the Czech Republic ensued.)²¹

3.3. Recent surveys of Hungarian commuters and potential migrants – some lessons

As mentioned in the Introduction, a realistic picture of migration potential calls not only for an estimate of the number of migrants, but also some idea about their possible composition. So it is necessary to examine the current pattern in some detail. Ambiguity arises out of the limited information available from official statistics, for example on skill levels. Recent empirical surveys can offer some invaluable supplementary information. Here two surveys are briefly described, one among cross-border commuters covered by the bilateral agreement,²² and the other conducted in Hungarian regions bordering to Austria, covering those with work experience in Austria and those planning to apply for a job there in the future.²³

²⁰ The limit had not been reached in July. (According to the Hungarian Labour Office in Vas county, 832 permits had been given by the end of October 2000, including extensions as well as first-timers (<http://www.vasmmk.hu/internet/ingstat.htm>).

²¹ Free Movement 2001.

²² The account is based on Laky 2001.

²³ See Preparity Project 2001.

Many cross-border commuters not covered by the bilateral agreement work with seasonal work permits, although some have found it more advantageous to have a permit under the agreement even for seasonal work. In this respect, the findings of the survey among cross-border commuters under the agreement should be interpreted with some caution. It was conducted in spring 2000, when the regional labour office cooperated in posting questionnaires to 890 persons, of whom 248 (29 per cent) replied. The respondents' age and gender patterns were similar to those of the recipient sample. The skill level of the respondents was high: 90 per cent had some sort of qualification. More than half were skilled workers and about a third had secondary-school attainment. As the author of the report on the survey rightly remarked, the successful applicants for permits are likely to have been the ones with some kind of qualification. As regards the skilled workers, many were carpenters, traders, bricklayers, house painters, fitters, cooks, waiters and electricians. More than two thirds of the respondents already had a job or were self-employed in Hungary before applying. Very few had been unemployed. Of the respondents, 59 per cent were satisfied with their wages and 41 per cent gave no other advantage of working in Austria than high earnings. Others, however, mentioned skill acquisition, making new friends, and practising German. The survey revealed that two thirds of the commuters had already worked abroad in the 1990s, most of them in Austria. So for many of the commuters, working abroad had become a way of life. This is confirmed by the responses to the question about plans after finishing commuting, where 57 per cent answered that they would seek another job abroad.

The other survey was conducted a couple of months later in August 2000, by the Hungarian Gallup Institute, in three Hungarian counties bordering Austria (Győr-Moson-Sopron, Vas and Zala). The sample of 1014 persons represented the population aged 15–74 in the three coun-

ties proportionate to their populations. Work experience abroad was reported by 89 respondents: 63 men and 26 women. Of these, 9 per cent had an educational attainment of the eight compulsory primary-school years, as opposed to 19 per cent in the population as a whole. With secondary-school attainment, the proportions were 74 and 64 per cent respectively. With tertiary education, the proportion in both cases was 17 per cent. The figures showed that those who had already worked abroad and those only planning to do so (who numbered 122 of the sample) were also more mobile within Hungary than the rest of the population. The survey confirmed the conclusion of the previous one: it was not the most vulnerable groups who had migration plans, but those whose living standards were stable and satisfactory. Many of the young males with aspirations to migrate were not satisfied with their current jobs, which in their case could be regarded as a push factor. Half of those with work experience abroad had found a job corresponding to their qualifications, 35 per cent were doing jobs that differed from their skills, and 15 per cent went abroad aware that their job would not match their qualifications. Of the 53 persons who had worked in Austria, most (39) mentioned that they had tried to find a job there through friends. Of those with migration plans, 61 per cent wanted to work in Austria and 11 per cent were ready to go there even if their working conditions would be worse than at home. The majority of the 74 planning to work in Austria had taken some steps towards reaching their objective. Most mentioned that they would rely on information and help from friends and acquaintances.

The authors of the report on the survey projected the results onto the whole population of the region between the ages of 15 and 60. According to their estimates, almost 57,000 people would have worked abroad and more than 75,000 had such intentions. About 5 per cent of the population had taken more than one preparatory step towards finding a job abroad. With

Austria as a destination, 7 per cent planned to go there (46,116 persons), and 81 per cent of them had taken at least one step in the job search.

