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Demography and Health in Eastern Europe and Eurasia

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Abstract: Eastern Europe and Eurasia is the only region worldwide experiencing a contraction in population, which stems from both a natural decrease in the population (i.e., crude death rates exceeding crude birth rates) and emigration. The highest crude death rates in the world are found among the transition countries; so too the lowest fertility rates. This study analyzes these trends and attempts to assess some of the underlying health factors behind them. The report also examines the evidence regarding migration patterns, both political aspects (including trends in refugees and internally displaced persons) and economic aspects (including remittances, urbanization, and brain drain).

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Summary of Findings

(1) The Eastern Europe & Eurasia region (EE)[1] is the only region worldwide to have experienced a contraction in population from 1991-2002.

The transition region overall witnessed a contraction in population from 1991-2002 of -0.1%. To contrast, high-income economies witnessed population growth of 0.7% in this period and low-income economies, 2%. The population contraction in the transition region is more pronounced (-0.3%) if one excludes the 6 Muslim-majority transition countries (which experienced population growth of 1.4%). Eighteen of 27 transition countries experienced a contraction in population in this period. The trend in declining population in the transition region was particularly pronounced with the collapse of communism through the mid-1990s.

The transition region had a population of 412 million people in 1990. By 2003, the transition region population had declined to 404 million persons, while world population had increased from 5.3 billion in 1990 to 5.7 billion in 2003. Hence, the transition region experienced a significant drop in the proportion of world population, from 7.8% in 1990 to 6.4% in 2003. The high income economies witnessed a much smaller proportionate drop in this period, from 16.9% to 15.5%, while all the developing country regions witnessed increases.

(2) The decline in population in the transition region stems from both a natural decrease in the population (i.e., crude death rates exceeding crude birth rates) and emigration.

Population changes are a function of two dynamics: natural changes in the population (the difference between birth rates and death rates) and migration (immigration or emigration).

The EE region is the only region worldwide that has not experienced a natural increase in population from 1991-2002 (where birth rates exceed death rates), and since 1994, the natural change in the population in the region has been negative. This pattern was the most pronounced in Northern Former Soviet Union (NFSU). The Muslim-majority transition countries are the salient exception in the transition region. From 1991-2002, the six Muslim-majority countries experienced a natural increase in population equal to almost 2%, comparable to the natural increase among the low-income developing countries.

The EE region also experienced emigration on balance from 1991-2002. The only other region worldwide to experience net emigration during this period was Latin America and the Caribbean. Twenty of 27 EE countries experienced emigration from 1991-2002.

(3) A closer look at natural changes in the population reveals the following:

The EE region in 1999-2002 had the lowest ***fertility rates*** in the world, though roughly comparable to the EMU. A notable distinction, however, is that the low fertility rates in Western Europe have been maintained since at least the 1980s, while the fertility rates in the EE region have dropped dramatically with the onset of the collapse of communism in 1989-1991. Of the 27 EE countries, only the six Muslim-majority transition countries have had fertility rates at replacement rate (2.1 children born per woman) or above.

Consistent with the fertility trends, the Muslim-majority countries have the highest ***proportion of youth*** among the transition countries; 34% on average in 2002 vs. a transition region average of 20%. The proportion of youth in the Muslim-majority transition countries is roughly comparable to that found in Latin America and the Caribbean (31%), though well below the percentage of youth in Sub-Saharan Africa (44%). The proportion of youth in the CEE countries (17% in the Northern

[1] See *Appendix* for country group definitions.

Tier CEE and 19% in the Southern Tier CEE) is comparable to that found in the high-income economies (18%).

All but one transition country (Serbia & Montenegro) witnessed a decrease in the percentage of the ***dependent population*** from 1990-2002. (The dependent population is the percentage of the total population which is less than 15 years of age or greater than 65 years of age). This decline stemmed from a net effect: the decline in the proportion of youth was greater than an increase in the proportion of the elderly.

The range in ***crude death rates*** across the transition countries is almost as high as global extremes: the Muslim-majority transition countries have among the lowest crude death rates worldwide (6 deaths per 1,000 in 1999-2002), while the NFSU countries have among the highest crude death rates (15 deaths), though not as high as Sub-Saharan Africa (17 deaths) on average.

All but two regions in the world experienced an increase in ***life expectancy*** from 1990 to 2002. Only the EE region and Sub-Saharan Africa witnessed a decline; from 70 years to 68 years in EE, and from 50 years to 46 years in Sub-Saharan Africa. The drop in life expectancy in the EE region stemmed from pronounced declines in Eurasia; in fact, life expectancy in the CEE countries increased during this period. The decline in life expectancy in Sub-Saharan Africa, in contrast to that in Eurasia, has been due mostly to large numbers of death from HIV/AIDs.

The highest ***life expectancy gender gaps*** in the world are found in EE, among the NFSU countries where males on average live 12 years less than females. Worldwide trends are in stark contrast with the EE experience: females worldwide live only 2 years more than males in the low-income developing countries; 4 years more in the middle-income developing countries; and 6 years more in the high-income economies.

The ***adult mortality rate*** gender gap in the transition region is also the highest worldwide, and within the transition region, it is among the highest in the NFSU countries. In 2002, the male adult mortality rate in the NFSU countries was 432 deaths per 1,000 adults; for females, it was 157 deaths. This means that roughly 43% of 15 year old males in the NFSU countries will die before reaching 60 years of age. Only in Sub-Saharan Africa is the male adult mortality rate higher: 519 deaths per 1,000 in the year 2000. The highest female adult mortality rates in the transition region are in Central Asia; these rates are higher than in most other parts of the world, both in the developing and developed worlds (with the salient exception of the extremely high female mortality rates in Sub-Saharan Africa).

Possible explanations for some of the striking mortality trends in the region, and particularly the gender disparities emerge from an examination of trends in: (a) lifestyle conditions; (b) "non-medical" deaths (such as suicides, homicides and accidents); and (c) infectious diseases such as TB and HIV/AIDS.

The lion's share of deaths in EE are due to ***non-communicable diseases***, some of which are due to genetic attributes, though most stem from lifestyle choices (in particular, those related to alcohol, smoking, diet and exercise-related conditions). Non-communicable diseases and injuries may contribute up to 95% of deaths in E&E. Drawing from the World Health Organization (WHO), 55% of EE deaths in 2000 can be attributed directly to ***lifestyle diseases***, vs. 40% in the EU-15. In contrast, only 5% of EE deaths were due to infectious, parasitic, maternal and perinatal conditions, compared to 7% in the EU-15. A broader definition (which includes non-medical deaths including suicides and deaths from accidents and homicides, though also fire and war), increases this proportion to 66% in EE, vs. 56% in the U.S. and 45% in the EU-15 countries. Within the transition region, lifestyle related deaths are highest in the NFSU. Obesity and stress-related deaths, which are particularly high in Ukraine, Russia, Latvia, Belarus and Estonia, make up 71-91% of lifestyle deaths. 71% of elderly Russian adults were either overweight or obese in 2003, an increase from 59% in 1992.

Overall, the proportion of ***smokers*** and the amount of cigarettes smoked in the transition region (4.1 cigarettes per person per day) is roughly comparable to Western Europe norms (4.3 to 4.7 cigarettes per person per day for countries for which data are available). However, the gender disparity in smoking is much greater in the transition countries than it is in Western Europe. Males in the transition region smoke more than their Western Europe counterparts, while females in the transition smoke much less than Western European females. In EE, 46% of males smoked in 1999-2001 vs. 16% of females. Contrast this with the UK (29% males and 25% females), France (33% and 21%), Denmark (32% and 29%), and Germany (40% and 32%).

Deaths from smoking-related conditions (lung cancer and emphysema) have been lower in EE than in Western Europe. However, smoking-related deaths have increased between 1996 and 2000 in 11 out of the 16 transition countries for which there are data, fueled in part by a rise in smoking among women, particularly in the Northern Tier CEE. Smoking-related deaths have been particularly high in Hungary, Ukraine, and Belarus.

Citizens of the EE countries consume notably less ***alcohol*** (undifferentiated by the type of alcoholic drinks and excluding home-made liquor) than most of the citizens in the EU-15 countries, roughly a third less (6.5 liters per person in 2001 in EE vs. 9.2 in the EU-15). Persons in the Caucasus and the Central Asian Republics drink much fewer alcoholic beverages (2.5 and 1.4 liters) than the average EE person, and much fewer still than those in the Northern Tier CEE countries (8.7 liters) and the NFSU countries (7.4 liters).

One important aspect that these country averages mask is the differences in alcohol consumption by gender. The Russia Longitudinal Monitoring Survey data underscore this in the case of Russia. Russian males drink far more alcohol than do females. The annual per capita alcohol consumption for Russian males in 2003 was 13.1 liters, while for females it was only 2.1 liters. Earlier years showed even greater differentiation in consumption by gender.

Despite the lower estimates of alcohol consumption in the EE region compared to the EU-15, deaths in 2000 which were directly connected to alcohol (i.e., cirrhosis) were notably higher in EE than in the EU-15 (as well as in the U.S.). There were 24 alcohol-related deaths per 100,000 in EE, vs. 15 in the EU-15 and 9 in the U.S. Alcohol-related deaths were particularly high in Moldova and Hungary (69 and 66, respectively). Alcohol-related deaths increased from 1996 to 2000 in 10 out of the 16 transition countries for which data are available.

Data on Russia show male life expectancy trends tracking very closely and inversely with per capita alcohol consumption in Russia. There is also evidence that suggest that many deaths are indirectly caused by alcohol. Again using data from Russia, there exist a very close correspondence between alcohol consumption in Russia and ***external causes of death*** (i.e., from injuries, such as those stemming from automobile accidents, and poisoning, primarily alcohol poisoning).

Suicide rates in the EE region are more than twice the rates in the EU-15. Within the transition region, they are highest in the NFSU. In fact, the WHO estimates that the six NFSU (for which data available; i.e., excluding Moldova) in addition to Hungary, Kazakhstan, and Slovenia have the highest suicides worldwide; Finland is 10$^{th.}$ Suicide rates in EE are lowest in the Caucasus, and among the Muslim-majority countries. Suicide rates have been falling throughout the transition region since the mid-to-late 1990s.

According to the WHO mortality database, ***infectious, parasitic, maternal and perinatal diseases*** were responsible for 5% of EE deaths in 2000 (and of that, only 1.2% due to TB and HIV); vs. 8% and 7% in the US and the EU-15, respectively. Estimates of ***HIV prevalence*** in the large majority of transition countries remain low by global standards: 23 out of 27 transition countries had rates equal to or less than the EMU average in 2003 (of 0.31 percent of the population). However, from 1997-2003, HIV rates increased more rapidly in the EE than any

other region in the world. Yet, only a handful of transition countries have been contributing to this significant increase in recent years.

TB prevalence is far higher in EE than it is in the EU-15, and has increased in the majority of EE countries from 1990 to 2002, while it has decreased in the EU-15 during this period. The incidence of TB was almost 7 times greater in 1999-2002 in EE than in the EU-15 (75 vs. 11 per 100,000 persons). TB is highest in EE in some Muslim-majority countries, some NFSU countries, and Romania; its incidence hence cuts across a wide and unusual variety of transition countries.

(4) A closer look at migration patterns reveals the following:

Political aspects. As a percent of the population, the number of ***refugees*** originating from the EE from 1992-2002 was comparable to Middle East and North Africa levels, notably fewer than levels in Sub-Saharan Africa, and much higher than all other regions of the world. Over the transition, the number of EE refugees was highest in the mid-to-late 1990s. Far and away, the largest numbers of refugees have been in the Balkans, the Caucasus, and Tajikistan. Among these countries, six transition countries stand out: Bosnia-Herzegovina, Serbia-Montenegro, Croatia, Azerbaijan, Armenia, and Tajikistan. These six countries, in fact, are among the top 20 refugee-producing countries worldwide (population weighted) from 1992-2003, according to UNHCR.

There is a large difference between the number of refugees in the transition region by country of origin, and the number of refugees by country of destination; refugees by transition country of origin are roughly 30% greater than refugees by transition country of destination. This suggests that many refugees have migrated to countries outside the region. Of the top 10 refugee-producing countries in EE in 2002, 59% of the refugees stayed in the EE region, while 21% went to Western Europe and 14% went to the U.S. However, these aggregates mask considerable diversity in destination of refugees by country. For example, within the Balkans, 73% of the refugees from Serbia and Montenegro went to Western Europe, while 93% of refugees from Croatia stayed within EE, while refugees from Bosnia-Herzegovina spread out among EE countries (35%), Western Europe (35%) and the U.S. (25%).

Transition countries which have had the greatest refugees have generally also had the greatest ***internally displaced persons (IDPs)***. There have generally been more IDPs than refugees, however. In other words, many more persons who were displaced have stayed within their country's borders than have gone beyond them. Weighted by population, IDPs from 1992-2002 in the transition region have been greatest far and away in Bosnia-Herzegovina (22,167 per 100,000), followed by Azerbaijan (7,127), Georgia (4,637), Serbia-Montenegro (3,612), Croatia (3,355), Tajikistan (2,038), and Armenia (1,809). The average number of IDPs per 100,000 in the top ten transition countries was comparable to the average found in Sub-Saharan Africa from 1992-2002. These orders of magnitude are higher than anywhere else in the world. Bosnia-Herzegovina, Azerbaijan, and Georgia all fall into the world's top 10 IDP-producing countries when weighted by population.

Economic aspects. ***Remittances*** play a critical economic role in a number of transition countries. However, estimates vary widely, and a more rigorous effort to measure remittances as well as their repercussions needs to be pursued. In this context, according to the World Bank, remittances are highest in three Southern Tier CEE countries: Albania, Bosnia-Herzegovina, and Serbia-Montenegro (12-13% of GDP). They are estimated by the World Bank to be far lower in the Caucasus countries of Armenia and Georgia (1 and 3% of GDP respectively), and far lower still in the EMU (0.2%). These estimates, at least for the Caucasus, are likely far from the mark. IMF estimates of remittances and private transfers for Armenia, for example, have ranged from 8-9% of GDP from 1998 to 2002, and a USAID-financed study estimates Armenian remittances to be 25% of GDP.

Most of the transition countries conformed to the global trend of ***urbanization*** (i.e., a growing share of the urban population to the total population) from 1990 to 2002. However, ten transition countries experienced ***ruralization*** from 1990-2002: most salient are the poorer Eurasian countries of Tajikistan, Moldova, Kyrgyzstan, Uzbekistan, and Azerbaijan, but also included in this trend is Latvia.

One proxy for ***brain drain*** (or the migration of human capital) might be the trend over time of the proportion of research and development personnel per population. Most transition countries saw a notable decrease in research and development (R&D) personnel from 1994-2001: 11 (out of 18) countries in the transition region saw a decrease in R&D personnel ranging from 9% to 43%. Losses were particularly high in Croatia (43%), Georgia (35%), Bulgaria (33%), and the Ukraine (30%). In contrast, five of the eight Northern Tier CEE countries saw a significant increase in these persons (by 26% in Hungary; 17% in the Czech Republic; 13% in Poland). On the basis of at least this dimension, the EE region has witnessed a growing human capital gap between the Northern Tier CEE and many of the rest of the transition countries. Moreover, compared to the limited data elsewhere in the world, the declines in R&D persons in many of the transition countries are high by global standards.

Human trafficking is widely recognized as a very troubling trend in much of the transition region. However, there are few estimates of the magnitude of the problem, and they vary widely. There is consensus, nevertheless, from a number of sources that there has been a dramatic increase in the women being trafficked from Europe and Eurasia to North America and Western Europe over the past decade. According to the UNECE, Russia, Ukraine, and Moldova in particular have become the main supplying countries from the transition region since the mid-1990s. Estimates on Russia range from 500,000 to 1 million trafficked women since the mid-1990s; for Ukraine, 400,000; for Moldova, 50,000-100,000. Recently these countries have been joined by Albania (over 8,000 trafficked women), Lithuania (several thousand per year), and Central Asia (5,000 from Kazakhstan; 4,000 from Kyrgyzstan) and Romania (no data available).

Finally, one outcome of population change may be changes in ***ethnic compositions***, either as a result of natural changes (majority population increases or decreases at a different rate than other populations) and/or migration (majority population migrates at a different rate than other populations). Ethnic majorities constituted 80% of their national populations on average in the transition region in 2002, a slight increase from 79% in 1992. Highest majority ethnic concentration is found in Albania (95%), and Armenia (93%); lowest in Bosnia-Herzegovina (44%), Kyrgyzstan (52%), and Kazakhstan (53%). Ten transition countries have become more ethnically homogenous from 1992 to 2002 (as defined by an increase in the population share of the ethnic majority): Kazakhstan's ethnic homogeneity increased the most (from 40% in 1992 to 53% in 2002), followed by Uzbekistan and Latvia. Only four countries have had a decrease in the population share of the largest ethnic group: Hungary, Slovenia, Bulgaria, and Serbia-Montenegro. There doesn't appear to be a link between the concentration of ethnic majorities and the increase in the concentration of ethnic majorities. More ethnically homogenous countries do not seem to further homogenize any faster than more ethnically heterogeneous countries.

Introduction and Methodology[2]

The primary objective of this research is to measure the salient demographic trends of Eastern Europe and Eurasia since the beginning of the transition. A secondary objective is to address some of the health factors which seem to be contributing to many of these demographic trends, particularly the determinants of the natural changes in the population (births rates vs. death rates). There are two general reasons why this research was undertaken. One, much of the analytical focus on the transition region by USAID's Europe and Eurasia Bureau has been on trends in economic, democratic, and social transitions with an eye most recently towards phasing-out of these "sectors" after certain thresholds have been crossed. Demographic trends can profoundly influence all three of these transition dimensions, though perhaps sometimes with considerable lag. Hence, explicitly highlighting key demographic trends of concern is an important part of taking stock as to whether the Bureau's phase-out analyses are on track and/or remain on track.

A second reason this research has been undertaken is related to the first reason. There have been ample analyses, many focused primarily on Russia or parts of the former Soviet Union, that have concluded that a demographic crisis exists, and in its wake are some very dire consequences that will likely continue to unfold if not accelerate. The work of M. Feshbach in particular comes to mind. Does the total sum of the data support this pessimism? How widespread is the crisis across the transition region? Are the trends in Russia indicative of wider trends (within the transition region as well as globally), or is Russia the exception to the general rule?

This report begins with the population growth rate and overview trends. It then reduces population growth to its components: natural change and migration. Natural change is deduced from the crude birth and death rates (births/deaths per 1,000 per year). The many demographic, health, and lifestyle factors influencing natural change are analyzed (fertility, age distribution, HIV, smoking, etc.). The different types of migration are analyzed: legal migration, illegal, trafficking, refugees, etc.

Most data were taken from the World Bank's *World Development Indicators* 2004 dataset. Alternative sources for this type of demographic data included the UN *World Population Prospects*, which was rejected as the main source because the data are only given in five year intervals, and the US Bureau of the Census *International Database*, which was not chosen in large part because their dataset begins in 1996.

Data on suicide, smoking, alcohol, and tuberculosis, were taken from the WHO's *European Health For All* database. Refugee data came from UNHCR. IDP data came from the U.S. Committee for Refugees. Ethnic majority data was taken from the CIA Factbook. R&D Personnel data came from UNESCO. Human Trafficking data was taken from the Regional Clearing Point Stability Pact for Southeast Europe. Mortality by Cause data was taken from the WHO Mortality Database. The HIV dataset was taken from UNAIDS.

Unless otherwise noted, regional aggregations are weighted by population. For example, in Eurasia, Russia will be much more influential on the sub-regional aggregation than Moldova. Countries with missing values were deleted from the average except in the case for refugees, where blanks were assumed to be zero.

The country groupings within Europe and Eurasia (Northern Tier CEE, Muslim-majority, etc.) are specified in the *Appendix*; the regions outside of EE (Sub-Saharan Africa, middle-income countries, etc.) are defined by the World Bank, and can also be found in the *Appendix*.

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[2] Many thanks to the E&E Health Team (including N. Blanchet, R. Rosenberg, W. Coursen, H. Destler, F. Duncan, F. Fielding, D. Ghandhi, P. Holmes, S. Lee, M. Medrek, and D. Richardson) for very helpful and thoughtful suggestions on an earlier draft of this research.

The three primary sub-regions utilized in the Bureau's *Monitoring Country Progress* report are also analyzed here. However, two additional significant country groups emerged from the analysis: the Muslim-majority countries and the Northern Former Soviet Union countries (NFSU). The Muslim-majority group is a group of six countries: Albania, Azerbaijan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan. Among these countries, Albania has the smallest proportion of the population as Muslim (70%), and Azerbaijan the highest (93.4%). The next highest percent for a country without a Muslim-majority is Kazakhstan (47%), then Bosnia-Herzegovina (40%). The NFSU countries consist of seven countries: Russia, Ukraine, Moldova, Belarus, Latvia, Lithuania, and Estonia. This group is a combination of countries from Eurasia and the Northern Tier CEE.

The migration values in this report were calculated as a residual of population growth and natural change, and may differ significantly from statistics reported from the countries themselves. This decision was made with the intention of quantifying types of migration that frequently go unreported (trafficking and other forms of illegal migration, etc.).

$$\text{Net Migration} = \underbrace{[\text{Population}^{\text{final}} - \text{Population}^{\text{initial}}]}_{\textit{Population Growth}} - \underbrace{[\text{Births} - \text{Deaths}]}_{\textit{Natural change}}$$

Finally, some general caveats about the data merit mention. There are often a number of ways to broadly check the validity of data. This includes comparing the consistency across sources, and often more importantly, by "triangulating" across related indicators (that is, looking for consistency in message and findings among related indicators). We also know, however, that data reliability and uniformity across countries are generally much lower in the Eurasian countries than is the case in CEE. In some cases, for example, we excluded data on Turkmenistan in regional averages since the figures looked particularly suspect by any number of cross-checking procedures. In addition, data during years of conflict, in the Balkans and Caucasus in particular, are generally less reliable than in non-conflict years.

Also, as noted throughout the report, certain topics of this empirical research are in greater need of follow-up than others in no small part because current measures likely come up short. This includes some of the health measures, such as infectious diseases (where official numbers likely greatly undercount actual numbers), and assessments of lifestyle behaviors (such as smoking and drinking). On the latter, some of these data may be fairly accurate, but also incomplete. The data show, for example, that citizens of the EE countries consume notably less alcohol than most of the citizens in the Western Europe. But disaggregating those data--in the few cases where the disaggregated data are available--reveals a much more nuanced picture; one that suggests a much higher concentration of drinking of beverages of much higher alcoholic content among some groups (such as certain male cohorts) in the transition countries than in Western Europe.

Much of the data related to migration are also likely rough estimates. This includes the migration of people across borders as well as within borders, particularly during times of war and particularly illegal flows, such as human trafficking. This also includes estimates of remittances. In general, we try to give the best estimates available and, when appropriate, try to emphasize a more "bird's eye" analysis rather than focusing on "decimal point differences."

Findings

Overview trends. The Eastern Europe & Eurasia region is the only region worldwide to have experienced a ***contraction in population*** from 1991-2002 (*Table 1* and *Figure 1*).[3] The transition region overall witnessed a contraction in population from 1991-2002 of -0.1%. To contrast, high-income economies witnessed population growth of 0.7% in this period and low-income economies, 2%. The population contraction in the transition region is more pronounced (-0.3%) if one excludes the 6 Muslim-majority transition countries (which experienced population growth of 1.4%), and was the most pronounced in the Baltics (-0.8) (*Table 1* and *Figure 2*). 18 of 27 transition countries experienced a contraction in population in this period. A pronounced decline in population growth in the transition region coincided with the collapse of communism; i.e., it became particularly pronounced from 1989 through the mid-1990s (*Figures 1* & *2*).

