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**Demographic ageing, migration and the challenge for growth and
labour market sustainability**

by

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Demographic ageing, migration and the challenge for growth and labour market sustainability

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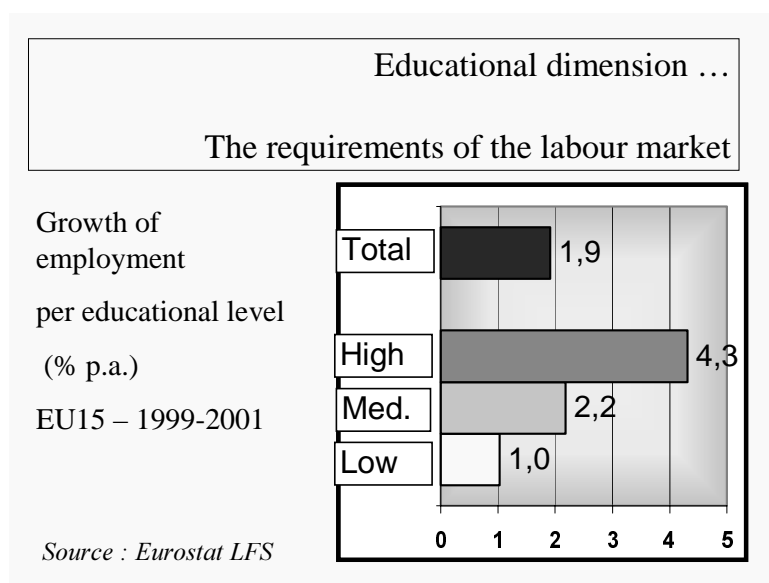
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The progressive shift towards a situation of tight labour markets requires that the needs of immigration be questioned in terms of educational, occupational, sectoral and territorial fit.

1. Educational aspects

The recent developments in the employment patterns within the EU confirm that low qualified persons are less in demand. **Chart 2.1.** shows that between 1999 and 2001



the employment increased by an annual 1.9 %. But, considering the usual division into low, medium and high educational level¹, the performance increased together with educational attainments (See chart 2.1). Employment of people with low education increased by only 1 % a year, while the figures show an annual 4.3 % for people with high educational attainment –

¹ The usual ISCED division into Low, Medium and High is here adopted, as in the Eurostat Labour Force Survey. Low is equivalent to ISCED 0-2, i.e. “less than upper secondary level”. Medium is given by ISCED 3, i.e. upper secondary level. High is ISCED 5-7, meaning tertiary level, or also the achievement of two more years after upper secondary level. Definitional changes, especially in UK in 1998, make it difficult to build longer term indicators for the EU15 as a whole. Therefore, the change is given only for the period 1999-2001. Even for the last years, the comparability of ISCED distributions between Member States must be considered with caution : for the year 2000, the year of age at which half the young people achieved the upper secondary level ranked between low values below 17 (UK and Luxembourg) and high values equal to or above 20 (Denmark, Netherlands and Germany), with the EU15 average lying at 19, and all CEECs in a narrow scope between 18.2 and 19.2. See G. Coomans, “Demographic change in EU-pre-accession countries : the challenges of an enlarged EU”, in IPTS/ESTO Prospective Study on Enlargement Futures, Interim Report, November 2001, E.C. Joint Research Center., chapter D, available under <http://www.jerc.es/projects/enlargement> .

and this must also be related to the increase of GDP per capita, amounting to an annual 1.1 % over the same period². This appears a priori consistent with the development of the knowledge based society, where improved education better prepares for higher dynamic employability and lifelong development of competences.

It must also be taken into account that the population in the EU has achieved, over the last decades, a considerable progression of educational attainments when comparing the educational attainment of the younger generations to the attainments of the elderly that are about to leave the labour market ; between the population age groups 55-64 versus 25-34, the share of people with high tertiary education had increased from 15 to 25 %, while the share of people with low education halved, from 52 to 26% (2000 LFS). The progression was even more impressive for women : considering the same two age groups, the share of tertiary education increased from 11 % to 26 %, while it decreased from 59 % to 25 % for low education, where women have been doing better than just catching up on male level.

In prospective terms, when combining these progressions with the baseline demographic projections, this means that the number of people with low educational attainment will go on decreasing steadily over the decades ahead , while the number of those with secondary or tertiary education will go on increasing for a while. Adopting some simple assumptions about the future labour force, i.e. constant participation rates per gender, per educational level and per 10-year age groups within the 25-64 age scope, estimates of future evolutions suggest the overall tightness of the labour market will aggravate significantly in the second decade of the century, first of all for people with low education - and even more so in the accession countries compared to EU15 as a whole. (See Table 1)

Table 1
Change (%) in the size of the labour force per educational level(*)
2000-2010-2020 (Age group 25-64)

EU15				
	Low	Medium	High	Total
2000-2010	-15	10	12	3
2010-2020	-17	3	4	-2
8 Accession countries (Cyprus and Malta excluded)				
	Low	Medium	High	Total
2000-2010	-27	6	9	2
2010-2020	-25	-10	-7	-11

Assumptions : constant 2000 activity rates per gender, 10-year age groups and educational level (Low, Medium, High).

Source of data : 2000 activity rates as in Eurostat LFS 2000.