In sum, the survey suggests that altogether 12 per cent of the region's population aged 15–74 years had migration intentions. This seems realistic in the light of the earlier Hungarian empirical research on migration potential (Household Panel Survey), where the migration potential stood at 6 per cent. Double that proportion would be understandable in a region bordering on a more developed country.

4) PROSPECTIVE DEVELOPMENTS IN HUNGARY (REGIONAL LABOUR MOBILITY AND WAGE DEVELOPMENTS) AND AUSTRIA (LABOUR DEMAND)

This section concerns prospective developments that could influence directly the Hungarian labour supply available for migration, especially to Austria. Two considerations are outlined: regional labour mobility and wage developments. On the demand side, some facts on current labour demand in Austria are added, on the assumption that present tendencies will persist for some time.

Regional labour mobility in Hungary is very low. This is reflected, for instance, in stubbornly high disparities between regional unemployment rates. (Despite improving labour-market performance in the late 1990s, differences in regional unemployment rates have not changed much.) As regards reasons for low labour mobility, many studies have already analysed them (for example, Fazekas 1996, Kertesi 1999, Köllő 1997, and Lehmann and Fóti 1998). So the only issue addressed here is whether they are likely to persist. The most commonly cited reasons for the sluggish mobility are housing shortage and poor levels of

infrastructure, including underdeveloped transport facilities. Internal migration is impeded, apart from cultural traditions, by present housing ownership patterns (more than nine-tenths of the stock is owned privately by its former tenants), a resulting lack of a housing market, lack of mortgage financing, and huge price differences in the housing market between 'good' and 'bad' regions. (The last seem even to have been increasing during the years of transition.) Fazekas (1997) points to high transport costs as an important constraint on daily commuting, despite small distances within the country. He pointed out that assuming daily commuting by car and considering the cost of driving and the wage distribution, less than 50 per cent of the jobs were likely to pay more than the sum of the minimum wage and transport cost for a commuting distance of 20 km. He also emphasised that the problem concerns especially the vulnerable groups that should rely most on commuting, since there are no jobs available for them in their places of residence.

Obviously, such serious constraints on labour mobility can only be eased in the very long term, in decades rather than years. The Hungarian government has taken some steps in this direction (projects aimed at improving the infrastructure and road network, measures to establish mortgage financing, subsidies for house-building, *etc.*), but they are at a rudimentary stage and it will be a long time before they make a real impact.

The persistently low labour mobility at home seems to imply a constraint on the number of potential migrants, especially to Austria, since it is unlikely that many persons will move into the Western, more developed parts of the country, from where they could turn potentially into cross-border commuters. On the other hand, sluggish wage development could induce extra migration.

One analysis of future wages to have appeared (Ferenczi 2000) points to an unambiguous catching-up process, based on

some stylized facts. This seems too optimistic, as it envisages a coincidence of several favourable developments (a continuous high inflow of foreign capital, productivity increases, rising capital intensity, and of course, persistent economic growth). A more recent estimate (see Gács *et al.* 2001) looks more realistic in referring to experience in less developed current EU members. There the catching-up process in wages has been fitful, and although growth of both GDP per capita and wage indicators has been steady since accession, their development corresponds to the elasticities of the EU as a whole. The gap between Hungarian wages and the EU average is smaller if calculated at PPP, but as mentioned before, this has little relevance for cross-border commuters. The estimate forecasts (on the assumption of EU accession in 2005 and expansive wage growth afterwards) that Hungary could reduce its current 70 per cent wage gap by only 15 percentage points by 2020. This could diminish migration pressure, but if just wages are considered, only to a moderate extent.

Even if migration pressure persists in a source country, this in itself is not sufficient to induce migration. Also decisive is the absorption capacity of the labour market in the prospective receiving country. Current conditions in Austria seem quite favourable,²⁴ as labour demand has increased absolutely, especially in the areas where many Hungarians are employed: Vienna and Lower and Upper Austria. Although the number of vacancies was not notably high in 1999 in Burgenland, its share in the total for Austria is higher than its share of employment (3.8 per cent as opposed to 2.5 per cent). Looking at the branch structure of vacancies, this is also favourable, although that of agriculture is only 3.3 per cent. The share of the service sector is a massive 58.6 per cent. It is interesting to see that labour demand by educational attainment in Burgenland

²⁴ For an account of labour demand, see Balogh and Pószán 2001.

more or less reflects the findings mentioned earlier about the composition of the commuters. The highest number of vacancies (566 in 1999) is for persons with a vocational school qualification, which highlights from the demand side the importance of qualifications. The second highest number of vacancies is for persons with only the eight years of primary school. (In the case of Burgenland, this may reflect high demand in agriculture for seasonal workers.)