Population changes are a function of two dynamics: ***natural changes in the population*** (the difference between ***birth rates*** and ***death rates***) and migration. *Table 2* shows the net effect on population growth from a natural change in the population and migration (i.e., immigration or emigration) from 1999-2002 for the transition region as well as for other parts of the world. The EE region was the only region in the world in this period that experienced both a natural decrease in population and emigration on balance.

Table 3 and *Figure 3* show the natural change in the population trends from 1991-2002. The EE region is the only region worldwide that has not experienced a natural increase in population from 1991-2002 (where birth rates exceed death rates), and since 1994, the natural change in the population in the region has been negative. This pattern was the most pronounced in Northern Former Soviet Union (NFSU). The Muslim-majority transition countries are the salient exception in the transition region. From 1991-2002, the six Muslim-majority countries experienced a natural increase in population equal to almost 2%, comparable to the natural increase among the low-income developing countries. The natural change of population in EE has passed through 3 stages since 1991: a steep drop from 1991-94; a more moderate drop from 1994-98; and a leveling off from 1999-02 (*Figure 3*).

Figure 4 shows all the countries of the world for which the crude death rate in 2000-2001 exceeded the crude birth rate; i.e. where a natural decrease in the population took place. Fourteen of these 18 countries are transition countries. The largest decreases in the natural population took place in the NFSU (most notably Ukraine which experienced 197 deaths per 100 births) as well as in Bulgaria and Hungary. Three of the four Western Europe countries (Italy, Greece, and Sweden) had crude deaths exceeding crude births only slightly; Germany's crude death to birth rate was higher (112 deaths per 100 births), and closer to some transition country standards, such as those in Moldova and Croatia

The global trend in ***migration*** has been emigration from the low-income countries and immigration to the high-income countries (*Table 4*). The EE region, which consists mostly of middle-income countries, experienced emigration on balance from 1991-2002 (*Table 4* and *Figure 5*). The only other region worldwide to experience net emigration during this period was Latin America and the Caribbean.

Twenty of twenty-seven EE countries experienced emigration from 1991-2002. The top three emigrating countries in the transition region in fact are in the top 20 emigrating countries worldwide (*Table 5*): Armenia and Albania are number 1 and 2, respectively. Both countries experienced a reduction in population overall close to 25% during this period. Kazakhstan is number 6 worldwide. Four of the other countries in the top-ten are tiny islands (Samoa, Tonga, Marshall Islands and Dominica); the other top-ten countries are Somalia, Guyana, and Greenland.

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[3] Some of the following figures have been updated to include the recently released data from the World Bank's *World Development Indicators 2005* (April 2005). The tables have not been updated. In most cases, this translated into an additional year (2003) in the charts.

The data show only four transition countries experiencing immigration on balance from 1991-2002: Russia, Hungary, Belarus and Turkmenistan. The data for Turkmenistan are highly suspect (and inconsistent across different sources).

Emigration in the transition region was generally higher earlier on in the transition, particularly in the Balkans and the Caucasus. However, emigration was still taking place in the latest time period assessed (1999-2002) in the majority of transition countries, in 17 out of 27 countries, and most notably in Kazakhstan, Armenia, Tajikistan, and Albania.

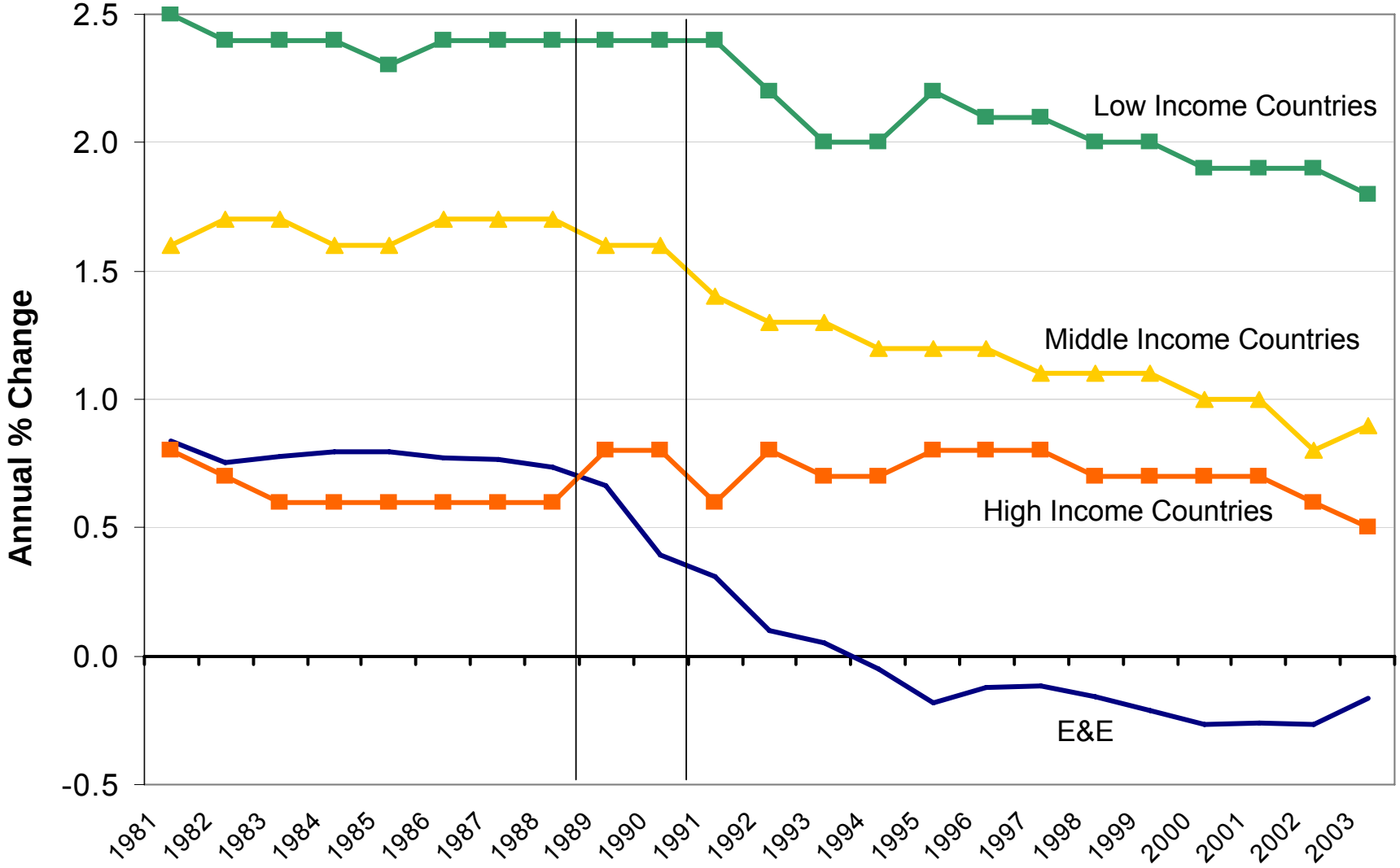
Table *1- Aggregate Population Trends*

Table 1: Average Population Growth Rates (%)						
	1981-85	1986-90	1991-94	1995-98	1999-02	1991-02
Turkmenistan	2.5	2.5	2.8	2.2	1.7	2.2
Uzbekistan	2.5	2.5	2.2	1.8	1.2	1.7
Tajikistan	2.9	2.9	2.0	1.6	0.6	1.4
Azerbaijan	1.6	1.4	1.5	1.0	0.8	1.1
Kyrgyzstan	1.9	2.0	0.6	1.4	1.1	1.0
Macedonia	0.8	-0.7	0.6	0.8	0.3	0.6
Poland	0.9	0.5	0.3	0.1		0.2
Slovak Republic	0.8	0.3	0.3	0.2	-0.1	0.2
Serbia and Montenegro	0.8	0.6	0.0	0.3	0.1	0.1
Slovenia	0.7	0.2	-0.1	-0.1	-0.2	-0.1
Hungary	-0.2	-0.4	-0.3	-0.4	0.1	-0.2
Belarus	0.7	0.4	0.1	-0.4	-0.4	-0.2
Czech Republic	0.2	0.0	-0.1	-0.4	-0.2	-0.2
Moldova	0.9	0.8	-0.1	-0.3	-0.3	-0.2
Russia	0.7	0.6	0.0	-0.3	-0.5	-0.2
Romania	0.5	0.4	-0.5	-0.2	-0.2	-0.3
Albania	2.0	2.1	-0.3	-1.1	0.4	-0.3
Georgia	0.8	0.7	-0.4	-0.3	-0.6	-0.4
Ukraine	0.4	0.4	0.0	-0.8	-0.8	-0.5
Lithuania	0.8	0.8	-0.3	-0.7	-0.6	-0.5
Croatia	0.5	0.3	-0.1	-1.9	0.3	-0.6
Bosnia and Herzegovina	1.1	0.6	-5.0	0.9	2.2	-0.7
Bulgaria	0.2	-0.5	-0.8	-0.5	-0.9	-0.8
Kazakhstan	1.0	0.9	-0.1	-1.2	-1.1	-0.8
Latvia	0.6	0.4	-1.2	-1.4	-0.8	-1.1
Estonia	0.7	0.5	-1.8	-1.5	-0.5	-1.2
Armenia	1.5	1.2	-1.2	-1.5	-0.9	-1.2
Europe and Eurasia	0.8	0.7	0.1	-0.1	-0.2	-0.1
NT CEE	0.6	0.3	0.0	-0.1	-0.1	0.0
ST CEE	0.6	0.4	-0.7	-0.3	0.0	-0.3
N. FSU	0.6	0.5	0.0	-0.4	-0.6	-0.3
Eurasia	0.9	0.8	0.3	-0.1	-0.3	0.0
Muslim Majority	2.3	2.3	1.8	1.5	1.0	1.4
European Monetary Union	0.2	0.3	0.4	0.3	0.3	0.3
East Asia and Pacific	1.6	1.7	1.4	1.2	1.0	1.2
Latin America and Carib.	2.1	1.9	1.7	1.6	1.4	1.6
Middle East and North Afr.	3.3	3.1	2.5	2.0	1.9	2.1
South Asia	2.2	2.2	2.0	1.9	1.8	1.9
Sub-Saharan Africa	2.9	2.9	2.6	2.7	2.3	2.5
Low-Income Economies	2.3	2.3	2.1	2.1	1.8	2.0
Middle Income Economies	1.6	1.6	1.3	1.2	0.9	1.1
High Income Economies	0.7	0.7	0.7	0.8	0.7	0.7

World Bank, *World Development Indicators* (2004). Serbia-Montenegro's 2002 population growth rate was excluded from the aggregations.

Figure 1

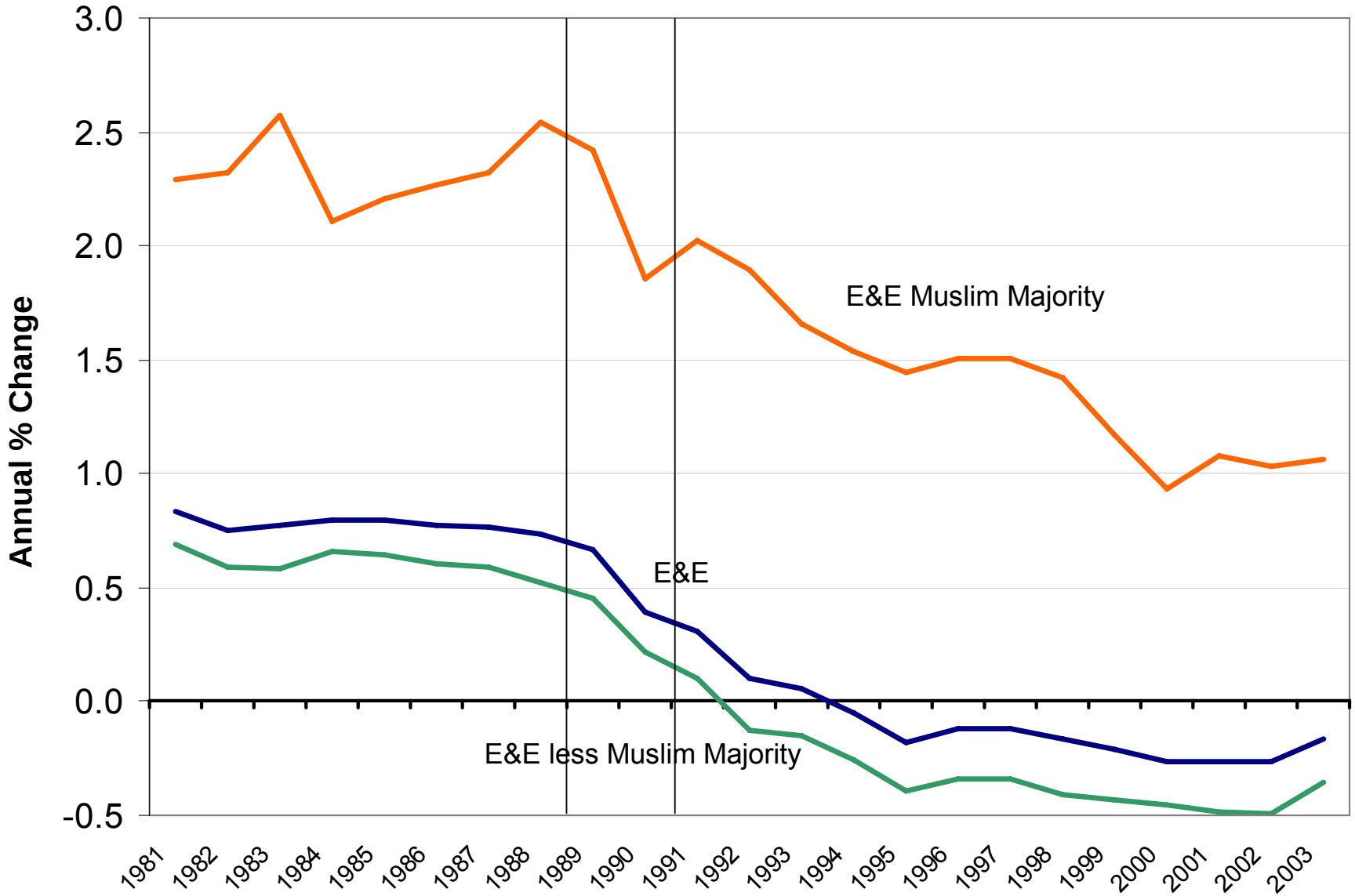
Population Growth in the World



World Bank, *World Development Indicators* (2005). Missing values were interpolated.

Figure 2

Population Growth in E&E



World Bank, *World Development Indicators* (2005). Missing values were interpolated.

Table 2: Natural Change, Migration & Population Growth 1999-02

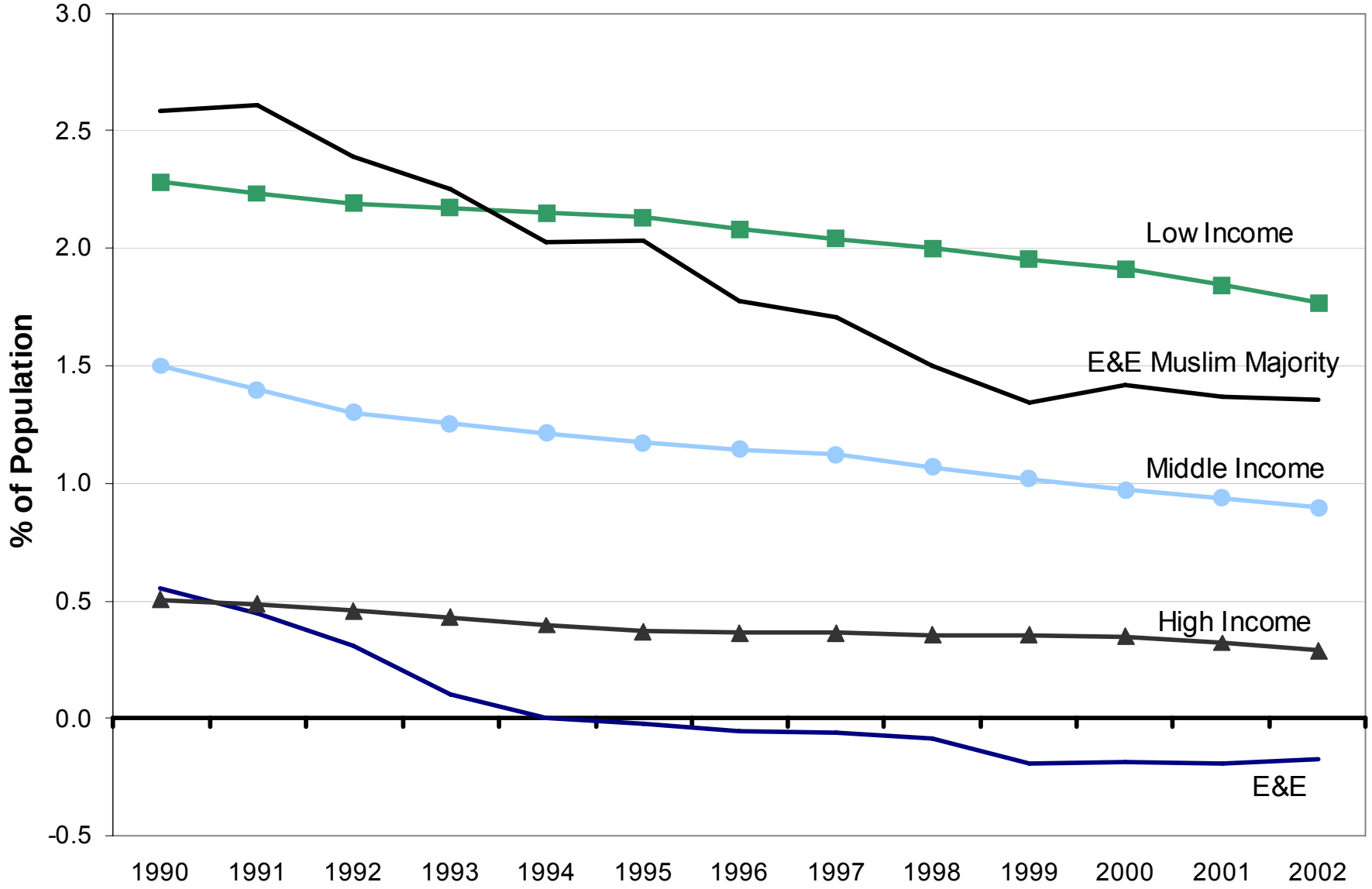
	Natural Change	Migration	Population Growth
Ukraine	-0.7	-0.1	-0.8
Russia	-0.6	0.1	-0.5
Latvia	-0.5	-0.2	-0.8
Bulgaria	-0.5	-0.4	-0.9
Belarus	-0.5	0.1	-0.4
Estonia	-0.4	0.0	-0.5
Hungary	-0.4	0.5	0.1
Czech Republic	-0.2	0.0	-0.2
Lithuania	-0.2	-0.4	-0.6
Croatia	-0.2	0.4	0.3
Romania	-0.2	-0.1	-0.2
Moldova	-0.1	-0.2	-0.3
Georgia	-0.1	-0.5	-0.6
Slovenia	-0.1	-0.2	-0.2
Slovakia	0.1	-0.1	-0.1
Serbia-Montenegro	0.1	0.0	0.1
Armenia	0.3	-1.1	-0.9
Bosnia-Herzegovina	0.4	1.8	2.2
Kazakhstan	0.4	-1.5	-1.1
Macedonia	0.5	-0.2	0.3
Azerbaijan	0.9	-0.1	0.8
Albania	1.2	-0.8	0.4
Kyrgyzstan	1.4	-0.3	1.1
Turkmenistan	1.4	0.2	1.7
Tajikistan	1.5	-0.9	0.6
Uzbekistan	1.6	-0.4	1.2
Poland*	0.1	0.0	0.1
Europe and Eurasia	-0.2	-0.2	-0.4
NT CEE	-0.1	0.0	-0.1
ST CEE	0.0	-1.1	-1.1
Eurasia	-0.2	-0.1	-0.3
NFSU			
Muslim-majority	1.4	-0.4	1.1
European Monetary Union	0.1	0.2	0.3
East Asia and Pacific	1.0	0.0	1.0
Latin America and Carib.	1.5	-0.1	1.4
Middle East and North Afr.	1.9	0.0	1.9
South Asia	1.8	0.0	1.8
Sub-Saharan Africa	2.3	0.1	2.3
Low-Income Economies	1.9	-0.1	1.8
Middle-Income Economies	1.0	0.0	0.9
High-Income Economies	0.3	0.3	0.7

* Data for 1995 - 1998.
World Bank, *World Development Indicators* (2004). Serbia-Montenegro's 2002 population growth rate was excluded from the aggregations.

Table 3: Average Rate of Natural Increase (%)				
	1991-94	1995-98	1999-02	1991-02
Ukraine	-0.3	-0.6	-0.7	-0.5
Latvia	-0.3	-0.6	-0.5	-0.5
Russia	-0.3	-0.5	-0.6	-0.5
Bulgaria	-0.3	-0.6	-0.5	-0.5
Estonia	-0.3	-0.5	-0.4	-0.4
Hungary	-0.3	-0.4	-0.4	-0.3
Belarus	0.0	-0.4	-0.5	-0.2
Czech Republic	0.0	-0.2	-0.2	-0.1
Romania	0.0	-0.2	-0.2	-0.1
Croatia	-0.1	0.0	-0.2	-0.1
Lithuania	0.2	-0.1	-0.2	0.0
Slovenia	0.0	0.0	-0.1	0.0
Moldova	0.5	0.1	-0.1	0.1
Poland	0.3	0.1		0.2
Slovak Republic	0.4	0.1	0.1	0.2
Georgia	0.4	0.3	-0.1	0.2
Serbia and Montenegro	0.4	0.2	0.1	0.2
Bosnia and Herzegovina	0.6	0.6	0.4	0.5
Kazakhstan	1.1	0.5	0.4	0.7
Macedonia	1.0	0.7	0.5	0.7
Armenia	1.1	0.5	0.3	0.7
Azerbaijan	1.8	1.1	0.9	1.3
Albania	1.8	1.4	1.2	1.5
Kyrgyzstan	2.0	1.6	1.4	1.6
Turkmenistan	2.6	1.7	1.4	1.9
Tajikistan	2.7	1.8	1.5	2.0
Uzbekistan	2.6	2.1	1.6	2.1
Europe and Eurasia	0.2	0.0	-0.2	0.0
NT CEE	0.1	-0.1	-0.1	0.0
ST CEE	0.2	0.0	0.0	0.1
Eurasia	0.2	0.0	-0.2	0.0
N. FSU	-0.3	-0.5	-0.6	-0.5
Muslim Majority	2.4	1.8	1.4	1.9
European Monetary Union	0.1	0.1	0.1	0.1
East Asia and Pacific	1.4	1.2	1.0	1.2
Latin America and Carib.	1.8	1.7	1.5	1.7
Middle East and North Afr.	2.3	2.1	1.9	2.1
South Asia	2.1	2.0	1.8	2.0
Sub-Saharan Africa	2.8	2.6	2.3	2.6
Low-Income Economies	2.2	2.1	1.9	2.1
Middle Income Economies	1.3	1.1	1.0	1.1
High Income Economies	0.4	0.4	0.3	0.4

World Bank, *World Development Indicators* (2004).