Demographic Projections : for EU15, Eurostat 2000 Baseline scenario;

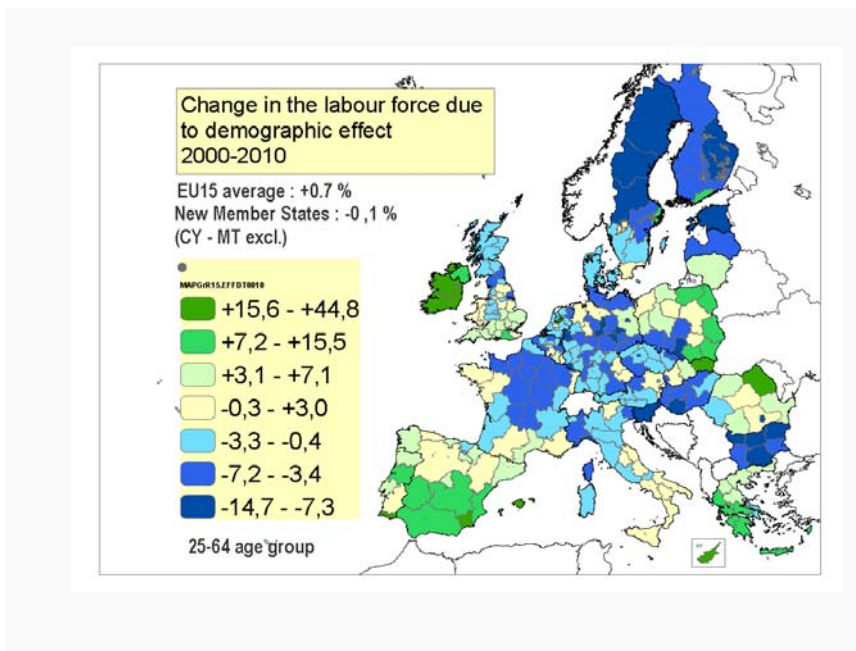
for accession countries : UNO, WPP 2000 Rev., Medium Variant.

Quoted from G.Coomans, Strategic Labour Yearbook, 2003.

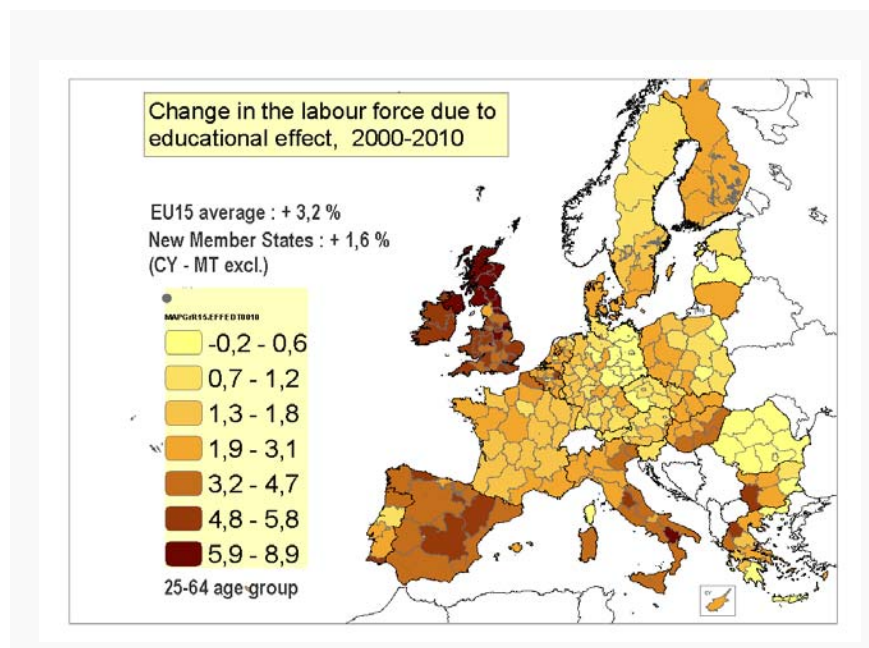
² Equivalent figures for the accession countries are only available for seven in the ten accession countries, excluding Cyprus, Malta and Slovak Republic. For the seven remaining countries, the overall employment declined by 1.3 % a year between 1998 and 2001, with only the employment of people with high educational level growing positively, by 2.7 % a year – while the employment of people with medium level declined by 1.3 % a year, and by 5.9 % a year for those with low educational attainments. (Source : LFS).

At the regional level, the overall effect, summing up the changes due to the demographic shift and to the educational shift, is detailed in Maps 1-4, where the demographic effect on the labour force is isolated from the educational effect - considering in all cases the only 25-64 age group. Map 1 shows the impact of demography on the labour force between 2000 and 2010 – i.e. with 2000 constant activity rates per gender and 10-year age group. Map 2, where the activity rates per educational level within each gender/age group are kept constant at their 2000 value, shows, by difference, what the specific contribution of educational progression is. Map 3 shows the overall effect, combining demographic and educational effect. Map 4 shows the same overall effect for the 2010-2020 period. It must well be understood that these projection are based on constant behaviours, i.e. constant participation rates for each age group.