* * * * *

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APPENDIX
DATA USED IN THE SIMULATION MODEL

Table 11
Scenario A: Assumed percentage change in real GDP per capita during the catching-up process

	Romania	Bulgaria	Poland	Hungary	Slovakia	Czech Republic	Slovenia	EU-15
2001	2.0	3.0	4.0	4.0	3.0	3.0	4.0	2.0
2002	2.0	3.0	4.0	4.0	3.0	3.0	4.0	2.0
2003	2.0	3.0	4.0	4.0	3.0	3.0	4.0	2.0
2004	2.0	3.0	4.0	4.0	3.0	3.0	4.0	2.0
2005	3.0	3.0	4.0	4.0	4.0	4.0	4.0	2.0
2006	3.0	3.0	4.0	4.0	4.0	4.0	4.0	2.0
2007	3.0	3.0	4.0	4.0	4.0	4.0	4.0	2.0
2008	3.0	3.0	4.0	4.0	4.0	4.0	4.0	2.0
2009	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0
2010	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0
2011	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0
2012	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0
2013	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0
2014	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0
2015	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0
2016	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0
2017	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0
2018	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0

Table 12
Scenario A: Assumed GDP per capita at PPP calculated from the growth rates in Table 1

	Romania	Bulgaria	Poland	Hungary	Slovakia	Czech Republic	Slovenia	EU-15
2000	5623	5231	8952	11289	10427	12665	15674	22517
2001	5735	5388	9310	11741	10740	13045	16301	22967
2002	5850	5550	9682	12210	11062	13436	16953	23427
2003	5967	5716	10070	12699	11394	13839	17631	23895
2004	6087	5888	10473	13207	11736	14255	18336	24373
2005	6269	6064	10891	13735	12205	14825	19070	24861
2006	6457	6246	11327	14284	12693	15418	19833	25358
2007	6651	6433	11780	14856	13201	16034	20626	25865
2008	6850	6626	12251	15450	13729	16676	21451	26382
2009	7124	6892	12741	16068	14278	17343	22309	26910
2010	7409	7167	13251	16710	14849	18037	23201	27448
2011	7706	7454	13781	17379	15443	18758	24129	27997
2012	8014	7752	14332	18074	16061	19508	25095	28557
2013	8335	8062	14906	18797	16704	20289	26098	29128
2014	8668	8385	15502	19549	17372	21100	27142	29711
2015	9015	8720	16122	20331	18067	21944	28228	30305
2016	9375	9069	16767	21144	18789	22822	29357	30911
2017	9750	9432	17438	21990	19541	23735	30531	31529
2018	10140	9809	18135	22869	20322	24684	31753	32160

Table 13
Assumed population growth rates under Scenarios A and B*

	Romania	Bulgaria	Poland	Hungary	Slovakia	Czech Republic	Slovenia	EU-15
2000								
2001	-0.20	-0.50	0.10	-0.40	0.20	-0.20	0.00	0.19
2002	-0.20	-0.50	0.10	-0.40	0.20	-0.20	0.00	0.19
2003	-0.20	-0.50	0.10	-0.40	0.20	-0.20	0.00	0.19
2004	-0.20	-0.50	0.10	-0.40	0.20	-0.20	0.00	0.19
2005	-0.20	-0.40	0.20	-0.35	0.10	-0.20	-0.30	0.15
2006	-0.20	-0.40	0.20	-0.35	0.10	-0.20	-0.30	0.15
2007	-0.20	-0.40	0.20	-0.35	0.10	-0.20	-0.30	0.15
2008	-0.20	-0.40	0.20	-0.35	0.10	-0.20	-0.30	0.15
2009	-0.20	-0.40	0.20	-0.30	0.10	-0.20	-0.30	0.15
2010	-0.20	-0.40	0.20	-0.30	0.10	-0.20	-0.30	0.15
2011	-0.20	-0.40	0.20	-0.30	0.10	-0.20	-0.30	0.15
2012	-0.20	-0.40	0.20	-0.30	0.10	-0.20	-0.30	0.15
2013	-0.20	-0.40	0.20	-0.30	0.10	-0.20	-0.30	0.15
2014	-0.20	-0.40	0.20	-0.30	0.10	-0.20	-0.30	0.15
2015	-0.20	-0.40	0.20	-0.30	0.10	-0.20	-0.30	0.15
2016	-0.20	-0.40	0.20	-0.30	0.10	-0.20	-0.30	0.15
2017	-0.20	-0.40	0.20	-0.30	0.10	-0.20	-0.30	0.15
2018	-0.20	-0.40	0.20	-0.30	0.10	-0.20	-0.30	0.15