Figure 3 Natural Change in Population in the World

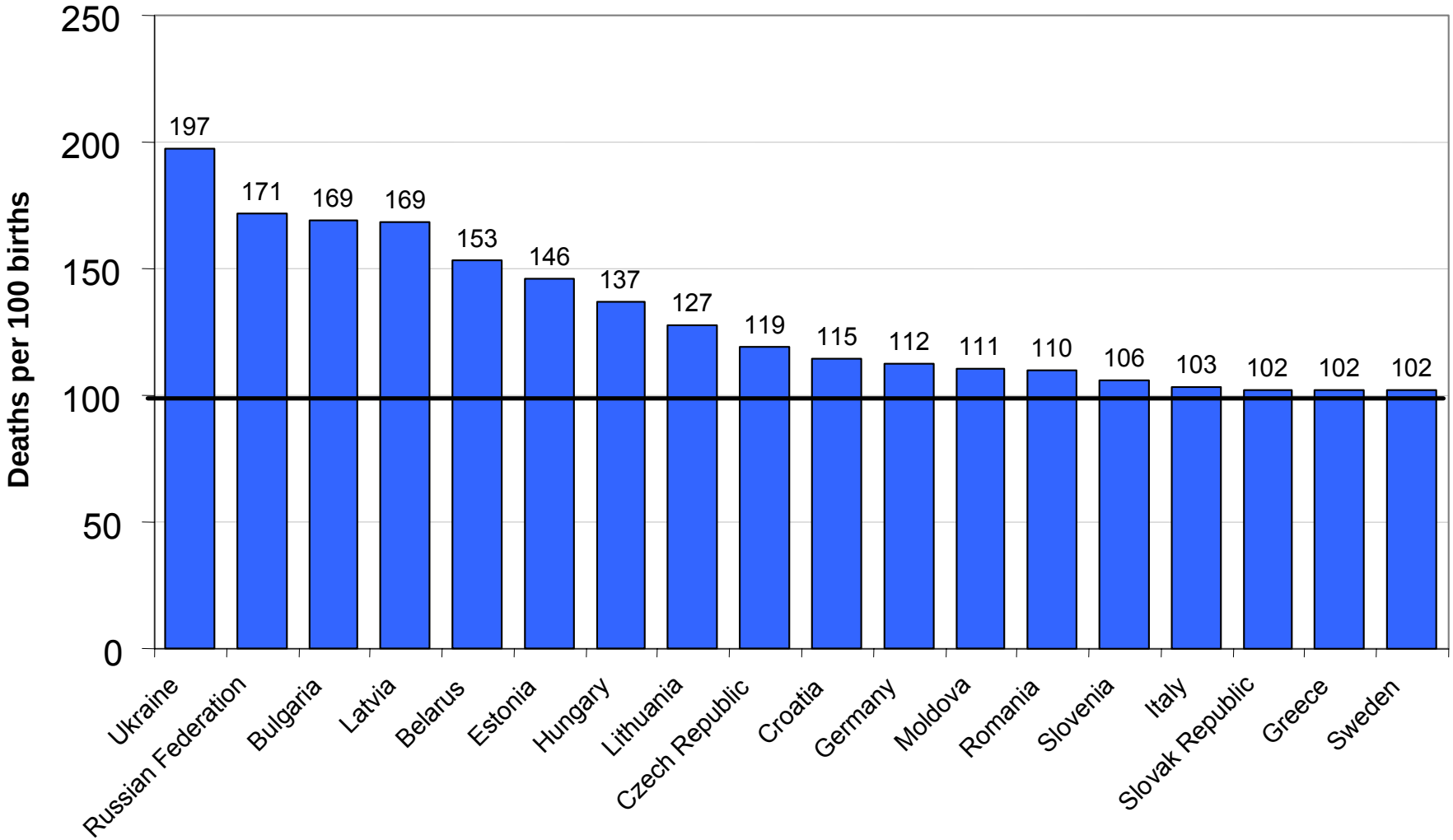


World Bank, *World Development Indicators* (2004). Natural Change in population is the difference between crude birth rates and crude death rates, expressed as a percentage. Missing values were interpolated.

Figure 4

Europe and Eurasia Countries of Natural Decrease in Population

(Deaths per 100 Births)



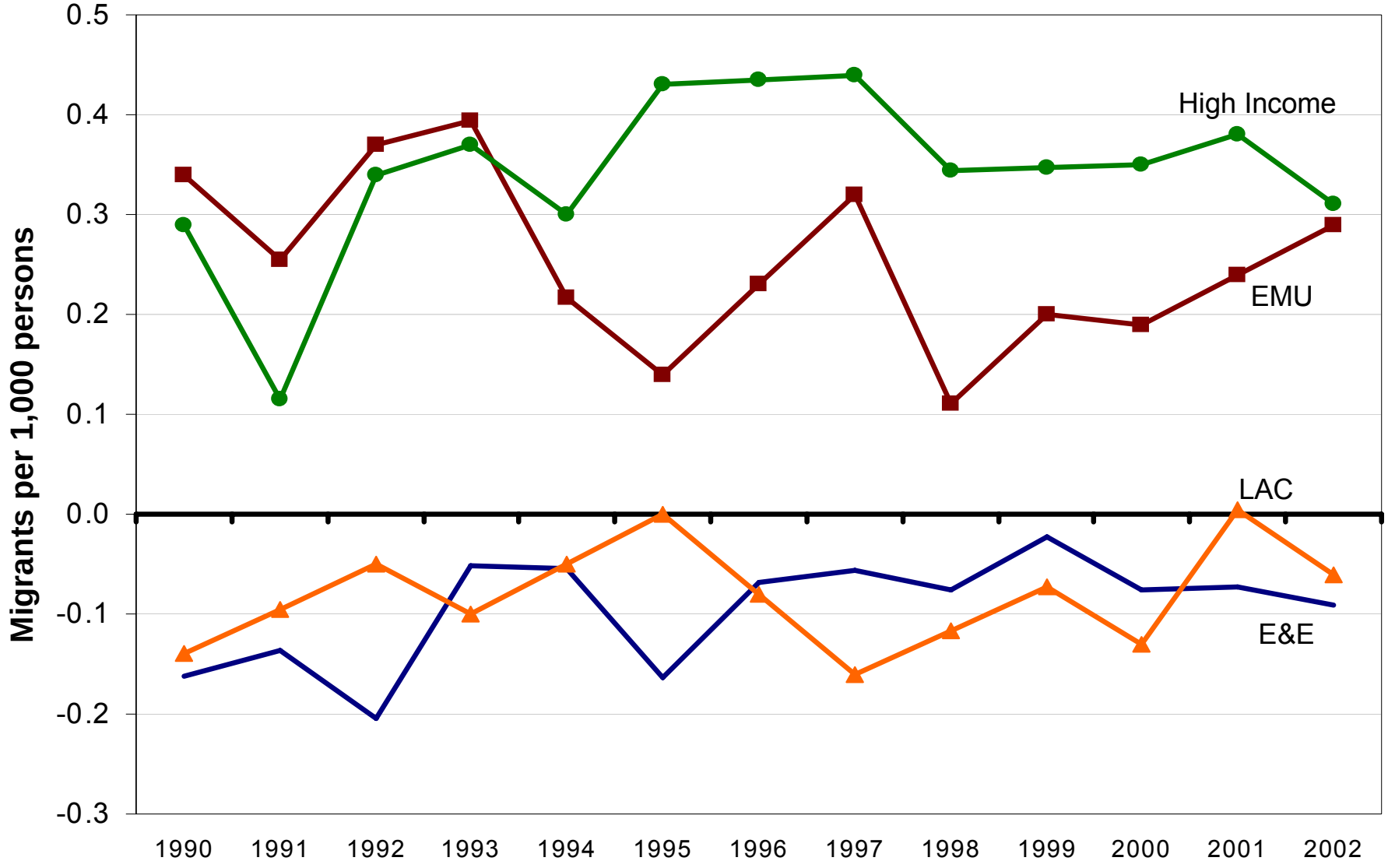
Data are from 2000 & 2001. Eberstadt, *The Demographic Factor in Russian Development* (December 2003) drawing from Council of Europe, *Recent Demographic Developments in Europe* (December 2002).

Table 4: Average Migration Rate				
(Migrants per 1,000 pop.)	1991-94 avg	1995-98 avg	1999-02 avg	1991-02 avg
Turkmenistan	0.2	0.5	0.2	0.3
Russia	0.3	0.3	0.1	0.2
Hungary	0.0	0.0	0.5	0.2
Belarus	0.1	0.0	0.1	0.1
Ukraine	0.3	-0.2	-0.1	0.0
Slovakia	-0.1	0.1	-0.1	0.0
Poland	-0.1	0.0		0.0
Czech Republic	-0.1	-0.2	0.0	-0.1
Slovenia	-0.2	-0.1	-0.2	-0.1
Serbia-Montenegro	-0.4	0.0	0.0	-0.1
Macedonia	-0.4	0.0	-0.2	-0.2
Romania	-0.5	-0.1	-0.1	-0.2
Azerbaijan	-0.3	-0.1	-0.1	-0.2
Bulgaria	-0.6	0.1	-0.4	-0.3
Moldova	-0.6	-0.3	-0.2	-0.4
Uzbekistan	-0.4	-0.3	-0.4	-0.4
Lithuania	-0.4	-0.6	-0.4	-0.5
Croatia	0.0	-1.9	0.4	-0.5
Tajikistan	-0.7	-0.2	-0.9	-0.6
Latvia	-0.8	-0.8	-0.2	-0.6
Kyrgyzstan	-1.3	-0.2	-0.3	-0.6
Georgia	-0.8	-0.6	-0.5	-0.7
Estonia	-1.5	-0.9	0.0	-0.8
Bosnia-Herzegovina	-5.6	0.3	1.8	-1.1
Kazakhstan	-1.1	-1.7	-1.5	-1.4
Albania	-2.1	-2.5	-0.8	-1.7
Armenia	-2.2	-2.1	-1.1	-1.8
Europe and Eurasia	-0.1	-0.1	-0.1	-0.1
NT CEE	-0.1	-0.1	0.0	-0.1
ST CEE	-0.9	-0.3	0.0	-0.4
Eurasia	0.0	-0.1	-0.1	0.0
N.FSU	0.2	0.1	0.1	0.1
Muslim Majority	-0.6	-0.3	-0.4	-0.4
Balkans	-1.3	-0.6	0.2	-0.5
Caucasus	-0.9	-0.6	-0.5	-0.7
E&E less Balkans & Caucasus	0.0	0.0	-0.1	0.0
European Monetary Union	0.3	0.2	0.2	0.3
East Asia and Pacific	0.0	0.0	0.0	0.0
Latin America and Carib.	-0.1	-0.1	-0.1	-0.1
Middle East and North Afr.	0.2	-0.1	0.0	0.0
South Asia	0.0	0.0	0.0	0.0
Sub-Saharan Africa	-0.3	0.1	0.1	0.0
Low-Income Economies	-0.1	-0.1	-0.1	-0.1
Middle Income Economies	0.0	0.0	0.0	0.0
High Income Economies	0.3	0.4	0.3	0.3

World Bank, *World Development Indicators* (2004).

Figure 5

Migration in the World



World Bank, World Development Indicators (2004). Migration is calculated as the residual from total population change less the natural change in population.

Table 5: Migration Rates for the World's Top 10 Emigrating Countries

(Migrants per 1,000 pop.)	1991-02 avg
Armenia	**-1.8**
Albania	**-1.8**
Samoa	-1.6
Tonga	-1.6
Marshall Islands	-1.5
Kazakhstan	**-1.5**
Dominica	-1.4
Somalia	-1.2
Guyana	-1.2
Greenland	-1.0

World Bank, *World Development Indicators* (2004)

Natural changes in the population. ***Crude birth rates*** vary widely in the transition region (*Table 6*). The NFSU countries have the lowest crude birth rates worldwide, while the Muslim-majority countries have birth rates comparable to most of the developing countries. In 1999-2002, the NFSU countries had an average annual crude birth rate of 8.8 births per 1,000 persons. Only the advanced industrial economies have birth rates almost as low: 11.9 births in 1999-2002 for the high income economies; 10.4 for the EMU, a subset of the high income economies. The Muslim-majority transition countries had a crude birth rate of 20 per 1,000 in 1999-2002, which is higher than such rates in the developing countries in East Asia and the Pacific (17 births), roughly comparable to birth rates in Latin America and the Caribbean (21.5 births), though well below birth rates in Sub-Saharan Africa (39.2 births).

Fertility is the prime determinate of the crude birth rate. Hence, trends in ***fertility rates*** mirror closely the trends in crude birth rates. The fertility rate represents the number of children that would be born to a woman if she were to live to the end of her childbearing years and bear children in accordance with prevailing age-specific fertility rates. For a man and woman to "replace" themselves, the couple must have two or more children; hence, the fertility replacement rate is 2.1 births per woman.

The fertility rates in the EE region are well below replacement rate overall and in fact are lowest worldwide (*Table 7* and *Figures 6-8*). In 1999-2002, the average fertility rate in EE was 1.4 children per woman. As with crude birth rates, only the advanced industrial economies have fertility rates comparably low: 1.7 in the high income economies; 1.5 in the EMU. A notable distinction, however, is that these low fertility rates in the advanced industrial economies have been maintained since at least the 1980s, while the fertility rates in the EE region have dropped dramatically since the 1980s, and particularly with the onset of the collapse of communism (*Figure 6*).

While fertility rates have been falling across the transition countries, there remains wide variation in the rates between transition countries: they are lowest in CEE and in the NFSU (1.2 children per woman in each country group); and highest among the Muslim-majority countries (2.4 children per woman, which is comparable to fertility rates in parts of the developing world, though nowhere near the rates in Sub-Saharan Africa, 5.2). The Muslim-majority countries are the outliers or exceptions to the general EE trend, with fertility rates which are much higher than in the rest of the transition countries, even though the rates have been falling even more significantly than in the rest (*Figure 7*). In fact, the only transition countries which have fertility rates above replacement rates are the six Muslim-majority countries. *Figure 8* shows the range of fertility rates in a select group of transition countries, ranging from relatively high rates in Tajikistan to among the lowest rates worldwide in Georgia, Russia, Armenia, Slovenia.

In virtually all the transition countries, the decline in fertility rates since 1990 has been very significant. These declines no doubt reflect a variety of causes, including at least in some cases (as will be examined later in this paper), very high numbers of emigrants of child-bearing age. This appears to be particularly so in the case of Armenia and Georgia. An examination of the proportion of populations by age groups and how these proportions have changed from 1990 to 2004 supports this conclusion (*Figures 9* and *10*). In both countries, the age groups which showed a decline from 1990 to 2004 were the youngest populations (children less than 10 years of age) and the child-bearing age group (20 to 39 years of age). Other age categories in Armenia and Georgia had a proportionate increase in their numbers.

Table 9 and *Figures 11-14* provide trends in the ***proportion of the young and elderly populations***. Consistent with the fertility trends, the Muslim-majority countries have the highest proportion of youth among the transition countries; 34% on average in 2002 vs. a transition region average of 20%. The proportion of youth in the Muslim-majority transition countries is roughly comparable to that found in Latin America and the Caribbean (31%), though well below the percentage of youth in Sub-Saharan Africa (44%). The proportion of youth in the CEE countries

(17% in the Northern Tier CEE and 19% in the Southern Tier CEE) is comparable to that found in the high-income economies (18%) and close to that found in the EMU (16%). The percentage of youth across all regions of the world has fallen from 1990 to 2002, though only slightly in Sub-Saharan Africa (*Table 9* and *Figure 11*). It is forecast that the transition region will continue to have proportionately fewer youth over the coming years (*Figure 12*).

The trends in the proportion of the elderly mirror the youth trends (*Table 9* and *Figures 13* & *14*). The Muslim-majority transition countries have the lowest percentage of elderly: 5% of the population was greater than 65 years of age in 2002, an increase from 4% in 1990. This is roughly comparable to the proportion of the elderly in much of the developing world (6% in East Asia and the Pacific and Latin America and the Caribbean; 5% in South Asia; 4% in the Middle East, and 3% in Sub-Saharan Africa). The proportion of the elderly in the CEE countries (15% in the Southern Tier CEE and 14% in the Northern Tier CEE) is comparable to that found in the high income economies (14%). However, the increase in aging has been greater in the CEE than in most of the high income economies since 1990.

The proportion of the elderly and the young to the total population has significant economic implications. The higher is the proportion of the elderly and young, the greater is the burden for society at large for the working age population to support the elderly and the young. This concept is often captured in the dependency ratio: the ratio of the number of elderly and young to the number of persons of working age. A similar calculation of ***dependency*** is provided in *Table 10*, the percentage of the total population that is young and old. Several key observations emerge. Again, wide variation exits within the transition region. The "dependent" proportion of the population in the Northern Tier CEE countries was 30% in 2002. This is less than the proportion elsewhere in the world; closest to that is 32% in the high-income countries as well as in the East Asia developing countries. The Muslim-majority countries had a dependency proportion of 39% in 2002, which is comparable to most such proportions in the developing countries, including South Asia and the Middle East (both 39%) and Latin America and the Caribbean (37%). The dependency proportion is far higher in Sub-Saharan Africa (47% in 2002).

All but one transition country witnessed a decrease in the dependency proportion from 1990 to 2002, as did most regions of the world. In the transition region, this decline stemmed from a net effect; the decline in the proportion of youth was greater than an increase in the proportion of the elderly. The salient country exception to the trend of a declining dependency is Serbia & Montenegro. In 1990, 33% of Serbia & Montenegro's population was either over the age of 65 years or under the age of 14 years. By 2002, this had increased to 44%, due to an increase in both the proportion of the elderly and youth.

The range in ***crude death rates*** across the transition countries is almost as high as global extremes: the Muslim-majority transition countries have among the lowest crude death rates worldwide (6.0 deaths per 1,000 in 1999-02), while the NFSU countries have among the highest crude death rates (15 in the same years), though not as high as Sub-Saharan Africa (17) on average (*Table 11* and *Figure 15*). Crude death rates held steady or decreased in the rest of world (outside the transition region) from 1990 to 2002, with the salient exception of Sub-Saharan Africa. Within the transition region, all eight of the Northern Tier CEE countries witnessed a decrease in crude death rates during this period, as did five of the six Muslim-majority countries (all except Albania). Crude death rates increased from 1990 to 2002 in all the Southern Tier CEE countries, and in four Eurasian countries (Russia, Ukraine, Belarus, and Kazakhstan).[4]

Trends in ***adult mortality rates*** shed significant light on trends in mortality in the transition region, and more broadly in natural changes in the population (*Table 12*). Male adult mortality rates are higher than female rates across the world. However, this ***adult mortality rate gender***

[4] As noted in written comments from the E&E Health team, it is difficult to reconcile the relatively low crude death rates found in Turkmenistan, Tajikistan, Azerbaijan, Uzbekistan, and Kyrgyzstan with the relatively low life expectancies in these same countries.

gap is the highest worldwide in the transition region. Within the transition region, it is among the highest in the NFSU countries. In 2002, the male adult mortality rate in the NFSU countries was 432 deaths per 1,000 adults; for females, it was 157 deaths. This means that roughly 43% of 15 year old males in the NFSU countries will die before reaching 60 years of age. Only in Sub-Saharan Africa is the male adult mortality rate higher: 519 deaths per 1,000 in the year 2000. The male adult mortality rate in the transition region is highest in Russia (464 deaths in 2002), followed by Kazakhstan (426 deaths).

The highest female adult mortality rates in the transition region are in Central Asia: Kazakhstan had the highest rate in 2002 (195 deaths), followed closely by Turkmenistan (193). Overall, female adult mortality rates in the Central Asian Republics (189 deaths on average) are higher than those rates in most other parts of the world, both in the developing and developed worlds. The salient exception is Sub-Saharan Africa, where female adult mortality rates are extremely high (461 deaths), almost as high as male adult mortality rates there.

The trends in adult mortality rates from 1990 to 2002 suggest a growing divergence between such rates in CEE and Eurasia. These rates fell in the Northern Tier CEE countries, generally held steady from 1990 to 2002 in the Southern Tier CEE, and fell in Eurasia during this time. In most parts of the rest of the world, adult mortality rates fell during this period, Sub-Saharan Africa, again, the salient exception to this favorable trend.

Maternal mortality rates are high in a number of transition countries, certainly by OECD standards. 2000 UNICEF estimates show maternal mortality rates to be highest in the transition region in Kazakhstan (210 deaths per 100,000 live births), Kyrgyzstan (110 deaths), Tajikistan (100), Azerbaijan (94), Russia (67), Estonia (63), and Armenia (55).[5] Most maternal mortality rates in the advanced OECD economies are below 20 deaths per 100,000 live births. These rates are much higher among the poorest countries of the world; there may be 15 of the least developed countries where maternal mortality rates exceed 1,000.

Unsafe abortions may be a leading cause of maternal mortality. In fact, in several transition countries, the ***abortion rate*** may still actually exceed the number of live births. According to UNICEF, the abortion rate per 100 live births in Russia was 139 in 2002; it was 118 in Romania, 101 in Estonia, 96 in Belarus, 89 in Ukraine, 75 in Hungary, 76 in Bulgaria, and 73 in Latvia.

Life expectancy estimates include trends in birth and death rates, and may be the most basic indicator of the natural changes in a population. Life expectancy at birth indicates the number of years a newborn infant would live if prevailing patterns of age-specific mortality at the time of his or her birth were to stay the same throughout his or her life.

The average life expectancy in the transition region in 2002 was 68 years (*Table 13*). This is ten years lower than the average in the high income economies (and in the EMU). It is also less than the average of most developing country regions (including Latin America and the Caribbean, 71 years, East Asia and the Pacific, 70 years, and the Middle East and North Africa, 69 years). Only among the poorest developing country regions does the EE region compare favorably on this indicator. Life expectancy was 63 years in South Asia in 2002 and 46 years in Sub-Saharan Africa.

The transition country average masks some diversity. Life expectancy is highest in the Northern Tier CEE countries (74 years on average, highest in Slovenia at 76 years). It is lowest in Central Asia (65 years, and lowest within the Central Asian Republics in Kazakhstan, 62 years).

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[5] These numbers are drawn from the UNDP's *Human Development Report 2004*, and represent adjustments from officially reported figures. Most though not all of the adjusted figures are higher than the official numbers.

All but two regions in the world experienced an increase in life expectancy from 1990 to 2002. Only the EE region and Sub-Saharan Africa witnessed a decline; from 70 years to 68 years in EE, and from 50 years to 46 years in Sub-Saharan Africa. The drop in life expectancy in the EE region stemmed from pronounced declines in Eurasia; in fact, life expectancy in the CEE countries increased during this period.

The transition country average of life expectancy also masks considerable diversity by gender. In fact, the highest ***life expectancy gender gaps*** in the world are found in EE, among the NFSU countries where males on average live almost 12 years less than females (*Table 14* and *Figure 16*). In other parts of the world, the life expectancy gender gap increases with income: females live only 2 years more than males in the low-income developing countries; 4 years in the middle-income developing countries; and 6 years in the high-income economies.

The life expectancy gender gap has been generally stable from 1990 to 2002 in most of the world. It is roughly what it was in 1990 vs. 2002 for the low-income and high-income developing countries, and one year less in the case of the middle-income countries. In contrast, the gap has increased since 1990 by one year in the EE region, and by almost two years in the NFSU countries.