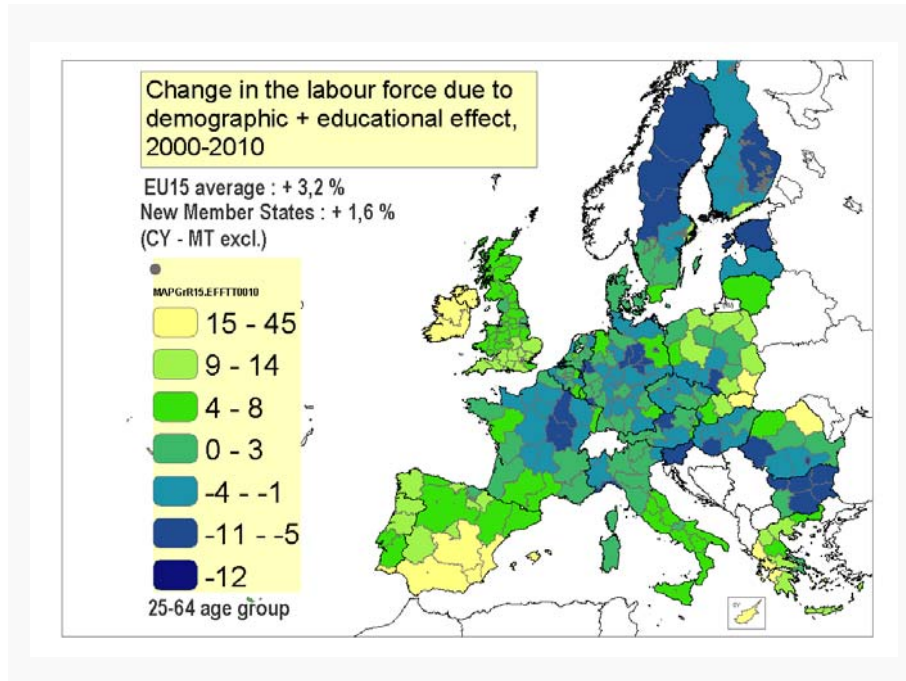
Map 1



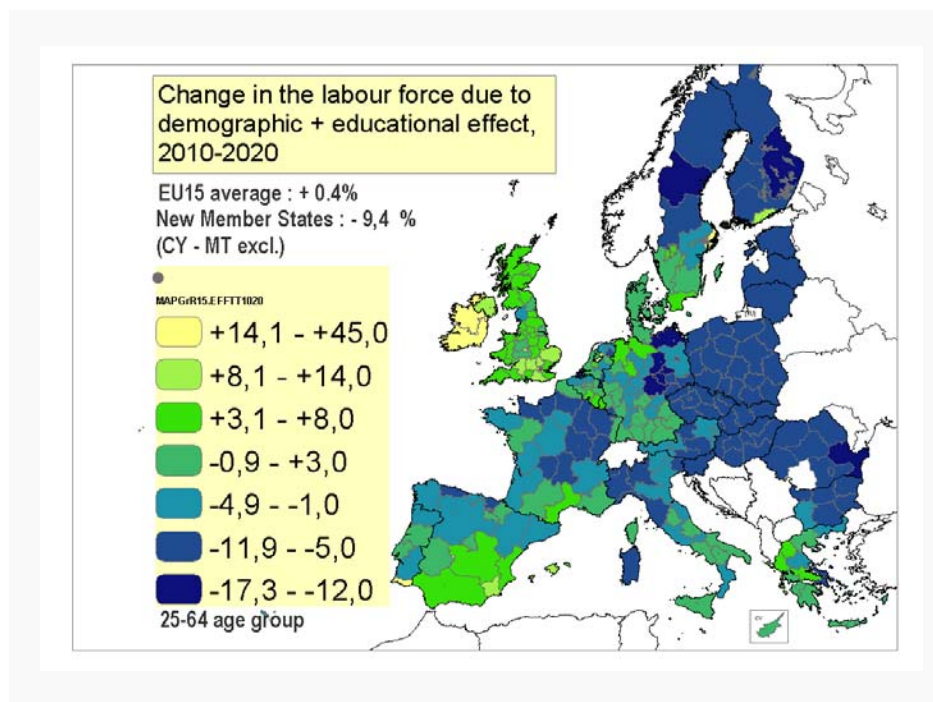
Map 2



Map 3



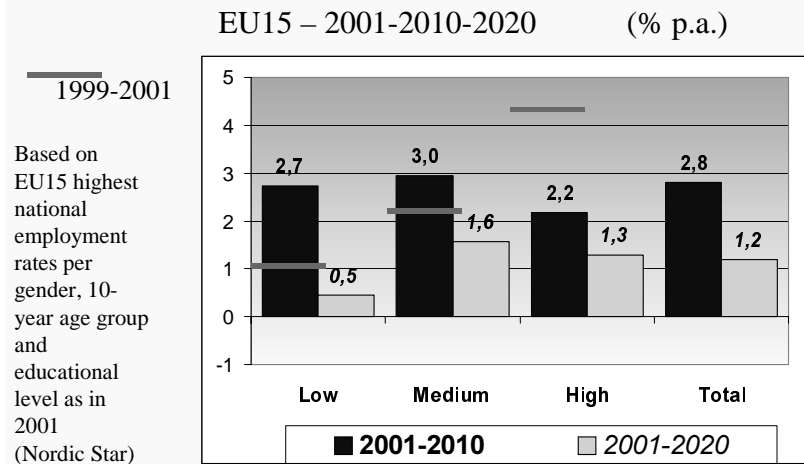
Map 4



Going beyond this conservative view relying on constant behaviours in terms of participation to the labour market requires that attention be paid to increasing the employment rates in each gender / age / educational group, which is obtained by the combined effects of more inactive people joining in when job opportunities arises, active ageing policies, more family-friendly employment policies, etc. The benchmark that was used here is based on the best performance in the year 2000 per gender, educational level and 10-year age group within the 15 Member States (see Annex 1). It suggests that the maximum reasonable employment rates in the future would