Note: Scenario B: The same (stagnant growth) in both regions.

Table 14
Assumed population without migration under Scenarios A and B* in millions

	Romania	Bulgaria	Poland	Hungary	Slovakia	Czech Republic	Slovenia	EU-15
2000	22.4	8.2	38.6	10.0	5.4	10.3	2.0	385.5
2001	22.4	8.2	38.6	10.0	5.4	10.3	2.0	386.2
2002	22.3	8.1	38.7	9.9	5.4	10.3	2.0	387.0
2003	22.3	8.1	38.7	9.9	5.4	10.2	2.0	387.7
2004	22.2	8.0	38.8	9.8	5.4	10.2	2.0	388.4
2005	22.2	8.0	38.8	9.8	5.4	10.2	2.0	389.0
2006	22.1	8.0	38.9	9.8	5.5	10.2	2.0	389.6
2007	22.1	7.9	39.0	9.7	5.5	10.2	2.0	390.2
2008	22.0	7.9	39.1	9.7	5.5	10.1	2.0	390.8
2009	22.0	7.9	39.1	9.7	5.5	10.1	2.0	391.4
2010	22.0	7.8	39.2	9.6	5.5	10.1	2.0	391.9
2011	21.9	7.8	39.3	9.6	5.5	10.1	2.0	392.5
2012	21.9	7.8	39.4	9.6	5.5	10.1	2.0	393.1
2013	21.8	7.8	39.5	9.6	5.5	10.0	1.9	393.7
2014	21.8	7.7	39.5	9.5	5.5	10.0	1.9	394.3
2015	21.7	7.7	39.6	9.5	5.5	10.0	1.9	394.9
2016	21.7	7.7	39.7	9.5	5.5	10.0	1.9	395.5
2017	21.7	7.6	39.8	9.4	5.5	10.0	1.9	396.1
2018	21.6	7.6	39.9	9.4	5.5	9.9	1.9	396.7

Note: Scenario B: The same (stagnant growth) in both regions.

Table 17
Scenario B: assumed GDP per capita at PPP

	Romania	Bulgaria	Poland	Hungary	Slovakia	Czech Re- public	Slovenia	EU-15
2000	5623	5231	8952	11289	10427	12665	15674	22517
2001	5735	5336	9131	11515	10636	12918	15987	22967
2002	5850	5442	9314	11745	10848	13177	16307	23427
2003	5967	5551	9500	11980	11065	13440	16633	23895
2004	6087	5662	9690	12220	11287	13709	16966	24373
2005	6208	5775	9884	12464	11512	13983	17305	24861
2006	6332	5891	10081	12713	11742	14263	17651	25358
2007	6459	6009	10283	12968	11977	14548	18004	25865
2008	6588	6129	10489	13227	12217	14839	18365	26382
2009	6720	6252	10698	13491	12461	15136	18732	26910
2010	6854	6377	10912	13761	12710	15439	19107	27448
2011	6991	6504	11131	14036	12965	15747	19489	27997
2012	7131	6634	11353	14317	13224	16062	19878	28557
2013	7274	6767	11580	14604	13488	16384	20276	29128
2014	7419	6902	11812	14896	13758	16711	20682	29711
2015	7568	7040	12048	15194	14033	17045	21095	30305
2016	7719	7181	12289	15497	14314	17386	21517	30911
2017	7874	7325	12535	15807	14600	17734	21947	31529
2018	8031	7471	12786	16123	14892	18089	22386	32160