There are more women than men in the transition region (*Table 15*). The gender ratio, or the ***percentage of the population that is female***, was 52.3% in 2002 in the transition region, virtually what it was in 1990 (52.2%). Within the transition region, the highest gender ratio is found in the NFSU countries (53.3%), while the lowest is predominantly found among the Muslim countries and Southern Tier CEE. Of all 27 transition countries, Albania has the lowest gender ratio (48.9%); Latvia has the highest (54.1%).

EE has the highest gender ratio in the world. The next highest country group is the EMU (51% in 2002), followed closely by Latin America and the Caribbean (50.8%). The lowest gender ratio worldwide is found in South Asia (48.5%).

Table 6: Average Crude Birth Rate (Births per 1000)

	1991-94	1995-98	1999-02	1991-02
Uzbekistan	32.1	27.1	21.6	26.7
Turkmenistan	33.2	25.3	21.2	26.1
Tajikistan	33.1	24.4	20.2	25.6
Kyrgyzstan	27.1	23.6	20.3	23.6
Albania	22.9	20.3	17.2	19.9
Azerbaijan	24.5	18.1	15.5	19.1
Kazakhstan	19.4	16.0	14.6	16.5
Macedonia	17.6	16.0	13.8	15.6
Armenia	17.6	12.3	10.3	13.3
Bosnia and Herzegovina	13.5	13.8	11.8	13.1
Serbia and Montenegro	13.7	12.8	12.1	12.8
Moldova	15.7	11.9	9.4	12.1
Slovak Republic	13.9	11.4	10.4	11.8
Poland	13.3	11.1	9.6	11.2
Lithuania	13.3	10.7	9.3	11.1
Georgia	13.6	10.6	8.4	10.9
Romania	11.4	10.6	10.4	10.8
Croatia	10.3	11.2	9.8	10.5
Hungary	11.7	10.5	9.5	10.5
Belarus	11.8	9.5	9.3	10.1
Czech Republic	11.6	9.2	8.9	9.8
Estonia	11.0	9.2	9.2	9.8
Russia	10.4	9.0	9.0	9.4
Slovenia	10.1	9.4	8.9	9.4
Ukraine	11.1	9.1	8.0	9.3
Bulgaria	10.2	8.5	8.9	9.1
Latvia	11.2	8.3	8.3	9.1
Europe and Eurasia	13.8	11.8	10.8	12.1
NT CEE	12.7	10.6	9.5	10.8
Baltics	12.2	9.6	9.0	10.2
ST CEE	12.6	11.7	11.1	11.8
Eurasia	14.4	12.1	11.0	12.4
N. FSU	10.8	9.1	8.8	9.5
Muslim Majority	30.0	24.4	20.0	24.6
European Monetary Union	10.9	10.4	10.4	10.6
East Asia and Pacific	20.7	18.7	17	18.8
Latin America and Carib.	24.8	23	21.5	23.1
Middle East and North Afr.	30	27.5	25.2	27.6
South Asia	30.5	28.8	26.8	28.7
Sub-Saharan Africa	42.9	41	39.2	41
Low-Income Economies	33.2	31.4	29.5	31.3
Middle Income Economies	20.5	18.6	17.3	18.8
High Income Economies	13.1	12.3	11.9	12.4

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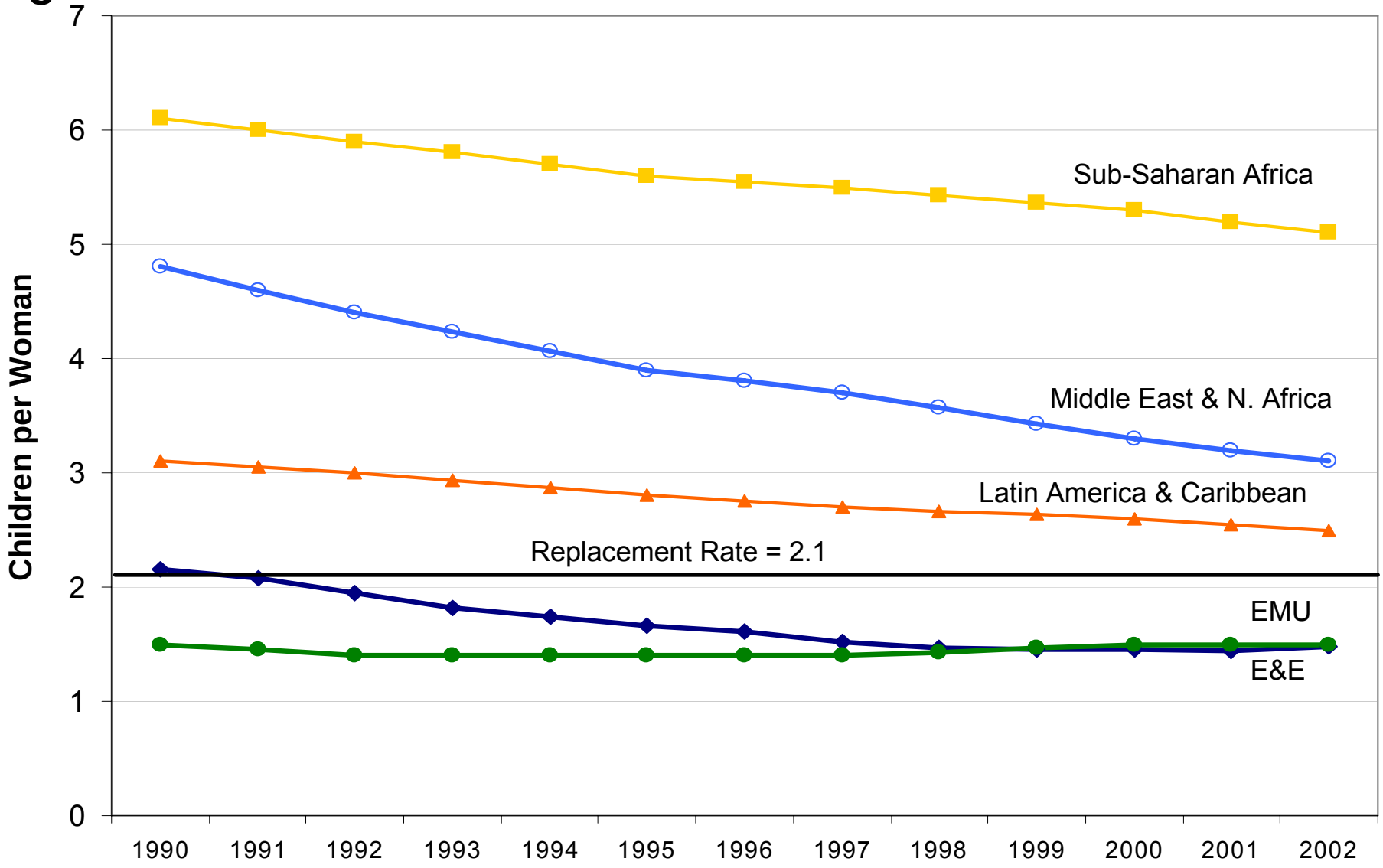
Table 7: Average Total Fertility Rate						
	1981-85	1986-90	1991-94	1995-98	1999-02	1991-02
Tajikistan	5.6	5.3	4.2	3.5	3.1	3.6
Uzbekistan	4.8	4.3	3.9	3.2	2.6	3.2
Turkmenistan	4.9	4.5	4.0	3.2	2.4	3.2
Kyrgyzstan	4.2	3.9	3.4	2.9	2.5	3.0
Albania	3.3	3.0	2.8	2.5	2.2	2.5
Azerbaijan	3.1	2.8	2.7	2.1	2.1	2.3
Kazakhstan	3.1	3.0	2.4	2.1	1.9	2.1
Macedonia	2.4	2.2	2.2	1.9	1.8	2.0
Serbia-Montenegro	2.2	2.2	2.0	1.8	1.7	1.8
Moldova	2.8	2.6	2.2	1.7	1.4	1.7
Armenia	2.5	2.6	2.2	1.5	1.3	1.6
Poland	2.3	2.1	1.9	1.5	1.3	1.6
Slovakia	2.3	2.1	1.9	1.5	1.3	1.6
Bosnia-Herzegovina	2.0	1.8	1.6	1.6	1.4	1.5
Croatia	1.9	1.7	1.5	1.6	1.4	1.5
Lithuania	2.0	2.1	1.8	1.4	1.3	1.5
Hungary	1.8	1.8	1.8	1.5	1.3	1.5
Belarus	2.1	2.0	1.7	1.3	1.3	1.4
Georgia	2.4	2.2	1.8	1.3	1.1	1.4
Ukraine	2.0	2.0	1.7	1.3	1.2	1.4
Romania	2.3	2.2	1.5	1.3	1.3	1.4
Czech Republic	2.0	1.9	1.7	1.2	1.2	1.4
Estonia	2.1	2.2	1.6	1.3	1.2	1.4
Latvia	2.0	2.1	1.6	1.2	1.2	1.3
Russia	2.0	2.1	1.5	1.3	1.2	1.3
Bulgaria	2.0	1.9	1.5	1.2	1.3	1.3
Slovenia	1.8	1.6	1.3	1.3	1.2	1.3
Europe and Eurasia	2.3	2.2	1.8	1.5	1.4	1.6
NT CEE	2.0	1.9	1.6	1.4	1.2	1.4
ST CEE	2.1	2.0	1.7	1.4	1.4	1.5
Eurasia	2.4	2.3	1.9	1.5	1.4	1.6
N. FSU	2.1	2.0	1.7	1.3	1.2	1.4
Muslim Majority	4.1	3.8	3.4	2.8	2.4	2.9
European Monetary Union	1.6	1.5	1.40	1.40	1.50	1.4
East Asia and Pacific	2.8	2.7	2.30	2.20	2.10	2.2
Latin America and Carib.	3.7	3.2	3.00	2.75	2.55	2.7
Middle East and North Afr.	5.9	5.1	4.40	3.80	3.20	3.7
South Asia	4.9	4.3	3.80	3.55	3.25	3.5
Sub-Saharan Africa	6.5	6.2	5.90	5.55	5.20	5.5
Low-Income Economies	5.2	4.7	4.2	4.0	3.6	3.9
Middle Income Economies	3.0	2.8	2.4	2.3	2.1	2.2
High Income Economies	1.8	1.8	1.7	1.7	1.7	1.7

World Bank, *World Development Indicators* (2004).

Figure 6

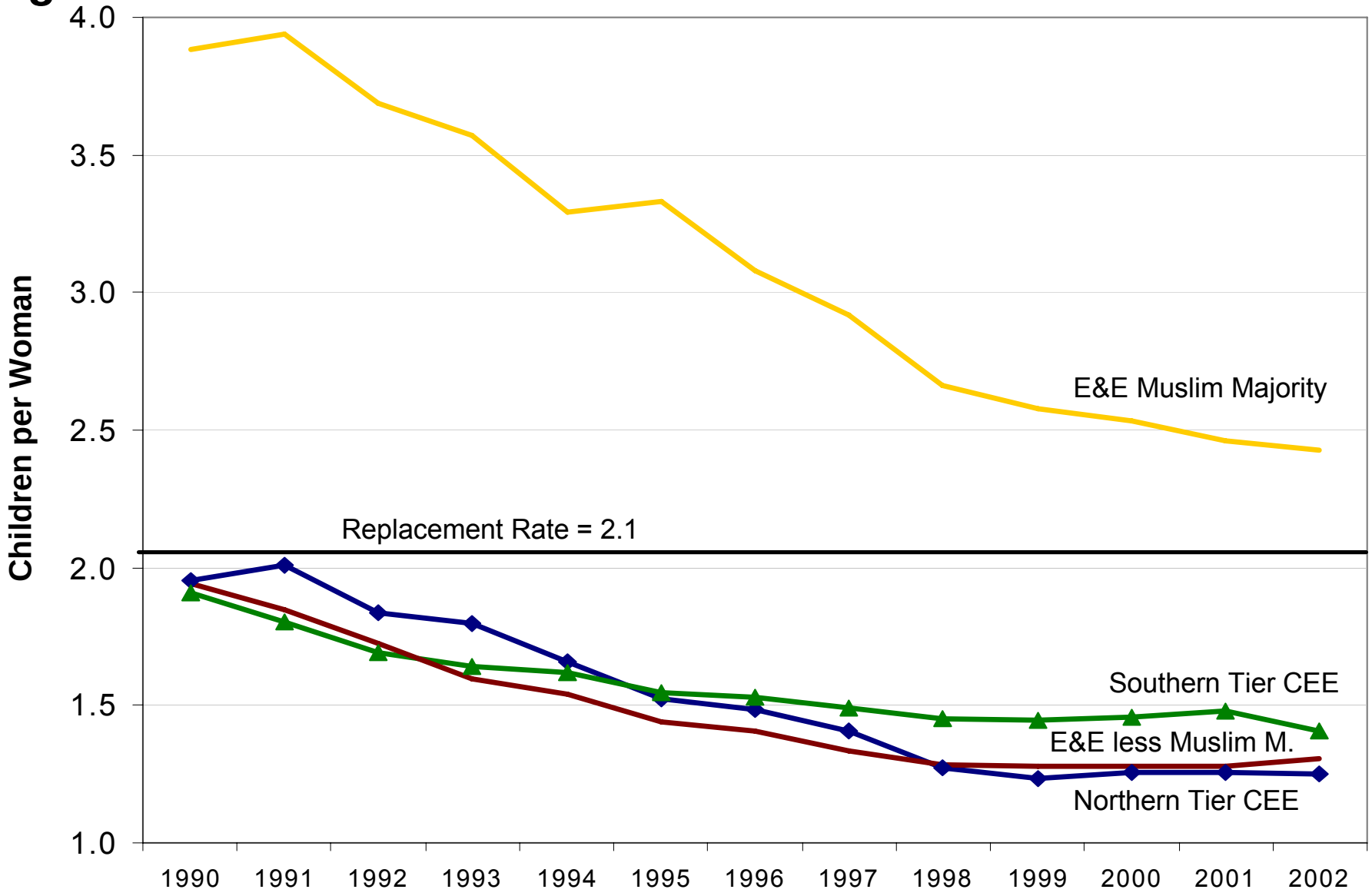
Fertility Rates in the World



World Bank, *World Development Indicators* (2004). Missing values were interpolated.

Figure 7

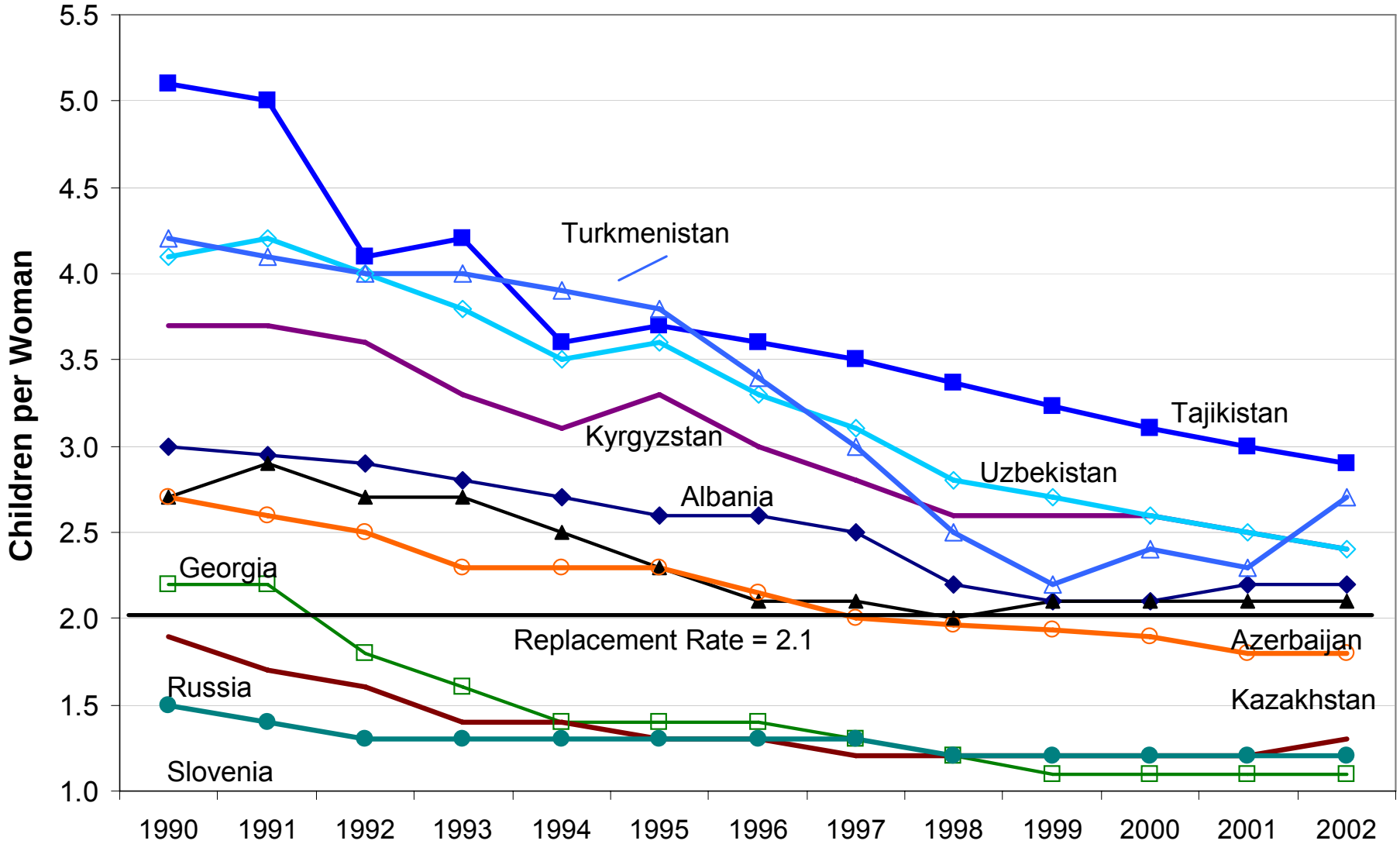
Fertility Rates in E&E



World Bank, *World Development Indicators* (2004). Missing values were interpolated.

Figure 8

Fertility Rates in E&E

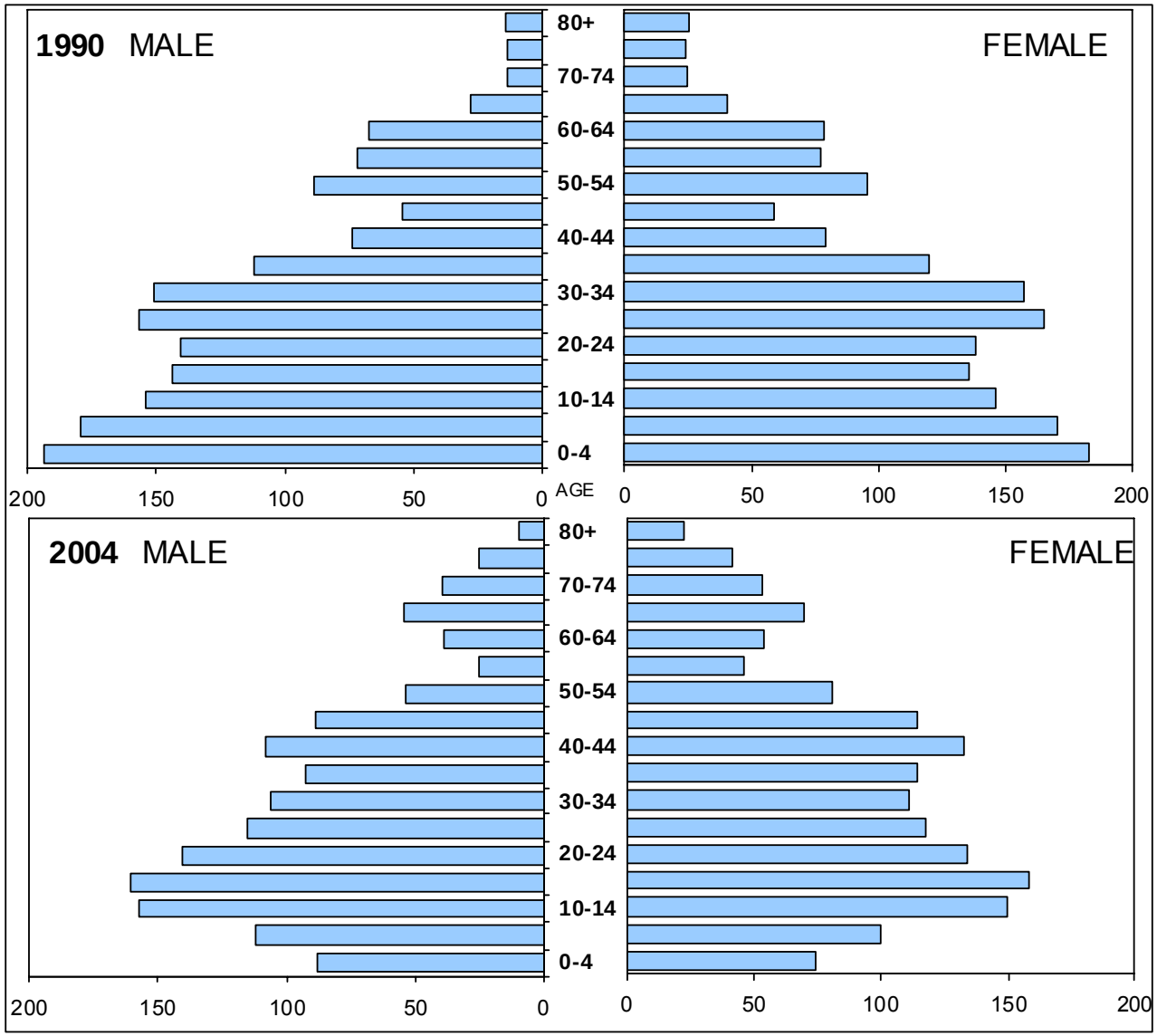


World Bank, *World Development Indicators* (2004). Missing values were interpolated.

Figure 9

Population Pyramids for Armenia

(in Thousands)



U.S. Census Bureau, International Database.