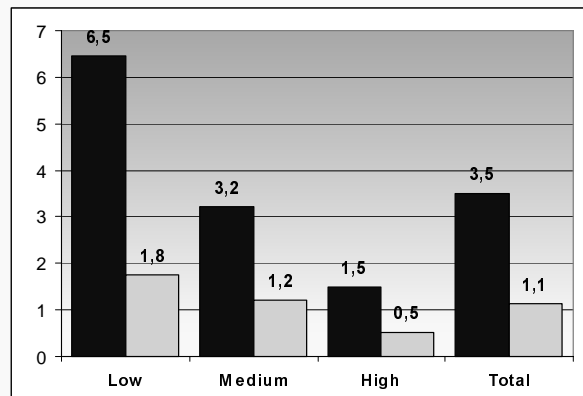
amounts to 71 % for people aged 15-64 with low educational level, to 82 % for people with secondary education and to 89 % for people with tertiary education – equivalent to an overall employment rate very close to 80 % on the whole. Applying these

Labour supply per educational level ...
Potential growth of employment per educational level



maximum employment rates onto the projections combining demography and educational attainments in 2010 and 2020, and comparing them with today's levels provides an indication of the potential of growth of employment per educational level. (See **Chart 2.2**).

8 New MS
 CZ, EE, HU, LT, LV, PL, SI, SK



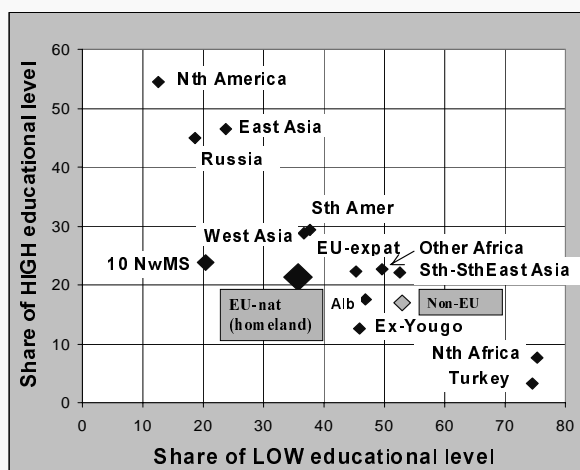
Different levels of labour shortages do then appear depending on the educational level and on the time horizon. Within EU 15, for people with low education, it is only in the second decade that the supply lies below the current requirements – inasmuch the 1999-2001 performance can be taken for a

long term trend. It must here also be added that the people with low educational level are also those for whom occupational or sectoral flexible reallocation may reveal more difficult, due to their lower employability and less easier access to reskilling under the constraint of minimum wage. Considering now the accession countries, the tightening of the unskilled labour supply seems less marked only at the 2010 time horizon, while the bottlenecks should become widespread in the second decade.

For people with medium level education, and certainly for people with tertiary level, the potential growth appears to be significantly lower than the equivalent 1999-2001 figures. And if the supply of labour with tertiary attainments plays the central role in productivity increases, the prospects are certainly worrying, and even more so in the accession countries.

The question then becomes the following : to what extent could immigration be tuned in such a way that it would fit these specific educational shortages? As a starting point, the present educational distribution of non-EU-nationals within the EU15 population provides a first insight. **Chart 2.3** shows that this distribution varies

Educational dimension ... of immigrants (25-64 age group – EU15)



considerably depending on the nationality. Nationals from North Africa or Turkey showed in 2000 over 75 % with low educational attainment (25-64 age group), while nationals from CEECs, from Eastern or Western Asia or from both North and South America, show distributions that are globally more favourable than is the case for EU-nationals. A first and most

obvious conclusion from this is that any policy aiming at tuning immigration more selectively would have to take national origins into consideration. Nevertheless, it is not less obvious that part of this situation should be related to the historic circumstances that led in the past to favour massive flows from specific origins, as was the case for a large share of emigrants from Turkey and North Africa.

Besides anecdotal evidence related to immigrants in the Schengen Space, different sources in the literature suggest that in recent years the educational level of immigrants into the Western world is rather on the increase and, on the other side, that emigration rates are increasing together with educational levels³. The determinants to which this evolution can be related appertain to both new motives introduced in immigration policies, as is the case in the USA, and to the higher capacity of people with healthier backgrounds in the emigration countries to overcome barriers set for immigration over the last two decades. The overt attraction of IT-workers, from India or from CEECs into the USA or into Germany is well-known, but the question remained within the dimension of a specific niche. The magnitude of the immigration figures that were mentioned in the first part make it obvious that installing the EU as a competitor besides North America in attracting immigrants has incomparably more complex implications.