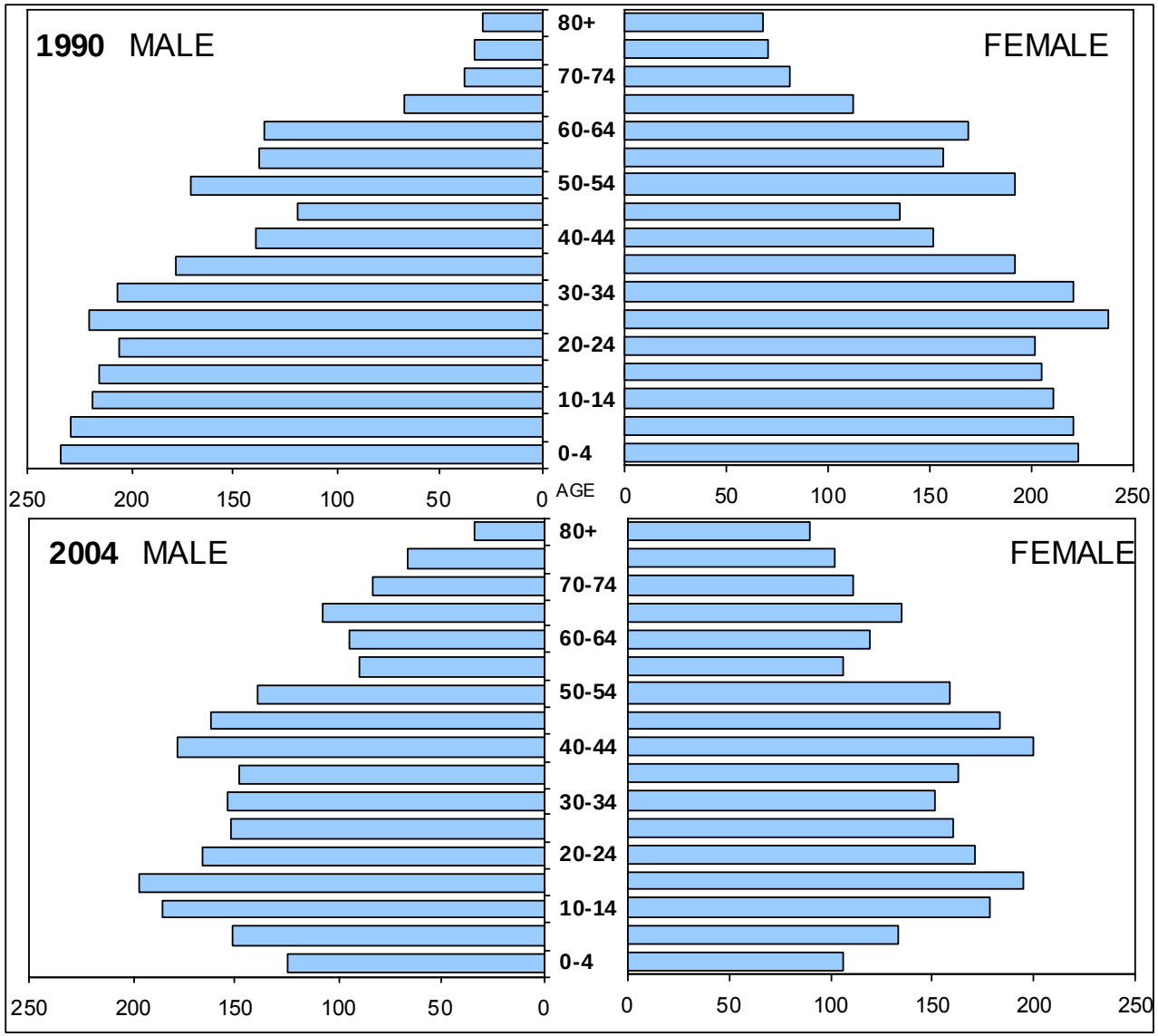
Armenia Net Change 1990-2004

AGE	% Total	% Male	% Female
0-9	-9	-8.4	-9.5
10-19	3.7	4.5	3.2
20-39	-2.5	-1.8	-3.3
40-64	2.8	0.7	4.5
65+	5.2	5	5.2

Figure 10

Population Pyramids for Georgia

(in Thousands)



U.S. Census Bureau, International Database.

Georgia Net Change 1990 to 2004

AGE	% Total	% Male	% Female
0-9	-5.7	-5.6	-5.9
10-19	0.3	0.2	0.5
20-39	-3.7	-3.8	-3.8
40-64	2.8	2.4	3
65+	6.3	6.5	6.3

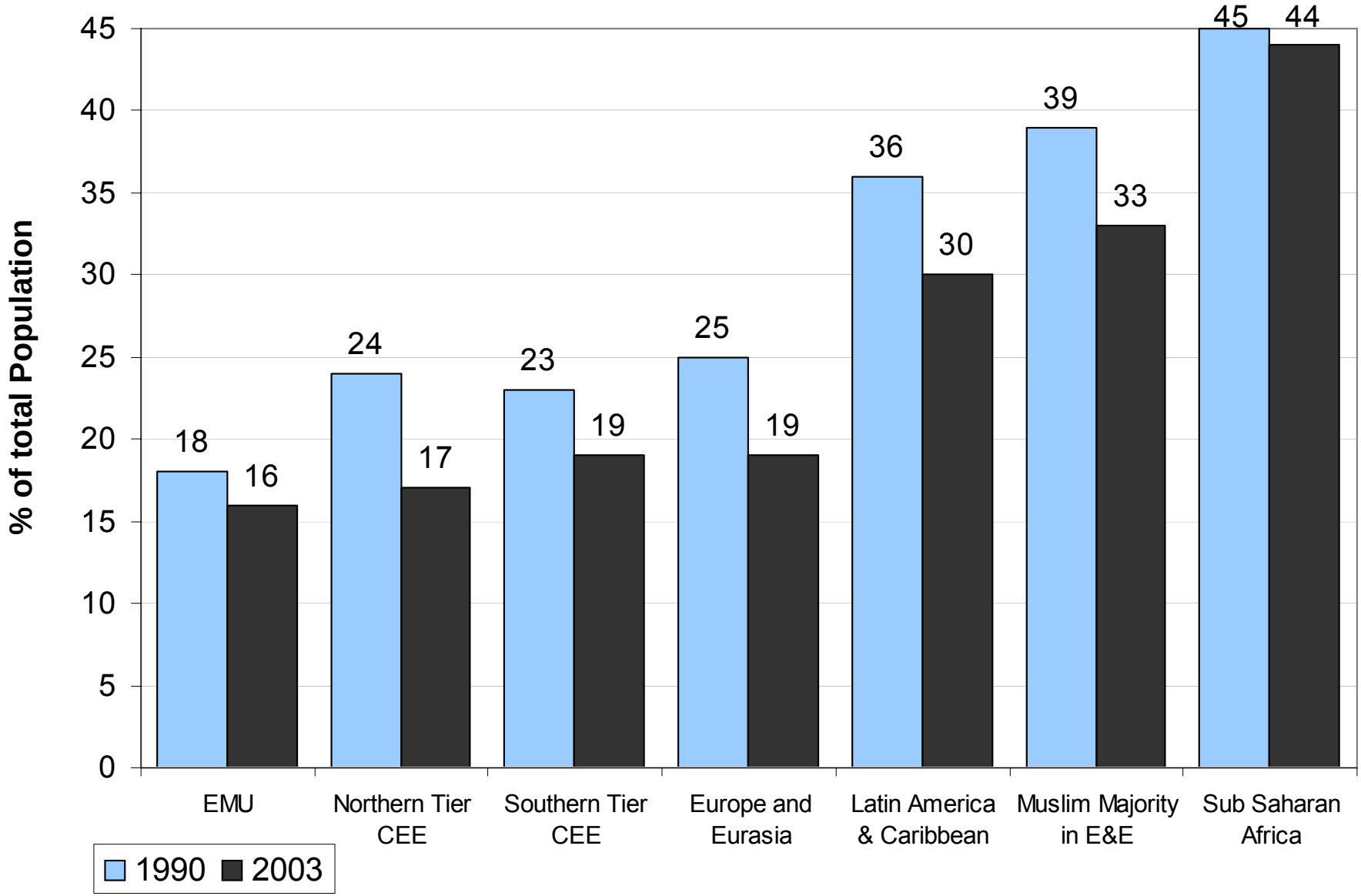
Table 9: Age Distribution

	1990		1994		1998		2002	
	%<15	%≥65	%<15	%≥65	%<15	%≥65	%<15	%≥65
Bosnia-Herzegovina	24	6	22	7	20	9	17	10
Czech Republic	21	13	19	13	17	14	16	14
Slovakia	25	10	23	11	21	11	19	11
Russia	23	10	22	12	19	12	17	13
Poland	25	10	23	11	21	12	18	12
Slovenia	19	12	18	12	17	13	15	15
Latvia	21	12	21	13	19	14	16	15
Bulgaria	20	13	19	15	17	16	15	16
Romania	24	10	21	12	19	13	17	14
Croatia	21	11	19	12	18	14	16	15
Belarus	23	11	22	12	20	13	17	14
Estonia	22	12	21	13	19	14	16	15
Hungary	20	13	19	14	17	14	16	15
Ukraine	21	12	21	13	19	14	17	15
Armenia	30	6	32	8	31	10	22	10
Macedonia	26	7	25	8	23	9	22	10
Moldova	28	8	27	9	24	10	21	11
Lithuania	23	11	22	12	20	13	18	14
Georgia	25	9	24	11	21	12	19	14
Kazakhstan	32	6	30	7	28	7	26	8
Azerbaijan	33	5	33	5	31	6	28	7
Albania	33	5	31	5	31	6	28	7
Kyrgyzstan	38	5	37	6	35	6	33	6
Turkmenistan	40	4	42	4	43	5	35	4
Uzbekistan	41	4	40	4	38	4	36	5
Tajikistan	43	4	42	4	40	4	38	5
Serbia-Montenegro	23	10	22	11	21	13	26	18
Europe and Eurasia	25	10	24	11	22	11	20	12
NT CEE	23	11	22	12	20	13	17	13
ST CEE	23	10	22	11	20	13	19	14
Eurasia	26	9	25	11	23	11	21	12
Muslim Group	39	4	38	4	37	5	34	5
European Monetary Union	18	14	17	15	17	16	16	17
East Asia and Pacific	30	5	29	5	28	6	26	6
Latin America and Carib.	36	5	34	5	33	5	31	6
Middle East and North Afr.	43	3	41	3	38	4	35	4
South Asia	38	4	37	4	36	4	34	5
Sub-Saharan Africa	45	3	45	3	45	3	44	3
Low-Income Economies	40	4	39	4	38	4	36	4
Middle Income Economies	31	6	30	6	28	7	26	7
High Income Economies	20	13	20	13	19	14	18	14

World Bank *World Development Indicators* (2004).

Figure 11

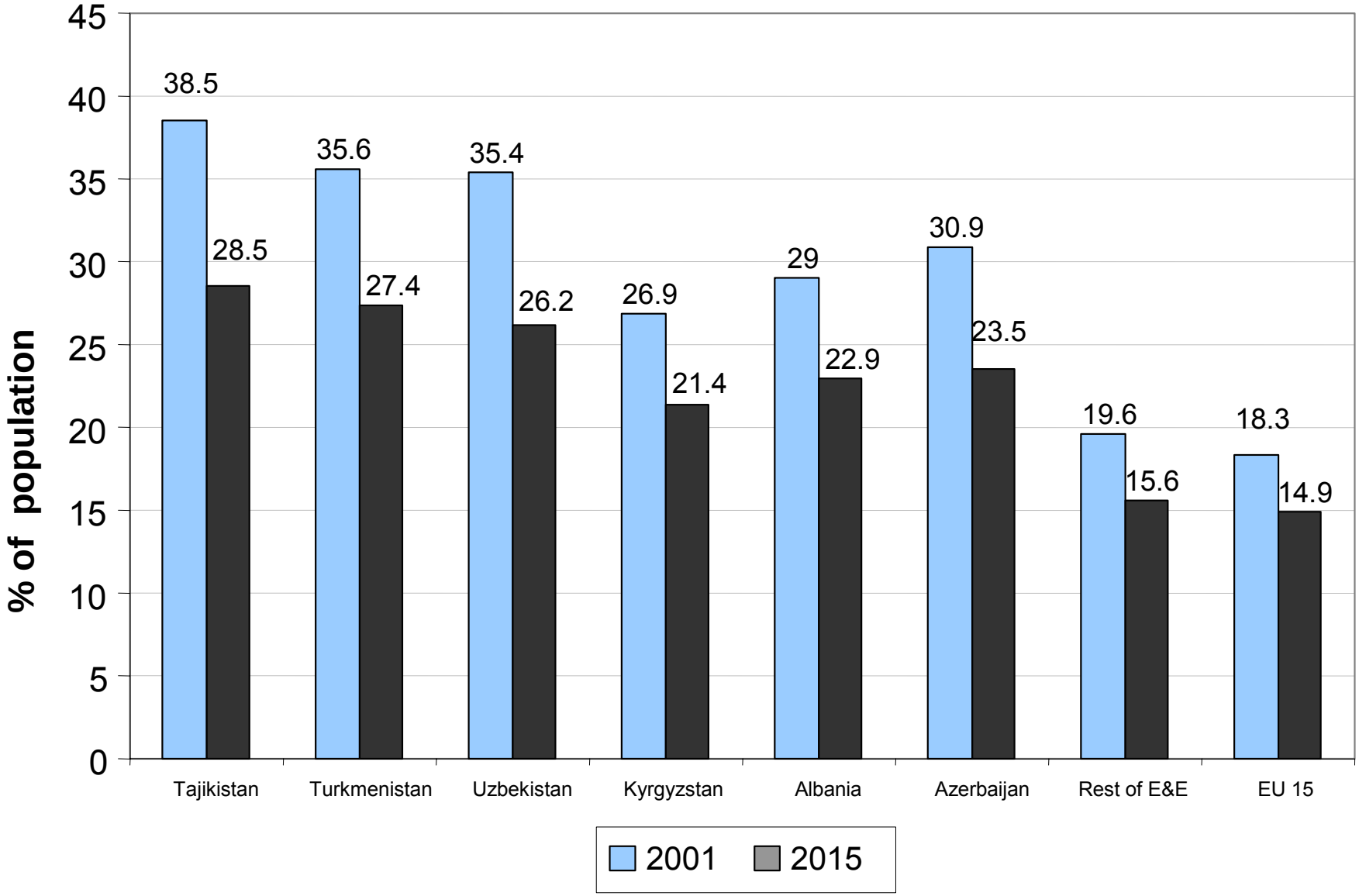
Population under age 15



World Bank, World Development Indicators (2005).

Figure 12

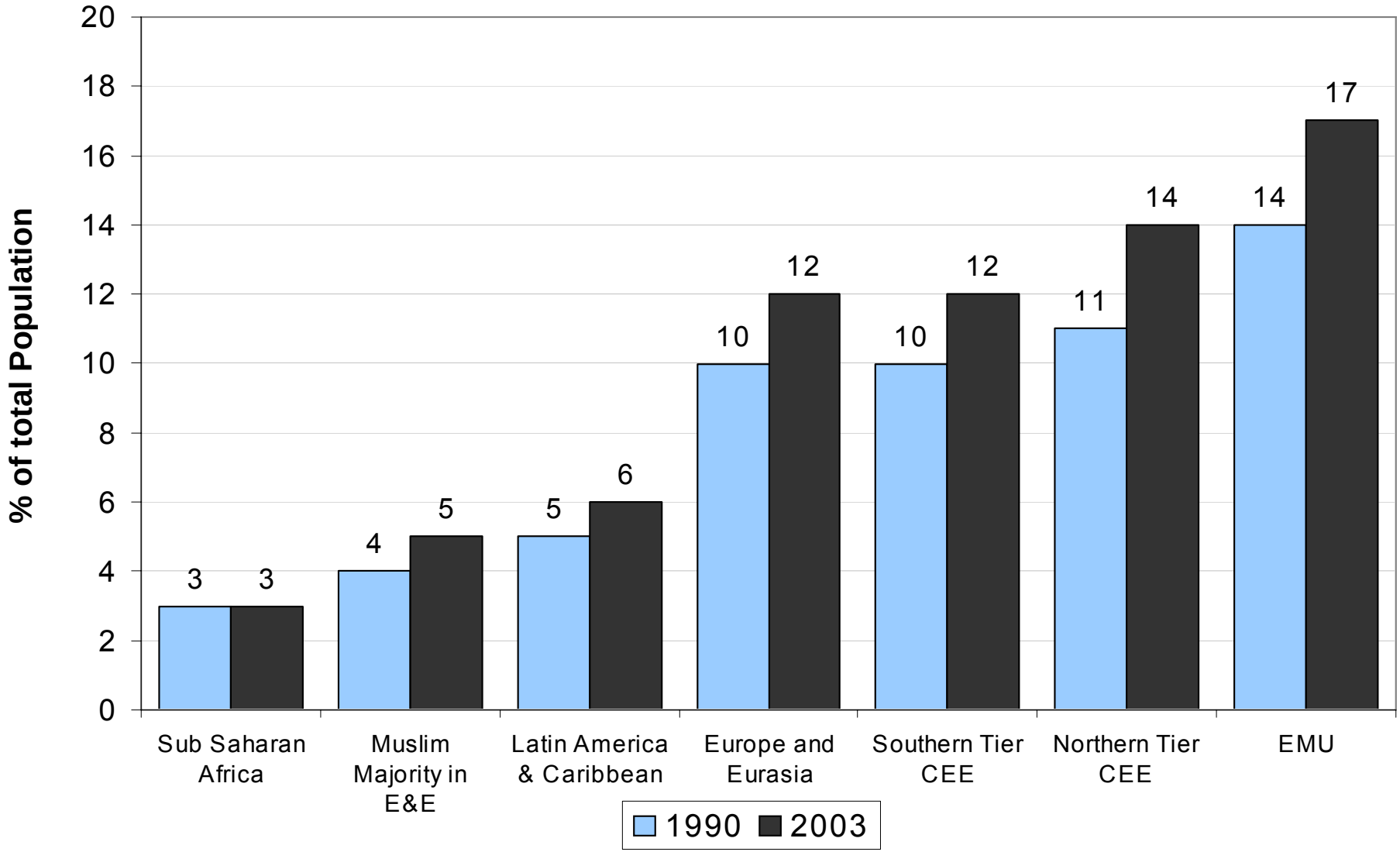
Population Under Age 15



UNDP *Human Development Report* 2003

Figure 13

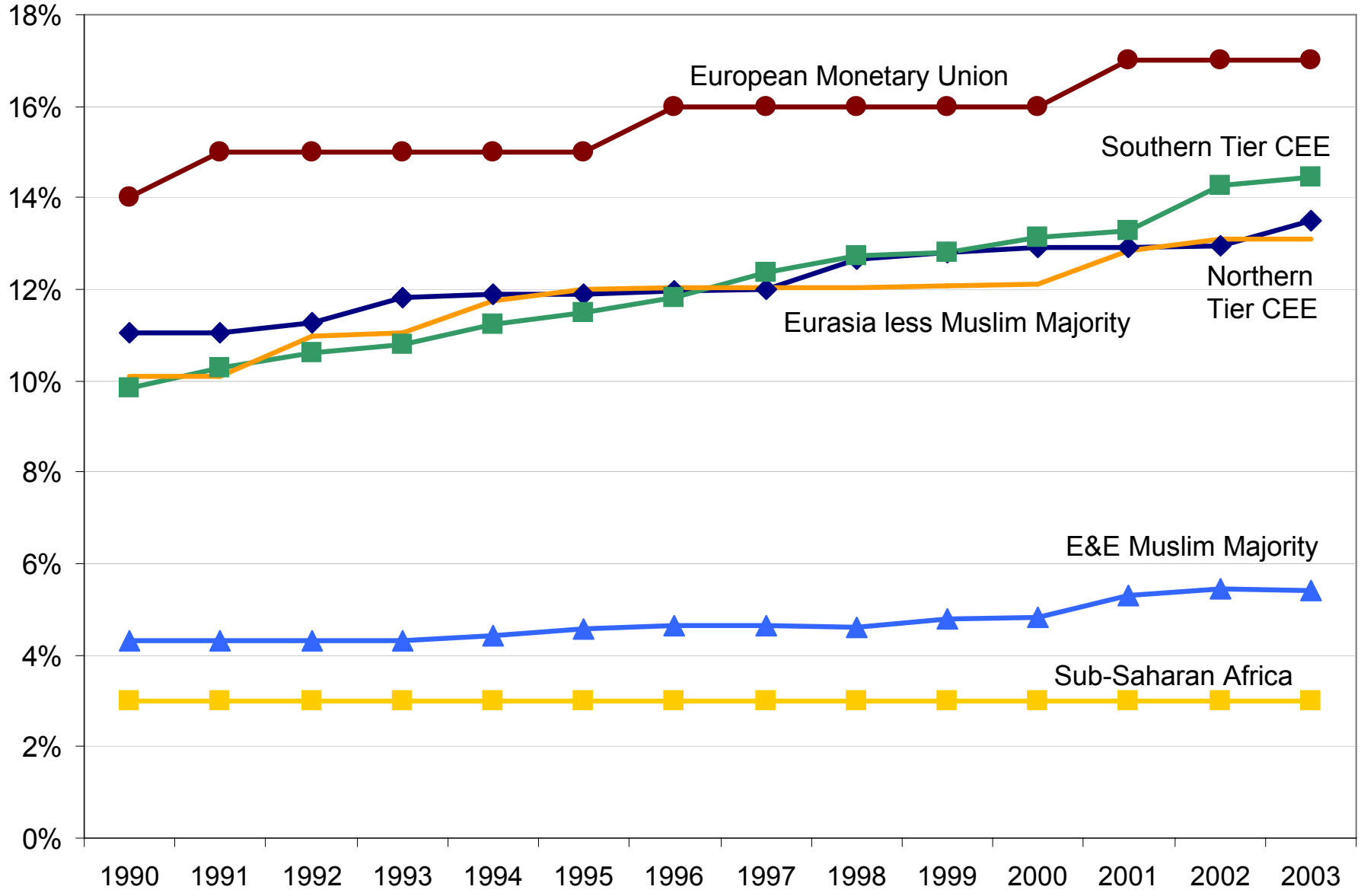
Population Aged 65 & Over



World Bank, World Development Indicators (2005).

Figure 14

Percent of Population Older than 65



World Bank, World Development Indicators (2005).