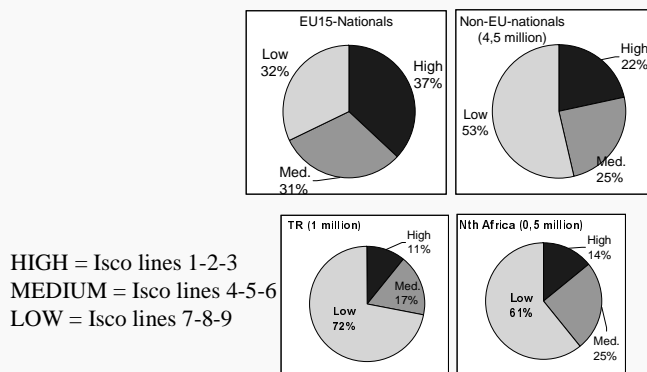
³ See Carrington W.J. and E. Detragiache (1998) "How big is the brain drain"?, Washington D.C., IMF Working Paper no 98/102 and (1999) How extensive is the brain drain ?, Finance and Development, June 1999, Vol. 36 Number 2, IMF. Jasso, G., M. Rosenzweig and J. Smith (1998) "The changing skill of new immigrants to the United States: recent trends and their determinants", Cambridge MA, NBER, Working Paper w6764, October 1998. Ajit K. Ghose, Trade and International Labour Mobility, Employment Paper 2002/33, Geneva, ILO.

2. Occupational and sectoral aspects

The occupational distribution of immigrant workers is showing clearly their concentration in the lowest three ISCO positions (in the 9-line ISCO division, Eurostat LFS 2000), which seems globally consistent with their lower educational attainments, for example in the case of nationals from Turkey or North Africa.

Chart 2.4

Lower occupational positions ...
and lower employability of non-nationals



There is no doubt that the integration of fast increasing numbers of immigrants should require larger possibilities to move upwards on the ISCO scale and to go closer to equal distribution. All forms of occupational segregation would become just counter-productive, and certainly so when the more qualified occupations are the ones showing higher growth.. In terms of labour market efficiency, occupational

segregation of immigrants would deprive the dynamic activities of the expected advantages of the inflow of immigrants.

Chart 2.5

Share of non-EU15-nationals in NACE-sectors
EU15 – 2000
(Eurostat LFS)



Similarly, the over-concentration of immigrants in some sectors and their under-representation in others would appear counter-productive in the latter whenever they would facing unbalanced age distribution leading to precipitated recruitment needs at a later stage. In other words, immigrants could not be assigned, practically, only to the niches where they do presently concentrate. Private

households and the catering activities do well offer large niches for low qualified people – and partly through informal activities outside the normal regulations on tax, social security and minimum wage. Personal services and the health sector may well offer more easily accessible niches. But it must be remembered that the current severe shortages for example in the care of elder people⁴ are being combated by attempts to favour better professionalisation, with improved work conditions, status certification and social recognition. Whether this ambition can be consistent with the integration of massive inflows of low qualified immigrants is an uneasy question.

3. The regional dimension

Beyond the uneasy overall adjustment, local problems may reveal cumulative and end up in slowing down the overall adjustment. This raises the question of the adequate decisional level in managing immigration issues, or the question of adequacy in governance levels.

The charts below, showing the potential growth of employment (total and per educational level) up to 2020 is based on the same methodology as the chart 2.2 above, i.e. defining a maximum employment level in 2020 that is depending on demographic changes, educational distributions and maximum employment rates as taken from the today's "best practise" within the EU15⁵.

Considering the overall employment growth potential (**Chart 2.6**), some obvious features do appear. Most of Nordic, Dutch and Portuguese regions, and some UK

4 European Conference on Employment Issues in the Care of Children and older people Living at Home, Sheffield Hallam University, 20-21 June 2002, partly accessible on www.eurofound.ie

⁵ The demographic projections at regional (Nuts2) level are estimates. Within EU15, the latest Eurostat Projections, dated 1997, were based on the 1995 observed data, and no revised regional projections are expected before 2004. The problem is that the observed data around the year 2000 show in many cases significant shifts compared to the projected data. This is mainly due to the assumptions embedded in the 1997 projections, that do not take in account the age profile of interregional mobility, that are known to cause the main shifts between ex ante projected and ex post observed data in regional demographic projections. In some cases, more recent projections have been issued by National Statistical Institutes, based on the latest census – for example in France, where the 1982-1999 average age profile of inter-regional mobility is fully integrated in the projection model. For the 10 New Member States, no regional projections were issued at this stage – and the UN 2000 Revision covers only national level. Therefore, the regional projections that are used here have been developed starting from the 1995-2000 observed data per gender and age as given by Eurostat and based on the following assumption: the apparent 5-year survival rate between 1995 and 2000 of each 5-year gender/age group at regional level, were further applied on the corresponding age groups, giving age-detailed projections for the years 2005, 2010, 2015 and 2020. The regional fertility rate per 5-year female age group was considered to remain constant, and obeying to the same age profile as the national average profile – but this latter assumption does not impact the working age population before 2020, as the youngest working age group in 2015 was already born in 2000. The method adopted produces projections where future changes that remain very much in line with the changes of the reference period 1994-1999 ($R^2 > 0.98$). For more detailed methodological notes, including the testing of the quality of these projections, see G. Coomans, Strategic Labour Yearbook, 2003, from which the maps are quoted.

The "maximum employment rate", through all the regions, does depend on the distribution of the working age population per gender, 10-year age group and educational attainment. The maximum employment rate is in each case the local combination of the maximum rates for each of the 30 groups as given by the best national average among the 15 Member States (2 gender x 5 10-year age groups x 3 educational levels = 30 groups – see annex 1). But with the progressive convergence of all Member States in terms of educational attainment the fact is that the overall employment rate should converge towards the EU15 average that lies very close to 80 % for the period after 2010.

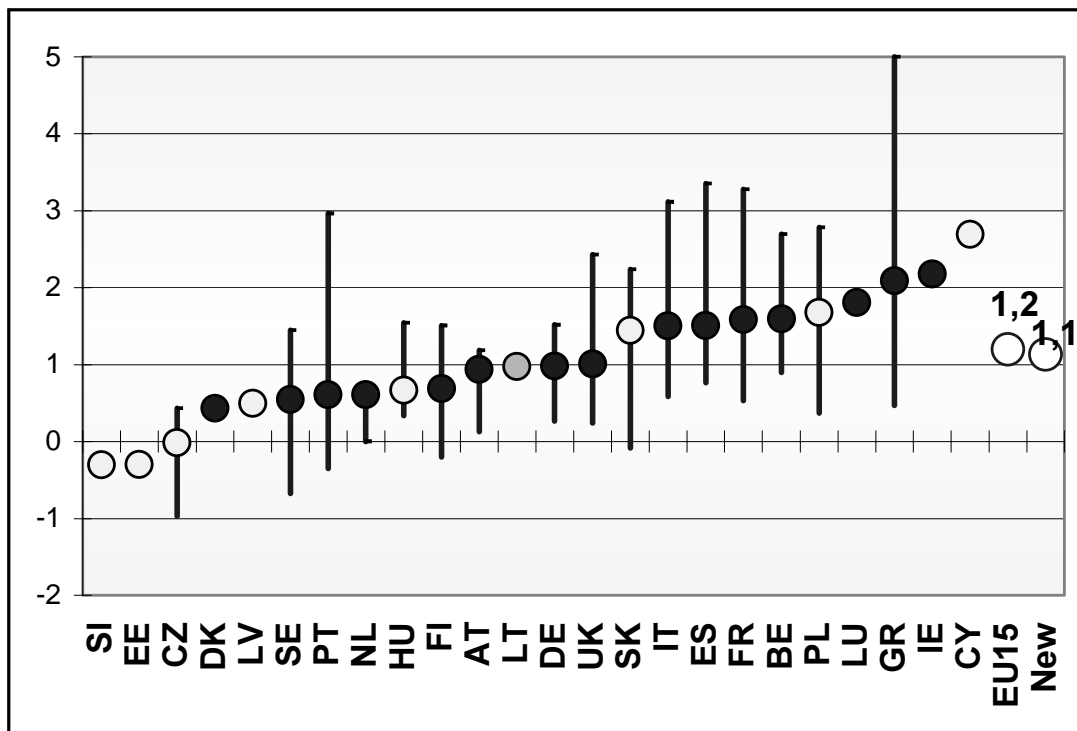
regions, show low potentials of employment growth due mainly to the high levels of the current employment rates as starting point, with further growth due to be already or very soon dependent on strictly demographic variables. Even if the demographics of the working age population show stable or moderate trends, it is demographic slow changes that contain and dictate the possible growth of employment. Other regions showing tight prospects, like Eastern German, Czech, Baltic and other scattered central European regions, are in the dependence not on high starting point but on severe demographic decline. At the other end, the high potential regions in terms of

Chart 2.6

Potential annual growth of employment (2000-2020)

EGP20T

Total



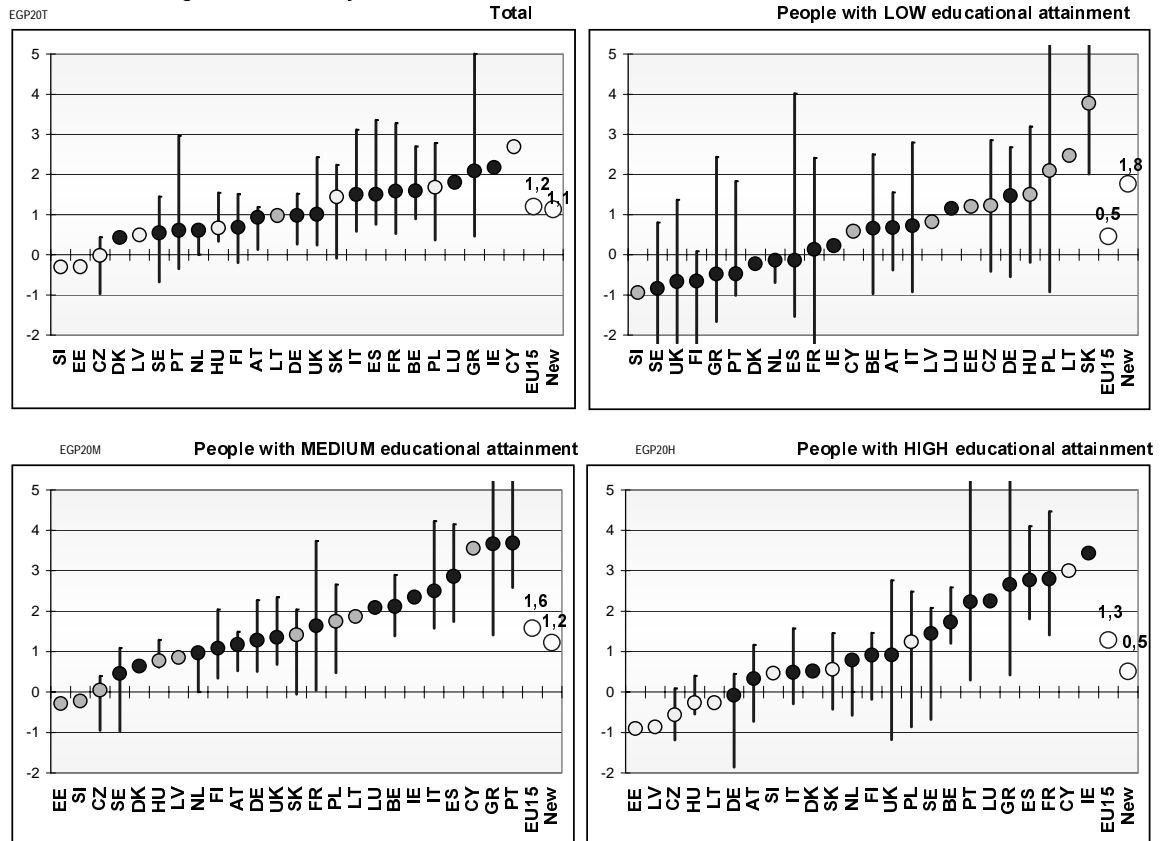
overall employment growth, are the ones that remain, for some more time, in a position to take advantage of a low starting point, i.e. a low employment rate leaving larger margins for progression, even in the case of a strong demographic decline. Only Ireland illustrates the case of a continuous demographic growth feeding the growth of the working age population.