Table 10: Proportion of Population which is Dependent							
	1990			2002			1990-02 change
	Youth	Elderly	Total	Youth	Elderly	Total	in dependency
Bosnia and Herzegovina	24	6	30	17	10	27	-3
Czech	21	13	34	16	14	30	-4
Slovakia	25	10	35	19	11	30	-5
Russia	23	10	33	17	13	30	-3
Poland	25	10	35	18	12	30	-5
Slovenia	19	12	31	15	15	30	-1
Latvia	21	12	33	16	15	31	-2
Bulgaria	20	13	33	15	16	31	-2
Romania	24	10	34	17	14	31	-3
Croatia	21	11	32	16	15	31	-1
Belarus	23	11	34	17	14	31	-3
Estonia	22	12	34	16	15	31	-3
Hungary	20	13	33	16	15	31	-2
Ukraine	21	12	33	17	15	32	-1
Armenia	30	6	36	22	10	32	-4
FYR Macedonia	26	7	33	22	10	32	-1
Moldova	28	8	36	21	11	32	-4
Lithuania	23	11	34	18	14	32	-2
Georgia	25	9	34	19	14	33	-1
Kazakhstan	32	6	38	26	8	34	-4
Azerbaijan	33	5	38	28	7	35	-3
Albania	33	5	38	28	7	35	-3
Kyrgyzstan	38	5	43	33	6	39	-4
Turkmenistan	40	4	44	35	4	39	-5
Uzbekistan	41	4	45	36	5	41	-4
Tajikistan	43	4	47	38	5	43	-4
Serbia	23	10	33	26	18	44	11
Europe and Eurasia	25	10	35	20	12	32	-3
NT CEE	23	11	34	17	13	30	-4
ST CEE	23	10	33	19	14	33	0
Eurasia	26	9	35	21	12	33	-2
Muslim Majority	39	4	43	34	5	39	-4
NFSU	23	11	34	18	14	31	-3
European Monetary Union	18	14	32	16	17	33	1
East Asia and Pacific	30	5	35	26	6	32	-3
Latin America and Carib.	36	5	41	31	6	37	-4
Middle East and North Afr.	43	3	46	35	4	39	-7
South Asia	38	4	42	34	5	39	-3
Sub-Saharan Africa	45	3	48	44	3	47	-1
Low-Income Economies	40	4	44	36	4	40	-4
Middle-Income Economies	31	6	37	26	7	33	-4
High-Income Economies	20	13	33	18	14	32	-1

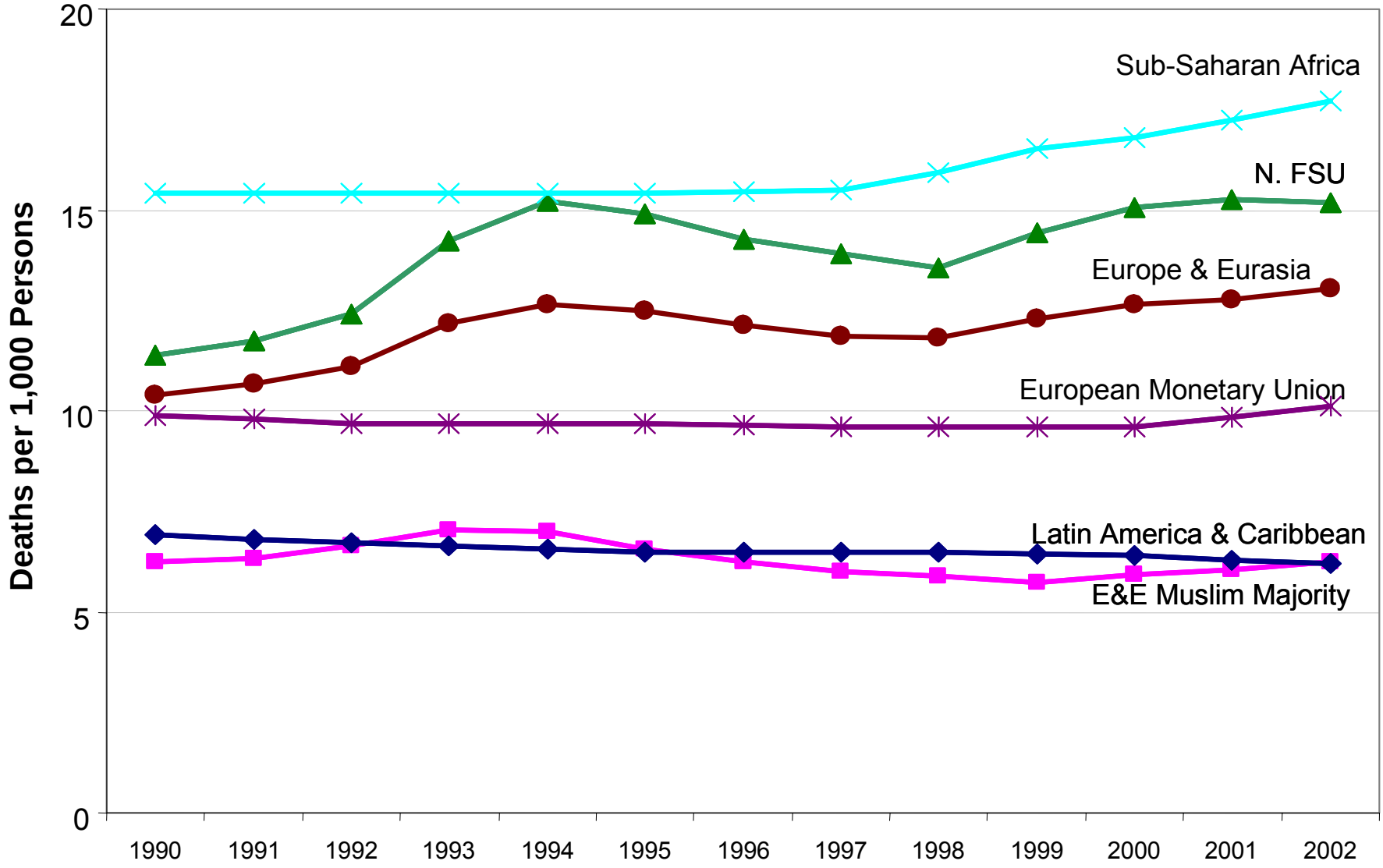
World Bank, *World Development Indicators* (2005).

Table 11: Average Crude Death Rates (Deaths per 1000)

	1991-94	1995-98	1999-02	1991-02
Ukraine	13.8	15.0	15.2	14.6
Russia	13.5	14.1	15.3	14.3
Latvia	14.5	14.2	13.8	14.2
Hungary	14.3	14.0	13.4	13.9
Estonia	13.8	13.8	13.6	13.7
Bulgaria	12.9	14.1	14.1	13.7
Belarus	11.9	13.3	14.0	13.0
Romania	11.5	12.2	12.1	11.9
Lithuania	11.7	11.5	11.1	11.4
Croatia	10.8	11.4	11.5	11.2
Czech Republic	11.6	11.0	10.7	11.1
Moldova	10.8	10.7	10.5	10.7
Serbia-Montenegro	10.0	10.5	11.1	10.5
Poland	10.3	9.9	9.6	9.9
Slovakia	10.0	9.7	9.9	9.9
Kazakhstan	8.7	10.3	10.4	9.8
Slovenia	9.8	9.5	9.6	9.6
Georgia	9.2	7.5	9.2	8.6
Macedonia	8.1	8.3	8.6	8.3
Bosnia-Herzegovina	6.8	8.1	7.9	7.6
Kyrgyzstan	7.5	7.6	6.9	7.3
Turkmenistan	7.6	6.6	7.0	7.1
Armenia	6.9	6.4	7.1	6.8
Azerbaijan	7.0	6.3	6.3	6.5
Uzbekistan	6.5	6.1	5.8	6.1
Tajikistan	7.1	5.4	5.4	6.0
Albania	5.3	5.5	5.6	5.4
Europe and Eurasia	11.7	12.0	12.4	12.0
NT CEE	11.3	10.9	10.6	10.9
ST CEE	10.5	11.3	11.4	11.1
Eurasia	12.0	12.4	13.1	12.5
N. FSU	13.4	14.2	15.0	14.2
Muslim Majority	6.7	6.2	6.0	6.3
European Monetary Union	9.7	9.6	9.8	9.7
East Asia and Pacific	7.3	6.9	7.2	7.1
Latin America and Carib.	6.7	6.5	6.3	6.5
Middle East and North Afr.	7.4	6.8	6.2	6.8
South Asia	10.2	9.2	8.7	9.4
Sub-Saharan Africa	15.4	15.6	17.0	16.0
Low-Income Economies	11.3	10.7	10.7	10.9
Middle Income Economies	7.6	7.5	7.7	7.6
High Income Economies	8.6	8.6	8.6	8.6

World Bank, *World Development Indicators* (2004).

Figure 15 Crude Death Rates in the World



World Bank, *World Development Indicators* (2004). Missing values were interpolated.

Table 12: Adult Mortality Rate

	1990		1997		2000		2002	
	Male	Female	Male	Female	Male	Female	Male	Female
Russia	298	107	410	146	428	156	464	168
Kazakhstan	306	136			366	201	426	195
Ukraine	268	105			365	135	378	139
Belarus	254	98	361	128	381	133	371	134
Turkmenistan	250	135	282	159	343	217	369	193
Kyrgyzstan	291	143			335	175	345	163
Latvia	295	108			328	122	327	118
Estonia	286	106			316	114	322	112
Lithuania	246	92			286	106	303	103
Moldova	269	146			325	165	294	144
Tajikistan	168	106			293	204	283	172
Hungary	290	135	295	123	295	123	256	112
Uzbekistan	207	109			282	176	243	152
Romania	237	114	257	119	260	117	235	108
Azerbaijan	216	96			261	153	231	122
Bulgaria	211	107	222	112	239	103	219	97
Georgia	195	90			250	133	207	86
Slovakia	247	100	225	90	216	83	206	79
Armenia	216	119			223	106	204	98
Poland	264	102	238	91	226	88	204	82
Macedonia	147	100			160	89	195	89
Bosnia-Herzegovina	186	109			200	93	192	90
Serbia-Montenegro	168	101					186	98
Croatia	207	96	162	119	178	74	178	72
Albania	203	101			209	95	167	94
Czech Republic	230	99	181	82	174	75	163	72
Slovenia	211	91	179	77	170	76	163	71
Europe and Eurasia	264	108			338	139	341	138
NT CEE	261	106			234	93	215	87
ST CEE	209	107			234	105	211	99
Eurasia	276	109			381	157	399	158
N. FSU	287	107			405	149	432	157
Muslim Majority	215	111			286	174	263	151
European Monetary Union	145	68	130	61	125	58		
East Asia and Pacific	187	152	179	134	184	129		
Latin America and Carib.	198	130			222	125		
Middle East and North Afr.	211	183			193	143		
South Asia	248	250			252	202		
Sub-Saharan Africa	448	372			519	461		
Low-Income Economies	293	267			310	259		
Middle Income Economies	195	137	205	131	211	128		
High Income Economies	150	76	130	67	128	66		

World Bank, *World Development Indicators (*2004) (1990-2000), World Health Organization (2002).

Table 13: Life Expectancy

	1990			1994			1998			2002		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Slovenia	73	69	77	73	70	77	75	71	79	76	72	80
Armenia	72	68	75	71	68	75	74	71	78	75	71	79
Czech Republic	72	68	76	73	70	77	75	71	78	75	72	79
Albania	72	69	75	72	70	76	73	71	76	74	72	76
Bosnia-Herzegovina	71	69	74	73	70	75	73	71	75	74	71	77
Croatia	72	69	76	72	68	77	72	68	77	74	70	78
Poland	71	67	76	72	68	76	73	69	77	74	70	78
Georgia	72	69	76	73	69	77	73	69	77	73	69	78
Lithuania	71	67	76	69	63	75	72	67	77	73	68	78
Macedonia	72	70	74	72	70	74	72	70	75	73	71	76
Serbia-Montenegro	72	69	74	72	69	75	72	70	75	73	70	75
Slovakia	71	67	75	72	68	77	73	69	77	73	69	77
Bulgaria	71	68	75	71	67	75	71	68	75	72	69	75
Hungary	69	65	74	69	65	74	71	66	75	72	68	77
Estonia	69	65	75	67	61	73	70	64	75	71	65	77
Latvia	69	64	75	67	61	73	70	64	76	70	65	76
Romania	70	67	73	70	66	73	69	66	73	70	66	74
Belarus	71	66	76	69	64	74	68	63	74	68	63	74
Ukraine	70	66	75	68	63	73	68	63	74	68	63	74
Moldova	68	65	72	66	62	70	67	63	70	67	63	71
Tajikistan	69	67	72	66	63	69	68	65	71	67	64	70
Uzbekistan	69	66	72	69	66	72	69	66	72	67	64	70
Russia	69	64	74	64	57	71	67	61	73	66	60	72
Azerbaijan	71	67	75	69	65	74	66	63	70	65	62	69
Kyrgyzstan	68	64	73	66	62	71	67	63	71	65	61	70
Turkmenistan	66	63	70	66	62	69	66	62	69	65	61	68
Kazakhstan	68	64	73	66	61	71	65	59	70	62	57	67
Europe and Eurasia	70	66	74	68	62	73	69	64	74	68	64	73
NT CEE	71	67	76	71	67	76	73	69	77	74	70	78
ST CEE	71	68	74	71	68	74	71	68	74	72	68	75
Eurasia	69	65	74	66	60	72	67	62	73	66	61	72
N. FSU	69	65	74	65	59	72	67	62	73	67	61	73
Muslim Majority	69	66	73	68	65	72	68	65	71	67	64	70
European Monetary Union	76	73	80	77	74	81	78	74	81	78	75	82
East Asia and Pacific	67	66	69	68	66	70	69	67	70	70	68	71
Latin America and Carib.	68	65	71	69	66	73	70	67	73	71	68	74
Middle East and North Afr.	64	63	66	66	65	67	67	65	68	69	67	70
South Asia	58	58	59	60	60	61	62	61	62	63	62	64
Sub-Saharan Africa	50	48	52	49	48	51	48	47	50	46	45	47
Low-Income Economies	57	56	58	58	57	59	59	58	59	59	58	60
Middle Income Economies	68	66	71	69	66	71	69	67	72	70	68	72
High Income Economies	76	73	79	77	74	80	77	74	81	78	75	81

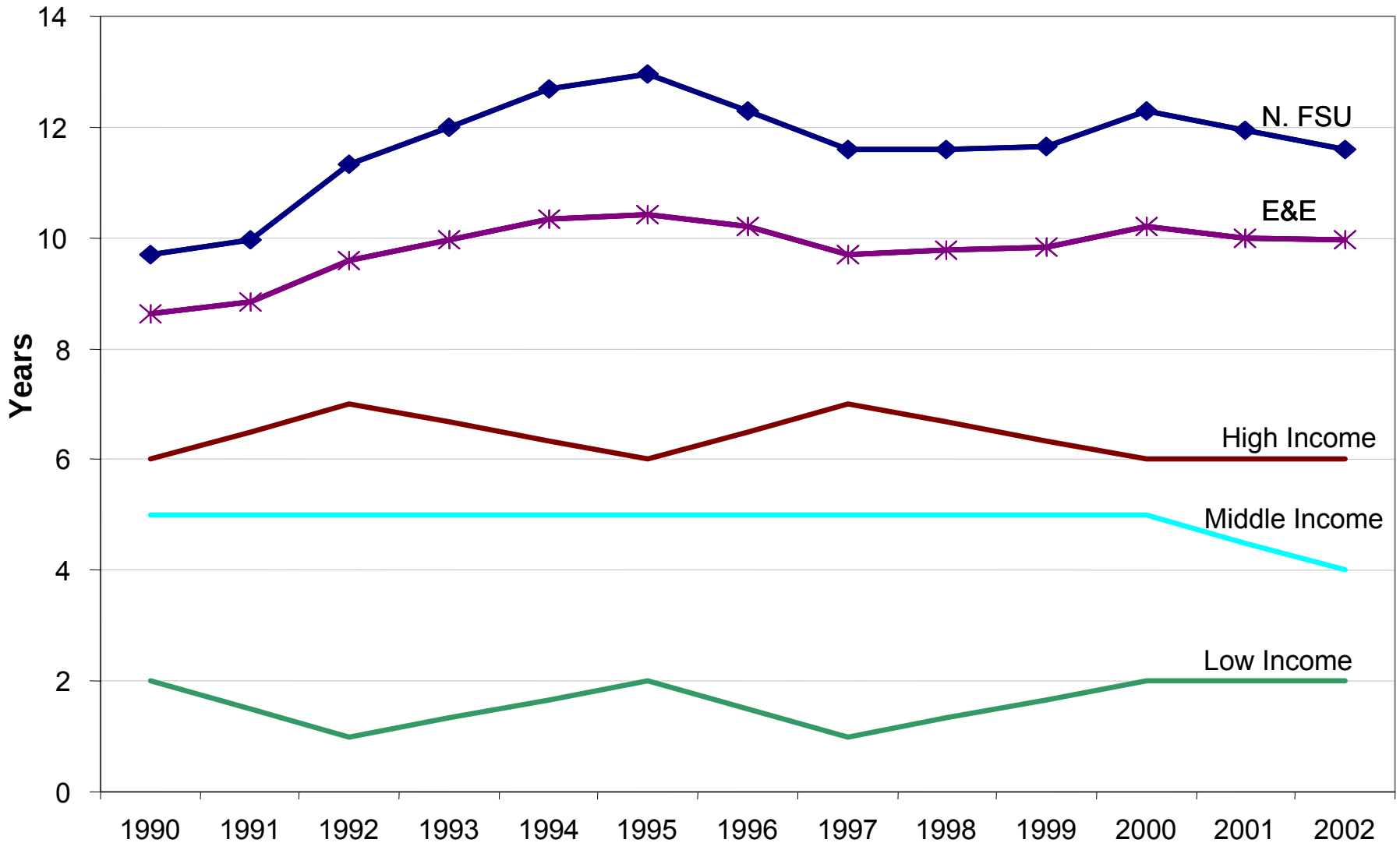
World Bank, *World Development Indicators* (2004).

Table 14: Life Expectancy Gender Gap				
	1990	1994	1998	2002
Estonia	10	12	11	12
Russia	10	14	12	12
Belarus	10	10	11	11
Latvia	11	12	12	11
Ukraine	9	10	11	11
Kazakhstan	9	10	11	10
Lithuania	9	12	10	10
Georgia	7	8	8	9
Hungary	9	9	9	9
Kyrgyzstan	9	9	8	9
Armenia	7	7	7	8
Croatia	7	9	9	8
Moldova	7	8	7	8
Poland	9	8	8	8
Romania	6	7	7	8
Slovak Republic	8	9	8	8
Slovenia	8	7	8	8
Azerbaijan	8	9	7	7
Czech Republic	8	7	7	7
Turkmenistan	7	7	7	7
Bosnia and Herzegovina	5	5	4	6
Bulgaria	7	8	7	6
Tajikistan	5	6	5	6
Uzbekistan	6	6	6	6
Macedonia	4	4	5	5
Serbia and Montenegro	5	6	5	5
Albania	6	6	5	4
Europe and Eurasia	8.6	10.3	9.6	9.6
NT CEE	8.9	8.5	8.3	8.3
ST CEE	5.9	6.8	6.4	6.7
Eurasia	9.1	11.5	10.6	10.6
NFSU	9.7	12.7	11.6	11.6
Muslim Group	6.6	6.9	6.3	6.4
European Monetary Union	7	7	7	7
East Asia and Pacific	3	4	3	3
Latin America and Carib.	6	7	6	6
Middle East and North Afr.	3	2	3	3
South Asia	1	1	1	2
Sub-Saharan Africa	4	3	3	2
Low-Income Economies	2	2	1	2
Middle Income Economies	5	5	5	4
High Income Economies	6	6	7	6

World Bank, *World Development Indicators*(2004).

Figure 16

Life Expectancy Gender Gap



World Bank, *World Development Indicators* (2004). The life expectancy gender gap is calculated as the difference between female and male life expectancy. Missing values were interpolated.

Table 15: Percent of the Population that is Female (%)

	1990	1994	1998	2002
Latvia	53.5	53.6	53.8	54.1
Ukraine	53.8	53.6	53.6	53.5
Estonia	53.1	53.3	53.4	53.5
Russia	53.2	53.1	53.1	53.3
Belarus	53.1	53.3	53.4	53.1
Lithuania	52.7	52.7	52.8	52.9
Georgia	52.5	52.4	52.3	52.5
Moldova	52.3	52.3	52.2	52.4
Hungary	52.0	52.1	52.2	52.3
Croatia	51.6	51.6	51.6	51.8
Kazakhstan	51.5	51.4	51.5	51.6
Poland	51.3	51.3	51.4	51.4
Armenia	51.5	51.6	51.6	51.4
Bulgaria	50.7	51.0	51.3	51.4
Slovak Republic	51.1	51.3	51.3	51.4
Slovenia	51.5	51.5	51.4	51.3
Czech Republic	51.4	51.4	51.4	51.2
Romania	50.7	50.9	51.0	51.2
Kyrgyzstan	51.1	51.0	51.0	51.1
Azerbaijan	51.2	50.9	50.8	50.9
Bosnia and Herzegovina	50.6	50.5	50.5	50.5
Turkmenistan	50.7	50.6	50.5	50.5
Uzbekistan	50.6	50.5	50.4	50.3
Serbia and Montenegro	50.3	50.3	50.3	50.2
Tajikistan	50.3	50.3	50.2	50.2
Macedonia	49.8	49.9	50.0	50.0
Albania	48.7	48.8	48.8	48.9
Europe and Eurasia	52.2	52.2	52.2	52.3
NT CEE	51.6	51.6	51.7	51.7
ST CEE	50.5	50.7	50.8	50.9
Eurasia	52.8	52.6	52.6	52.7
N. FSU	53.3	53.2	53.2	53.3
Muslim Majority	50.6	50.5	50.4	50.4
European Monetary Union	51.4	51.2	51.1	51.0
East Asia and Pacific	48.8	48.9	48.9	48.9
Latin America and Carib.	50.3	50.3	50.4	50.8
Middle East and North Afr.	48.5	48.5	48.6	49.2
South Asia	48.3	48.3	48.4	48.5
Sub-Saharan Africa	50.1	50.2	49.9	50.2
Low-Income Economies	49.1	49.1	49.1	49.3
Middle Income Economies	49.5	49.5	49.5	49.6
High Income Economies	49.7	49.6	49.5	50.6

World Bank, *World Development Indicators* (2004).

Health factors which may be influencing demography. Possible explanations for some of the striking mortality trends in the region, and particularly the gender disparities emerge from an examination of trends in: (a) lifestyle conditions; (b) "non-medical" deaths (such as suicides, homicides and accidents); and (c) infectious diseases such as TB and HIV/AIDS.

The lion's share of deaths in EE are due to ***non-communicable diseases***, some of which are due to genetic attributes, though most stem arguably from lifestyle choices (in particular, those related to alcohol, smoking, diet and exercise-related conditions). Drawing from the World Health Organization (WHO), we estimate that 55% of EE deaths in 2000 were attributed directly to ***lifestyle diseases***, vs. 40% in the EU-15 and 46% in the U.S. (*Figure 17* and *Table 16*). In contrast, only 5% of EE deaths were due to infectious, parasitic, maternal and perinatal conditions; this compares to 7% in the EU-15. A broader definition of lifestyle-related deaths (which includes non-medical deaths including suicides and deaths from accidents and homicides, though also fire and war), increases this proportion to 66% in EE, vs. 56% in the U.S. and 45% in the EU-15 countries.

Lifestyle related deaths are highest in the NFSU (*Figure 18*). Seventy-two percent of deaths in the NFSU in 2000 were attributed to a combination of diet, exercise and stress (52%), smoking and alcohol (7%) and non-medical deaths, including suicides, accidents, and homicides (13%). *Figure 19* takes stock of the mortality gap between the NFSU and the EU-15 by comparing the magnitude of deaths per 100,000 in these various categories. The lion's share of the mortality gap between the two regions is due to diet, exercise, and obesity (or stress-related deaths), and to non-medical deaths.

Figure 20 shows data from the Russia Longitudinal Monitoring Survey which underscores the concern about lifestyle trends in Russia. The percentage of Russian adults which are either ***overweight or obese*** is very high and has increased since the transition began. Almost 60% of Russian adults between 29 and 60 years of age were overweight or obese in 2003, an increase from 55% in 1992. For Russians older than 60 years, the numbers are higher still: 71% in 2003 were either overweight or obese, an increase from 59% in 1992. It is worthy to note that obesity in the U.S. is also very high. In fact, the proportion of obese adults in the 30-59 age bracket in the U.S. is the same as that in Russia, namely 23%. For the 60 years and older group, however, the difference between the U.S. and Russia is stark: 35% of this population is obese in Russia vs. 19% in the U.S.

Overall, the proportion of ***smokers*** and the amount of cigarettes smoked in the transition region (4.1 cigarettes per person per day) is roughly comparable to Western Europe norms (4.3 to 4.7 cigarettes per person per day for countries for which data are available) (*Tables 17* and *18* and *Figure 21*). However, the gender disparity in smoking is much greater in the transition countries than it is in Western Europe. Males in the transition region smoke more than their Western Europe counterparts, while females in the transition region smoke much less than Western European females. In EE, 46% of males smoked in 1999-2001 vs. 16% of females. Contrast this with the UK (29% males and 25% females), France (33% males and 21% females), Denmark (32% males and 29% females), and Germany (40% males and 32% females).