Chart 2.7 shows the prospects of potential employment growth for the three groups of educational attainment. Considering first only working age people with low educational attainments (25-64 age groups). Against the average annual +0.5 % (EU15) and +1.8 % (ew MS), the heterogeneity is now much wider across the regions. Again, the Nordic area mentioned above, where the educational distribution is more favourable in absolute terms and where the progression of the educational distribution has been more moderate than in the southern part of the EU, are more closely dependent upon the strict demographic changes, that are slow by nature. With strongly negative values, these regions are certainly in a position to speed up the substitution of capital to labour whenever a specific activity is both based on low

qualified labour and susceptible of being automatised. But the same chart suggests that there would remain, time passing by, a limited number of regions where the allocations based on low qualified labour would not be confronted to a fast tightening labour supply – unless immigration was precisely widening this labour supply. In other words, the chart refers to a geography of regions that would be in need of increased immigration of low qualified labour.

Chart 2.7

Potential annual growth of employment (2000-2020)



The regions where the potential employment growth for low educated people seems larger might well be considered as due to fuel some outward mobility – typically a south-north mobility in the case of Italy. And effectively, in most New Member States, significant potentials would seem to make this meaningful – but only insofar the spectacular decline of the number of young people reaching working age, as a consequence of the fertility collapse of the 1990s, did not end up in their aspiration by the local labour market. And it must be recalled that the share of people with low educational level in the new Member States is significantly lower than it still is in the EU15 : only 20 % against 36 % considering the 25-64 age group. This is bringing absolute numbers down : in the same age group 25-64, the EU15 showed 71.6 million people with low educational attainment in 2001, projected to be down to 52 million by 2020, while the 8 New Members from eastern Europe show corresponding numbers of 7.7 million in 2001 and 4 millions by 2020.

Chart 2.7 also illustrates the potential growth of employment for people with medium educational attainments, and shows a more even distribution across the regions, with the more scattered regression areas – except the cases of the Czech Republic, Estonia

and Slovenia, being countries with a sharp overall demographic decline. At the positive end of the scope, most regions in southern Europe show high potentials, that are due to the strong (and mostly female) shift upwards in educational attainments and to the low starting level of employment rates, notwithstanding the demographic decline that will precipitate after 2020.

Finally, chart 2.7 illustrates the trends and the regional span of potential growth of employment for people with tertiary education, around the EU15 annual average at 1.3 % and the New Member States average at 0.5 % - which amounts, for EU15, to less than a third of the 1999-2001 average performance. Although this would need further research, the correlation appears significant between on one hand this specific part of the labour supply and on the other the growth of productivity and of GDP. Along this line, this is where the most strategic implications might lie for overall economic growth.

The main conclusion that can be drawn from this chart, insofar the demographic projections were not disqualified by increasing immigration, is that the largest areas of demographically sustainable growth are concentrated in a limited number of Member States, as a result of 1°) the lower employment rate at the starting point and 2°) the high progressions achieved in improving the educational attainment over the last decades.

Maps 5 and 6 are splitting this potential, still for people with tertiary education, between a younger age group (25-44) and an older age group (45-64). The underlying argument is about the different role played by the two ages groups in terms of updated knowledge and in terms of organisational flexibility leading to improved productivity. The indicative trends appear clearly : the increase in the number of people with tertiary education aged above 44 remains steady in most of the EU25 regions, although higher in the areas where substantial progression of educational levels was achieved over the last decades – with a potential growth of employment of 2.1 % per year on EU15 average, and 1.7 % in the New Member States. But considering the 25-44 age group, potential growth is frankly negative on average (-0.5 % per year in EU15 and – 1.4 % in the New Member States). It lies above 1.6 % in one in every six EU25 regions, and above 2.5 % per year in less than 15 regions. It suggests also where the need of young immigrants with tertiary level is due to be highest.