There are a number of gaps in these data on smoking, and a number of figures which look suspect (e.g., there are very significant changes in the proportion of smokers from one time period to another in Romania and Kazakhstan). In that context (and with that caveat), a number of sub-region and country-specific data stand out. Among the transition countries, the gender disparity in smoking is lowest in the Northern Tier CEE countries, largely because women in the Northern Tier CEE countries smoke more than their counterparts in the rest of the transition region. The gender disparity in smoking appears to be the greatest in the Caucasus (Armenia,

Azerbaijan, and Georgia), Albania, Kazakhstan, Ukraine, and Russia.[6] Some though not all of these countries have a large proportion of Muslims, and a very low percentage of women smokers.

Citizens of the EE countries on average consume notably less ***alcohol*** (undifferentiated by the type of alcoholic drinks and excluding home-made liquor) than most of the citizens in the EU-15 countries, roughly a third less (6.5 liters per person in 2001 in EE vs. 9.2 in the EU-15) (*Table 19*). Persons in the Caucasus and the Central Asian Republics drink much fewer alcoholic beverages (2.5 and 1.4 liters, respectively) than the average EE person, and much fewer still than those in the Northern Tier CEE countries (8.7) and the NFSU countries (7.4).

One important aspect that these country averages mask is the differences in alcohol consumption by gender. The RLMS data underscore this in the case of Russia. Russian males drink far more alcohol than do females. The annual per capita alcohol consumption for Russian males in 2003 was 13.1 liters, while for females it was only 2.1 liters. Earlier years showed even greater differentiation in consumption by gender.

Despite the lower estimates of alcohol consumption in the EE region compared to the EU-15, deaths in 2000 which were directly connected to alcohol (i.e., cirrhosis) were notably higher in EE than in the EU-15 (as well as in the U.S.). There were 24 alcohol-related deaths per 100,000 in EE, vs. 15 in the EU-15 and 9 in the U.S. (These data are drawn from the raw numbers used to calculate the percentages in *Table 16*). Alcohol-related deaths were particularly high in Moldova and Hungary (69 and 66, respectively). Alcohol-related deaths increased from 1996 to 2000 in 10 out of the 16 transition countries for which data are available.

Figure 22 tracks the trends in male life expectancy from 1984 to 2001 in Russia with per capita alcohol consumption in Russia. The two data series mirror each other closely. Male life expectancy in Russia was highest in the 1980s, coinciding when per capita alcohol consumption was lowest. When alcohol consumption started increasing in 1988, male life expectancy started decreasing. A particularly steep increase in alcohol consumption took place from 1992 to 1995, coinciding with a particularly steep drop in life expectancy. Male life expectancy resumed an increase in 1995, as alcohol consumption fell. Another increase in alcohol consumption in 1997 occurred alongside another fall in life expectancy.

Many deaths are no doubt indirectly caused by alcohol. *Figure 23* shows a very close correspondence between alcohol consumption in Russia and external causes of death (i.e., from injuries, such as those stemming from automobile accidents, and poisoning, primarily alcohol poisoning).[7] *Figure 24* shows that deaths from injury and poisoning are much greater in some transition countries (particularly, Russia, Belarus, Kazakhstan and Ukraine) than in others and as compared to some Western Europe countries. It also shows a much larger gender gap in this regard; that is, in countries where these deaths are highest, most of the deaths are males. *Figure 25* shows that most of the deaths in Russia due to injuries and poisonings and most of the increases in these deaths since the transition began have been the Russian males.

Suicide rates in the EE region are more than twice the rates in the EU-15 (*Table 20*). Within the transition region, they are highest in the NFSU. In fact, the WHO estimates that the six NFSU (for which data available; i.e., excluding Moldova) in addition to Hungary, Kazakhstan, and Slovenia

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[6] The figures on smoking in Russia from the WHO are dated, from 1994-1998. However, more recent data are available from Barry Popkin's Russia Longitudinal Monitoring Survey which show very similar numbers in 2003 to the WHO earlier estimates; namely, 63% of Russian males smoked and 15% of Russian females in 2003.

[7] The WHO notes (in its WHR 2002) that for males in the NFSU and Hungary and Kazakhstan, 50-75% of drownings, oesophagus cancer, epilepsy, unintentional injuries, homicides, motor vehicle crashes and cirrhosis of the liver are attributed to alcohol.

have the highest suicides worldwide; Finland is 10th. Suicide rates in EE are lowest in the Caucasus, and among the Muslim-majority countries.

Suicide rates in the transition region have generally peaked (*Table 20* and *Figure 25*). Of the seventeen transition countries for which time series data on suicide rates are available, only seven countries had higher suicide rates in 2002 than in 1990. Moreover, all of the seventeen countries except one (Romania) had suicide rates previously peaking, generally by 1994-1995.

According to the WHO (from the previously discussed *Table 16*), ***infectious, parasitic, maternal and perinatal diseases*** were responsible for 5% of EE deaths in 2000 (and of that, only 1.2% due to TB and HIV); vs. 8% and 7% in the US and the EU-15, respectively. The **adult HIV prevalence rate** is the number of cumulative reported HIV infections per million adults 15-49 years. These numbers no doubt underestimate the true magnitude of the rates. In this context, estimates of HIV prevalence in the large majority of transition countries remain low by global standards: 23 out of 27 transition countries had rates equal to or less than the EMU average in 2003 (0.31) (*Table 21*). However, from 1997-2003, HIV rates increased more rapidly in the EE than any other region in the world. Yet, only a handful of transition countries have been contributing to this significant increase in recent years. These are also the countries which have the highest rates and include Ukraine, Estonia, Russia, Latvia, and Kazakhstan (i.e., four of the seven NFSU countries in addition to Kazakhstan). Belarus might also be included in this group, though the most recent estimate of HIV prevalence in Belarus is 2001.

Figures 27-29 summarize the HIV trends in EE vis-à-vis trends in the rest of the world. While the average EE HIV rate is actually less than the EU-15 average, four transition countries (Ukraine, Estonia, Russia, and Latvia) greatly exceed both country group averages (*Figure 27*). Moreover, the rate of increase and prevalence rate among these four countries has been much greater than regional trends in most other parts of the world (*Figure 28*). *Figure 29* puts the global trends in perspective by underscoring how much more problematic HIV is in Sub-Saharan Africa relative to anywhere else worldwide.

TB prevalence is far higher in EE than it is in the EU-15 (*Table 22* and *Figure 30*). The incidence of TB was almost 7 times greater in 1999-2002 in EE than in the EU-15 (75 vs. 11 per 100,000 persons). Nevertheless, the incidence of TB is generally far higher in most parts of the developing world than it is in the transition countries. In 2002, there were 495 cases of TB per 100,000 people in Sub-Saharan Africa, 343 in South Asia, 313 in East Asia and the Pacific, and 92 in Latin America and the Caribbean.

With the salient exception of the Northern Tier CEE countries, the incidence of TB since 1998 has generally been increasing in the transition region, while it has generally been falling in the EU-15. On average, from 1995-1998 to 1999-2002, TB incidence increased by 18% in EE while decreasing by 18% in the EU-15. The EE countries where the incidence of TB is the highest are a variety of countries from the former Soviet Union and one Southern Tier CEE country. In descending order of incidence, they are: Kazakhstan, Kyrgyzstan, Romania, Georgia, Russia, Turkmenistan, Latvia, Ukraine, and Lithuania. The most significant and problematic increase in TB rates since the mid-1990s has been in Kazakhstan, followed by Kyrgyzstan and Romania (*Figure 30*).

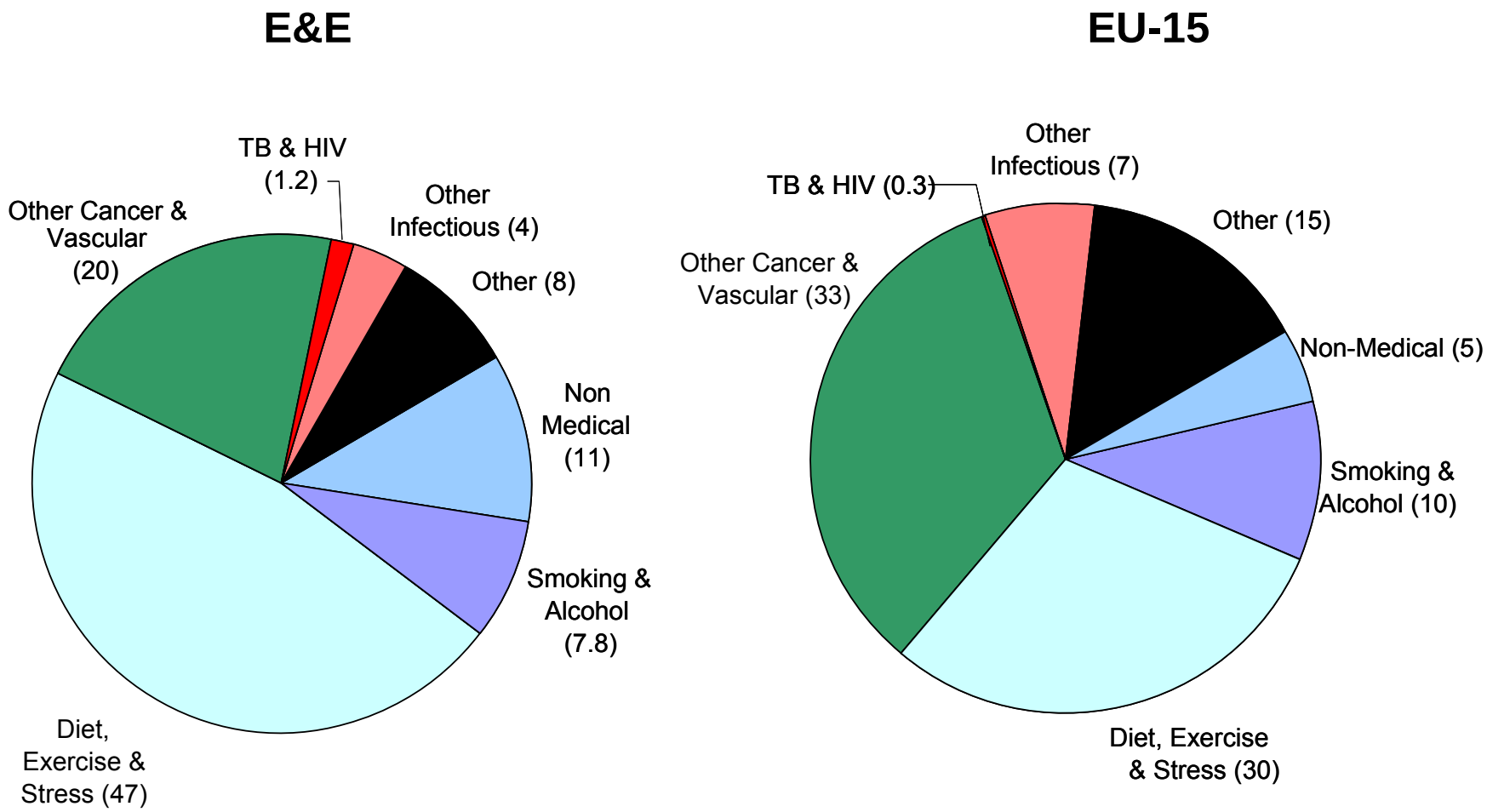
Table 16: Distribution of Death Rates per 100,000, 2000

		Infectious, Parasitic, Respiratory & Perinatal			Lifestyle Diseases				Other Vascular & Cancer		Non-Medical		
	Total	TB & HIV	Other	Total	Alcohol	Smoking	Obesity/Stress	Total	Vascular	Cancer	Suicide	Other	Other
Russia	100	1	3	4	1	5	49	55	7	11	3	12	8
Ukraine	100	1	2	3	2	7	55	64	6	10	2	8	7
Bulgaria	100	0	3	4	1	4	42	47	26	11	1	3	8
Latvia	100	1	3	4	1	4	51	56	5	14	2	9	9
Hungary	100	0	2	2	5	9	41	55	11	19	2	5	6
Belarus	100	1	2	2	1	7	51	59	4	12	3	9	12
Estonia	100	1	3	3	1	5	51	57	4	15	2	9	9
Romania	100	1	4	5	4	6	48	58	14	13	1	5	4
Croatia	100	0	3	4	3	7	39	49	16	18	2	4	7
Serbia and Montenegro	100	0	3	4	1	6	31	39	27	13	0	4	13
Lithuania	100	1	2	3	1	6	46	54	8	16	4	9	5
Czech Republic	100	0	3	3	2	7	40	48	15	21	2	5	6
Slovakia	100	0	5	5	2	6	46	55	10	18	1	5	6
Moldova	100	2	4	5	7	6	55	68	2	9	1	7	8
Poland	100	0	4	4	1	7	29	38	20	18	2	5	13
Slovenia	100	0	5	6	4	8	29	42	14	21	3	5	10
Macedonia	100	1	3	4	1	6	36	42	23	14	1	3	13
Northern Tier CEE	100	0	3	4	2	7	36	46	15	18	2	6	10
NT CEE Minus Baltics	100	0	4	4	2	8	35	44	17	18	2	5	10
Southern Tier CEE	100	1	4	5	3	6	42	50	20	13	1	4	8
Central Asia & Caucasus	100	2	9	11	3	6	48	57	6	8	1	7	8
Europe and Eurasia	100	1	4	5	2	6	47	55	9	12	2	9	8
N.FSU	100	1	3	4	1	6	50	57	7	11	2	11	8
EU 15	100	0	7	7	2	8	30	40	13	8	1	4	28
U.S.A.	100	1	7	8	1	12	33	46	9	8	1	5	23

WHO, *World Mortality Database* (2004).

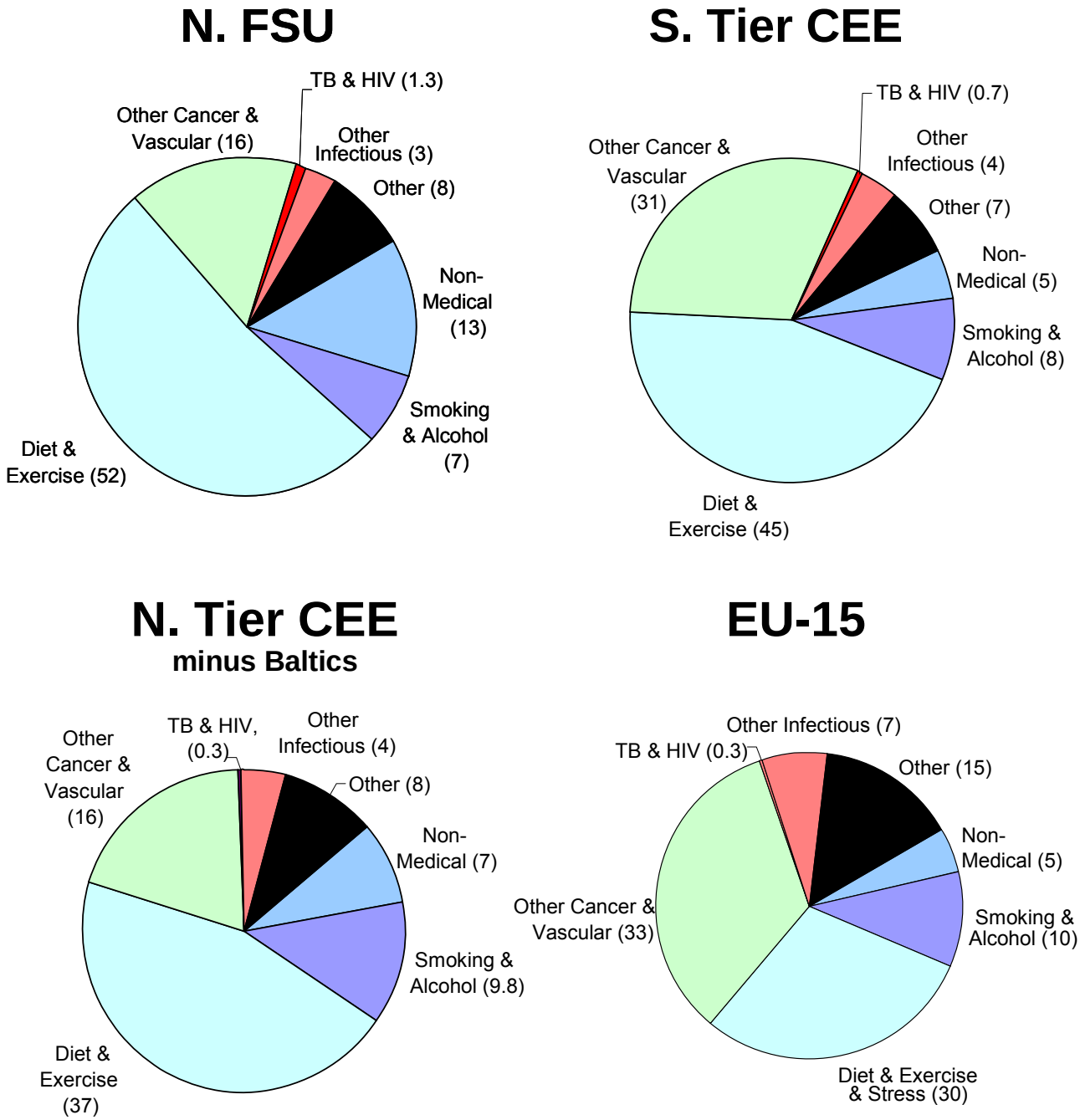
Notes: Perinatal includes congenital causes. Alcohol-related deaths are due to liver cirrhosis. Smoking-related deaths are those due to lung cancer and Chronic Obstructive Pulmonary Disease (COPD) (emphysema). Obesity and stress-related deaths are those due to coronary heart disease, hypertension, stroke, and diabetes. Smoking and alcohol consumption also contribute to the onset of cardiovascular disease and cancer. Non-medical causes include accidents, fire, homicide, war and others. Northern Eurasia includes Russia, Ukraine, Belarus and Moldova. Central Asia and the Caucasus include Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan.

Figure 17 Causes of Death in 2000 (%)



WHO, *Mortality Database* (2004). Diet/exercise/obesity deaths include coronary heart disease, stroke, hypertension, diabetes, and colorectal cancer. (Studies in the New England Journal of Medicine estimate that up to 80% of cases of coronary heart disease and up to 90% of type 2 diabetes could be avoided through changing lifestyle factors, and about one-third of cancers could also be prevented by eating healthily, maintaining normal weight, and exercising throughout the life span.) Non-medical causes include accidents, suicides, homicides and disaster. Alcohol deaths include cirrhosis. Smoking deaths include lung cancer and emphysema/COPD. Other Infectious are infectious and parasitic diseases other than TB and HIV. Other Cancer and Vascular includes cancers other than lung and colorectal, and cardiovascular disease other than coronary heart disease, stroke and hypertension.

Figure 18 Causes of Death in 2000 (%)



WHO, *Mortality Database* (2004). Diet/exercise/obesity deaths include coronary heart disease, stroke, hypertension, diabetes, and colorectal cancer. (Studies in the New England Journal of Medicine estimate that up to 80% of cases of coronary heart disease and up to 90% of type 2 diabetes could be avoided through changing lifestyle factors, and about one-third of cancers could also be prevented by eating healthily, maintaining normal weight, and exercising throughout the life span.) Non-medical causes include accidents, suicides, homicides and disaster. Alcohol deaths include cirrhosis. Smoking deaths include lung cancer and emphysema/COPD. Other Infectious are infectious and parasitic diseases other than TB and HIV. Other Cancer and Vascular includes cancers other than lung and colorectal, and cardiovascular disease other than coronary heart disease, stroke and hypertension.

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Figure 19

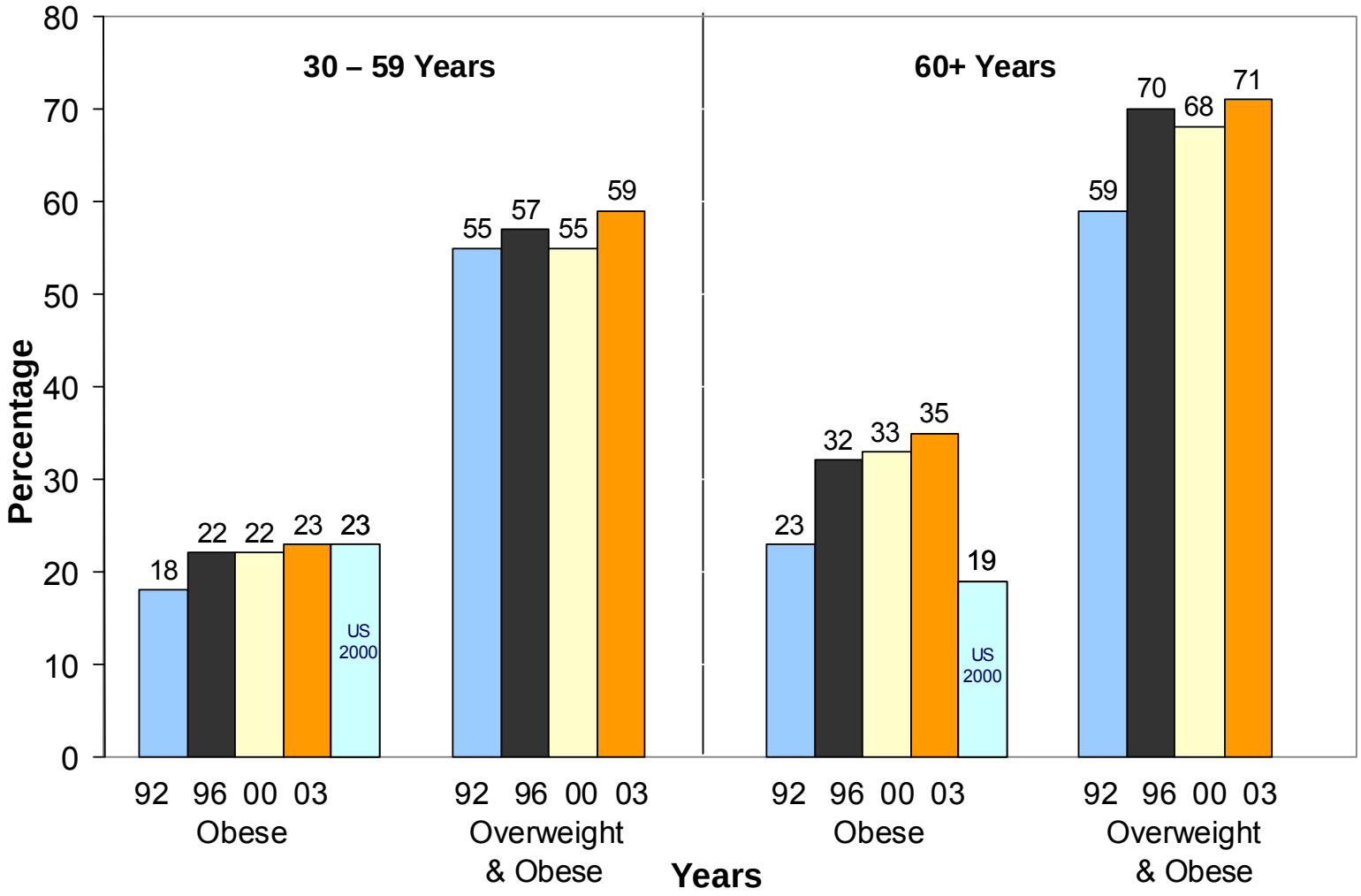
Accounting for the Mortality Gap Between N.FSU & EU-15

Year 2000	N.FSU	EU 15	Mortality Gap
Total Deaths per 100,000	1,505	972	**+ 533**
Diet/Exercise/Obesity	780	340	**+ 440**
Non-medical	196	47	**+ 149**
Alcohol	22	15	**+ 7**
Smoking	84	82	**+ 2**
TB & HIV	20	3	**+ 17**
Other Infectious	40	69	**- 29**
Other Cancer & Vascular	240	295	**- 55**

WHO, *Mortality Database* (2004). Diet/exercise/obesity deaths include coronary heart disease, stroke, hypertension, diabetes, and colorectal cancer. (Studies in the New England Journal of Medicine estimate that up to 80% of cases of coronary heart disease and up to 90% of type 2 diabetes could be avoided through changing lifestyle factors, and about one-third of cancers could also be prevented by eating healthily, maintaining normal weight, and exercising throughout the life span.) Non-medical causes include accidents, suicides, homicides and disaster. Alcohol deaths include cirrhosis. Smoking deaths include lung cancer and emphysema/COPD. Other Infectious are infectious and parasitic diseases other than TB and HIV. Other Cancer and Vascular includes cancers other than lung and colorectal, and cardiovascular disease other than coronary heart disease, stroke and hypertension.