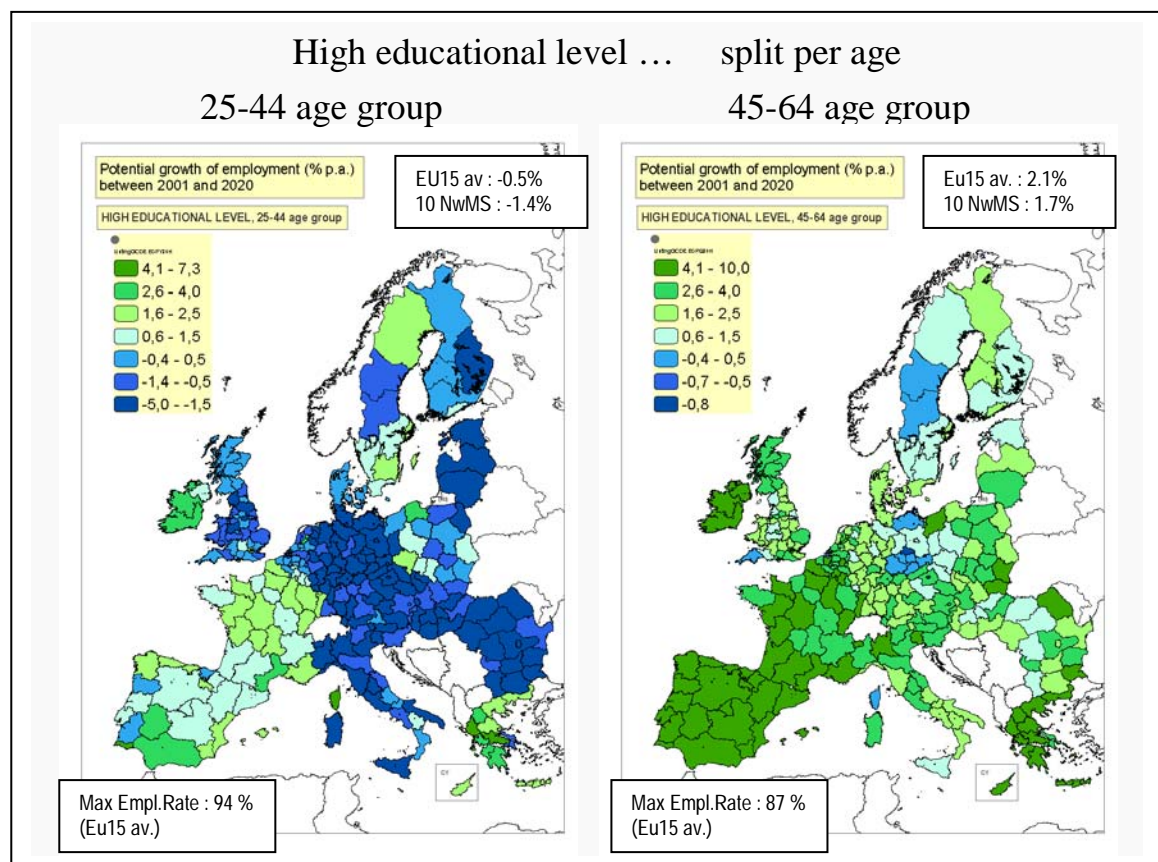
It is not less clear that the trends suggested by the maps must be considered as having only an indicative value. The main limitations that are attached to them are on one hand linked to data, definitional and projection reliability, and on the other to the meaning of qualified vs non qualified labour. The educational attainment may well have the advantage of statistical availability, but while we are shifting to the knowledge based society, it remains prisoner of the old ternary block-structure lifecycle that the ageing of society, fast technological innovation and changing behaviours are thoroughly questioning⁶. Within the modern work organisation, the definition of low qualified labour must certainly undergo an aggiornamento⁷ : shifting

⁶ For example, the median age of students in tertiary education lies at 25 or higher in Austria, Denmark, Germany, Finland or Sweden (1998/1999 data, according to EC-Eurostat, 2002 Report on the Social Situation).

⁷ See Paul Santelmann, « Qualification ou compétences, En finir avec la notion d'emplois non qualifiés », Editions Liaisons, 2002.

to the notion of competences involves a far-reaching improvement in our capacity of making less “qualified” people contribute to increasing the productivity. Above all, the lifelong development of competences, as recommended in the Barcelona Summit, appears as the main tool that would allow to combine lower labour quantity with higher labour quality, at both the individual and the organisational levels – whether in the existing labour force or among the immigrant labour force. Therefore, the accession to overall labour scarcity, after two centuries of economic development owing much to the abundance in working age population, leads to a necessary ... flight to quality. The emphasis will have to shift from job creation to productivity increase. And productivity increases, in the knowledge society, will depend more and more on human adaptability and organisational innovation designed at taking full advantage of material technological progress.

Maps 5 and 6



Annex 1 :

Employment rates used to calculate the potential growth of employment per educational level (only rounded values are given here). The “half-sum” is given for information purposes.

Maximum employment rates per gender,
per gender, 10-year age group and educational level

(as in 2001 LFS)				Member States		
Male	Low	Medium	High	Low	Med	High
15_24	67	80	84	NL	NL	DK
25_34	88	95	97	NL	NL	NL
35_44	89	96	96	NL	NL	NL
45_54	84	93	94	NL	NL	NL
55_64	63	69	81	SE	SE	SE
Average	78	86	90			
Female						
15_24	62	78	86	DK	DK	UK
25_34	62	82	91	SE	DK	UK
35_44	72	85	91	SE	SE	DK
45_54	70	85	93	SE	SE	SE
55_64	52	57	78	SE	UK	SE
Average	63	78	88			
				Note : NL excluded for women.		
Half-sum						
15_24	65	79	85			
25_34	75	89	94			
35_44	80	91	94			
45_54	77	89	94			
55_64	57	63	80			
	71	82	89			