Figure 20

Adult Obesity in Russia



The International Nutritional Status of Adults is determined by Body Mass Index (BMI) which is a measure of weight by height. A BMI between 25 and 30 is considered Overweight and a score above 30 is Obese. B. Popkin, *Monitoring Economic Conditions in the Russian Federation: The Russia Longitudinal Monitoring Survey 1992-2003* (April 2004);

Table 17: Smoking Prevalence in Adults

	1994-98			1999-01			2002		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Armenia	29.0	63.7			67.5	3.1			
Georgia	32.6	53.2	11.9		60.0	15.0			
Ukraine		48.5	20.5	34.0	58.0	14.0			
Belarus	27.5	54.8	3.6	26.3	53.7	4.8	41.6	64.1	19.7
Lithuania		43.3	6.3	32.0	51.0	15.8		43.7	12.8
Latvia		53.0	18.4	29.2	49.1	13.0	33.2	51.1	19.2
Serbia-Montenegro				40.4	48.0	33.6			
Kazakhstan		60.0	7.0	23.9	46.5	7.6			
Moldova		43.9			46.0	18.0			
Estonia	36.0	52.0	24.0	29.0	44.0	20.0	29.0	45.0	18.0
Bulgaria	35.6	49.2	23.8	32.7	43.8	23.0			
Albania		44.4	6.6	39.0	43.6	8.2			
Poland		44.0	24.0		42.0	23.0	32.0	40.0	25.0
Hungary		44.0	27.0	30.6	38.2	23.0			
Croatia				30.3	34.1	26.6			
Romania		61.7	25.0		32.3	10.1			
Azerbaijan	26.5				31.2	1.1			
Slovenia	28.7	34.7	22.7	23.7	28.0	20.1			
Czech Republic	36.0	43.0	31.0	19.5	26.8	12.7			
Kyrgyzstan							62.5	64.1	41.4
Bosnia-Herzegovina							37.6	49.2	29.7
Russia	36.0	63.2	9.7						
Slovakia	32.0	41.1	14.7						
Macedonia									
Tajikistan									
Turkmenistan									
Uzbekistan									
Europe and Eurasia		55.5	15.1		45.5	15.8			
NT CEE		43.8	23.6		39.5	20.6			
ST CEE		51.6	20.8		38.5	18.8			
Eurasia		53.7	10.3		42.4	8.6			
Britain and Northern Ireland	28.0	29.0	28.0	27.0	29.0	25.0	26.0	27.0	25.0
France	28.0	35.0	21.0	27.0	33.0	21.0			
Germany		43.2	30.0	36.4	40.3	32.2			
Denmark	37.0	39.0	35.0	30.0	32.0	29.0	28.0	31.2	27.0

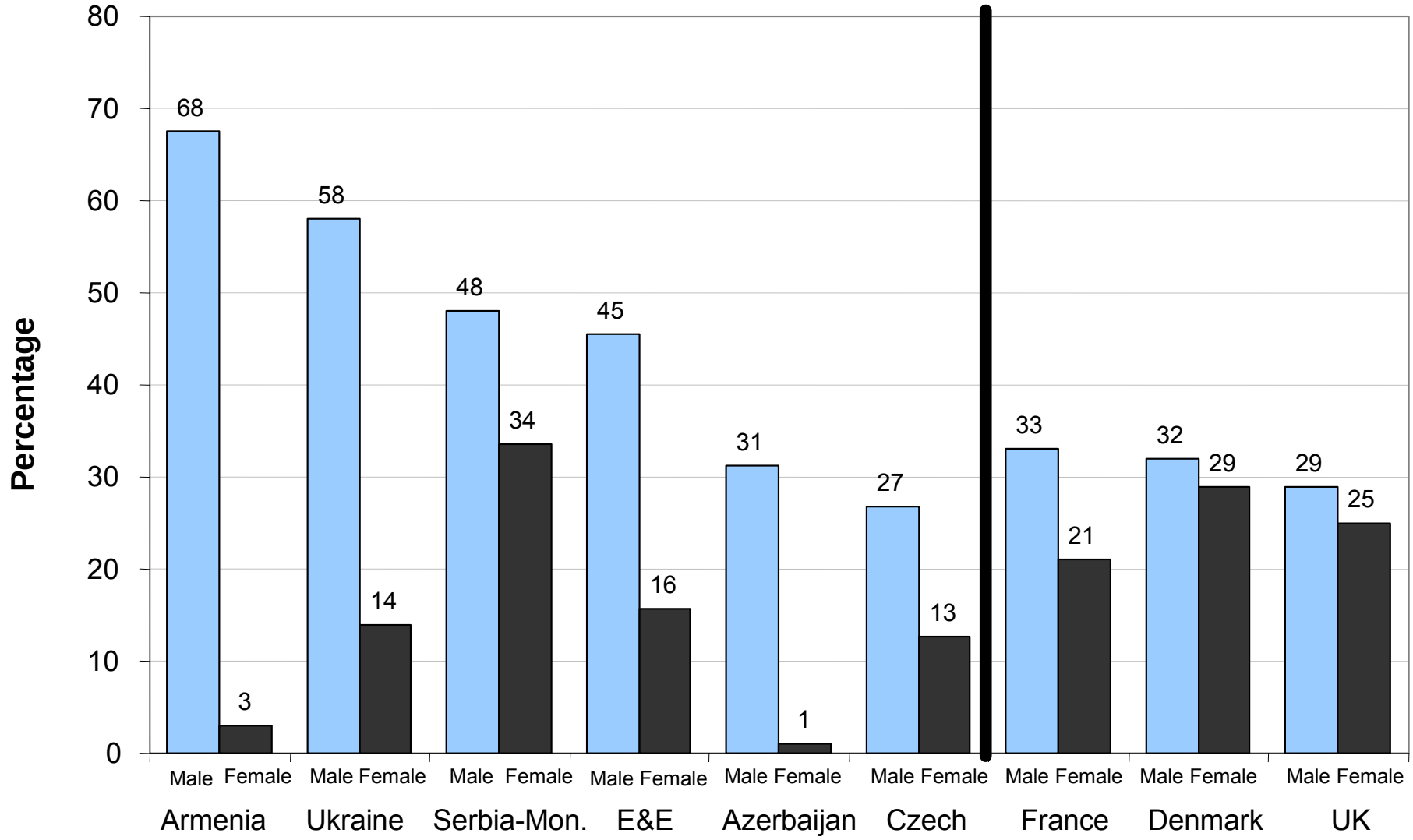
World Health Organization, *Tobacco Control Database* (2004).

Table 18: Average Number of Cigarettes Consumed Per Person Per Day				
	1990-93	1994-96	1997-00	1990-00
Slovenia		6.9	6.5	6.6
Poland	6.5	6.7	6.1	6.4
Hungary	6.9	6.3	5.8	6.4
Bulgaria	5.7	5.1	7.0	6.0
Croatia	5.6	6.3	5.4	5.7
Lithuania		5.2	5.4	5.3
Russia		3.4	5.6	5.2
Macedonia		6	4.9	5.1
Belarus			5.1	5.1
Estonia		4.7		4.7
Slovakia	4.7	4.3	4.7	4.5
Czech Republic	4.6	5.1	3.3	4.4
Romania	3.8	3.6	3.8	3.7
Kazakhstan		2.8	4.0	3.6
Serbia and Montenegro	3.8	2.0	3.2	3.1
Bosnia and Herzegovina			3.1	3.1
Ukraine		2.4	3.1	2.9
Armenia			2.9	2.9
Albania		1.2	1.6	1.5
Azerbaijan	1.9	1.2	1.4	1.4
Uzbekistan	0.6	0.8	0.9	0.8
Georgia				
Kyrgyzstan				
Latvia				
Moldova				
Tajikistan				
Turkmenistan				
Europe and Eurasia		3.2	4.2	4.1
NT CEE		5.9	5.2	5.7
ST CEE		3.4	4.1	3.9
Eurasia		2.5	4.0	3.8
Muslim Majority		0.7	0.8	0.8
EU 15	4.9	4.9	4.5	4.7
Britain and Northern Ireland	4.8	4.8	3.7	4.4
France	4.8	4.6	4.0	4.5
Germany	4.9	4.6	4.2	4.6
Denmark	4.2	4.3	4.3	4.3

World Health Organization, *European Health For All Database* (2004).

Figure 21

Smoking Prevalence in Adults in 1999-01



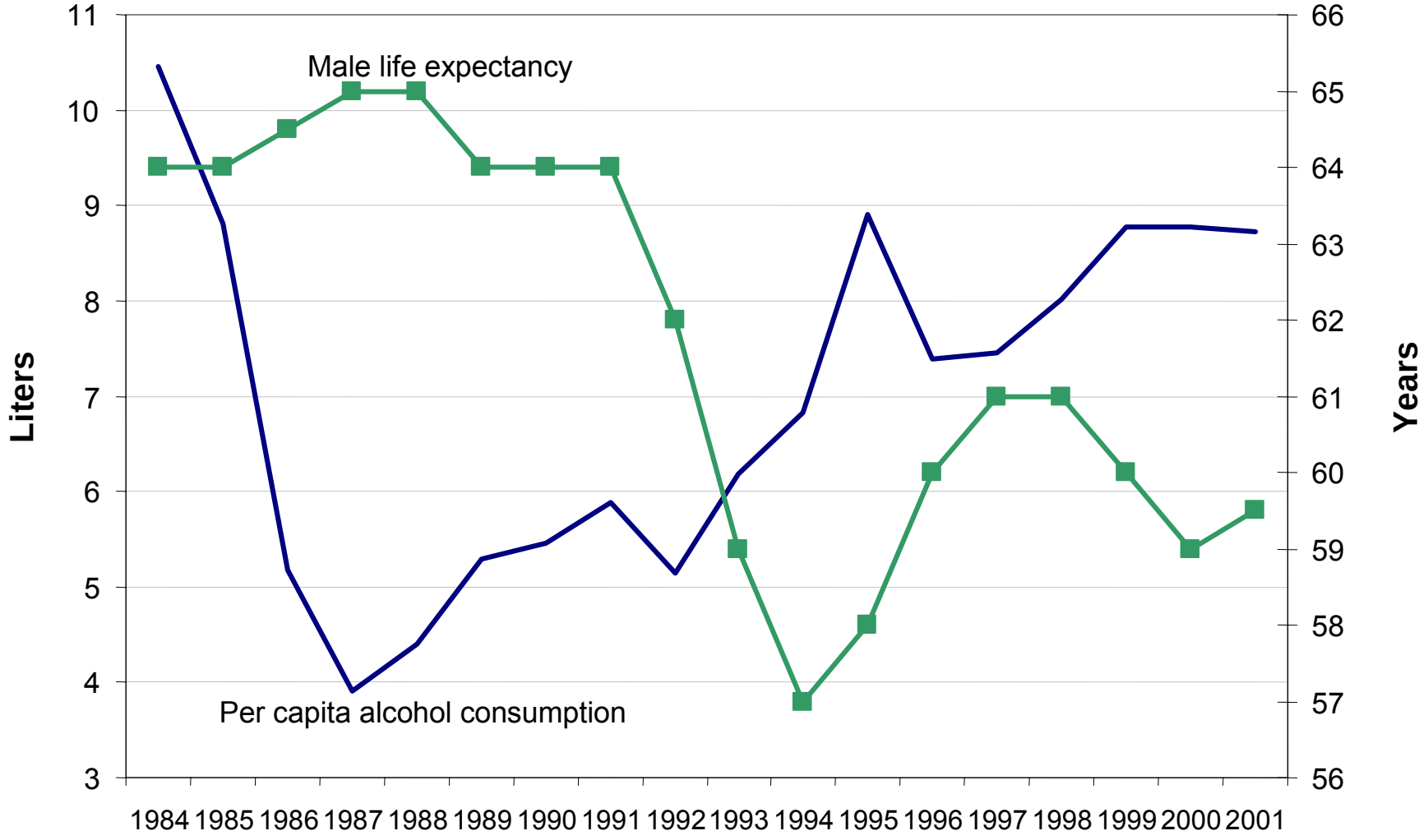
World Health Organization; *Tobacco Control Database 2004.* E&E is a sample of 19 countries.

Table 19: Liters of Alcohol Consumed Per Person Per Year				
	1990	1994	1998	2001
Czech Republic	12.8	12.9	13.6	13.6
Croatia		9.8	11.6	10.5
Slovakia	10.2	10.1	9.8	10.0
Lithuania	5.0		8.6	10.0
Hungary	12.8	11.3	10.4	9.9
Russia	5.5	6.8	8.0	8.7
Estonia		6.3	7.0	8.2
Latvia	5.5	7.9	7.3	7.7
Serbia and Montenegro		7.7	7.1	7.2
Poland	6.2	6.5	6.7	7.1
Bosnia and Herzegovina		6.4	9.9	7.0
Belarus	6.0	7.3	7.8	6.7
Romania	6.9	6.3	5.9	6.3
Bulgaria	9.4	8.1	6.8	6.0
Slovenia	11.2	10.8	6.9	5.5
Azerbaijan		1.0	0.6	4.8
Kyrgyzstan	2.8	1.9	2.3	3.6
Ukraine		3.3	2.9	3.3
Kazakhstan		6.0	2.6	2.1
Georgia		4.0	3.3	1.9
Albania	1.4	1.9	1.0	1.8
Uzbekistan		0.9	0.6	1.0
Armenia		2.8	1.3	0.9
Turkmenistan		1.1	0.8	0.5
Tajikistan		0.8	0.2	0.3
Macedonia	3.2	4.1	2.7	
Moldova				
Europe and Eurasia		5.9	6.1	6.5
NT CEE		8.5	8.5	8.7
Baltics		7.3	7.9	8.9
ST CEE		6.8	6.6	6.6
Eurasia		5.1	5.4	5.9
N. FSU		6.0	6.8	7.4
Muslim Majority		1.1	0.8	1.7
EU 15	10.3	9.6	9.2	9.2
Britain and Northern Ireland	8.7	8.3	8.1	8.5
France	13.3	12.0	11.3	11.0
Germany	12.5	12.0	11.1	10.9
Denmark	10.2	10.3	9.9	9.8

World Health Organization, *European Health For All Database* (2004).

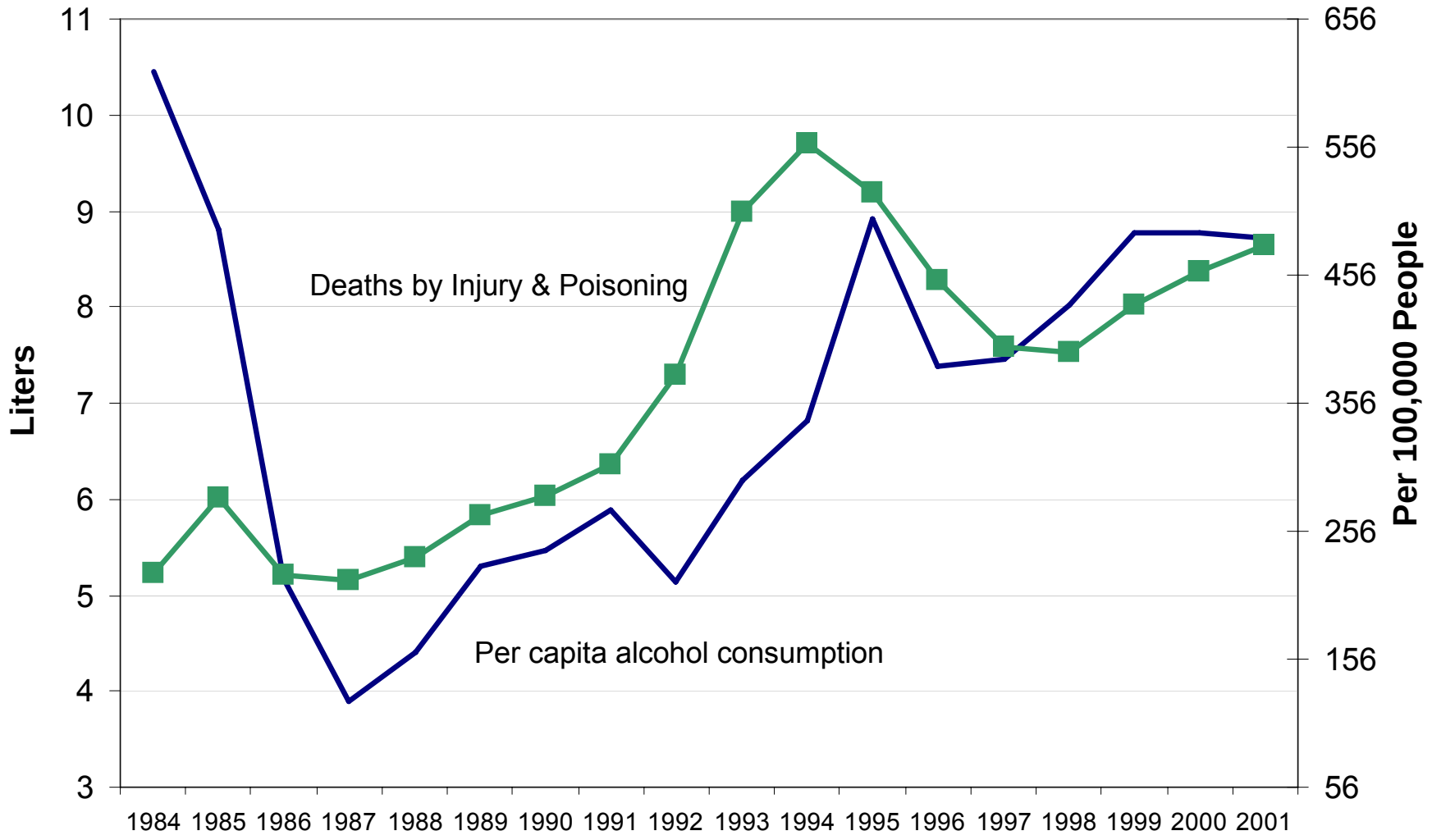
Figure 22

Total Alcohol Consumption and Male Life Expectancy in Russia



Vladimir Treml, *Soviet and Russian Statistics on Alcohol Consumption and Abuse; and* World Bank, *World Development Indicators* (2004). Missing values were interpolated.

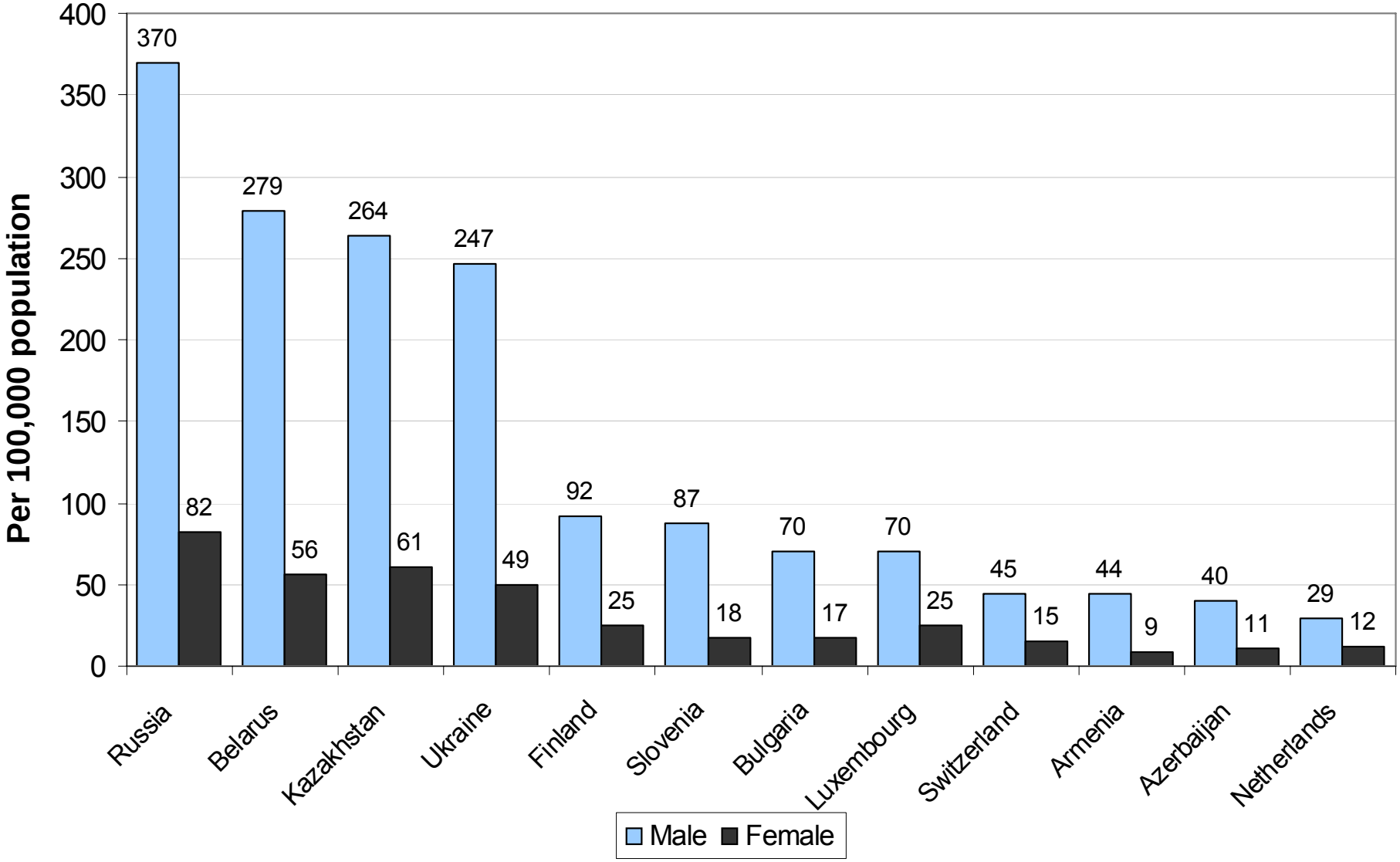
Figure 23 External Cause Deaths by Injury and Poisoning & Total Alcohol Consumption in Russia



Vladimir Treml, *Soviet and Russian Statistics on Alcohol Consumption and Abuse; and* World Bank, *World Development Indicators* (2004). Missing values were interpolated.

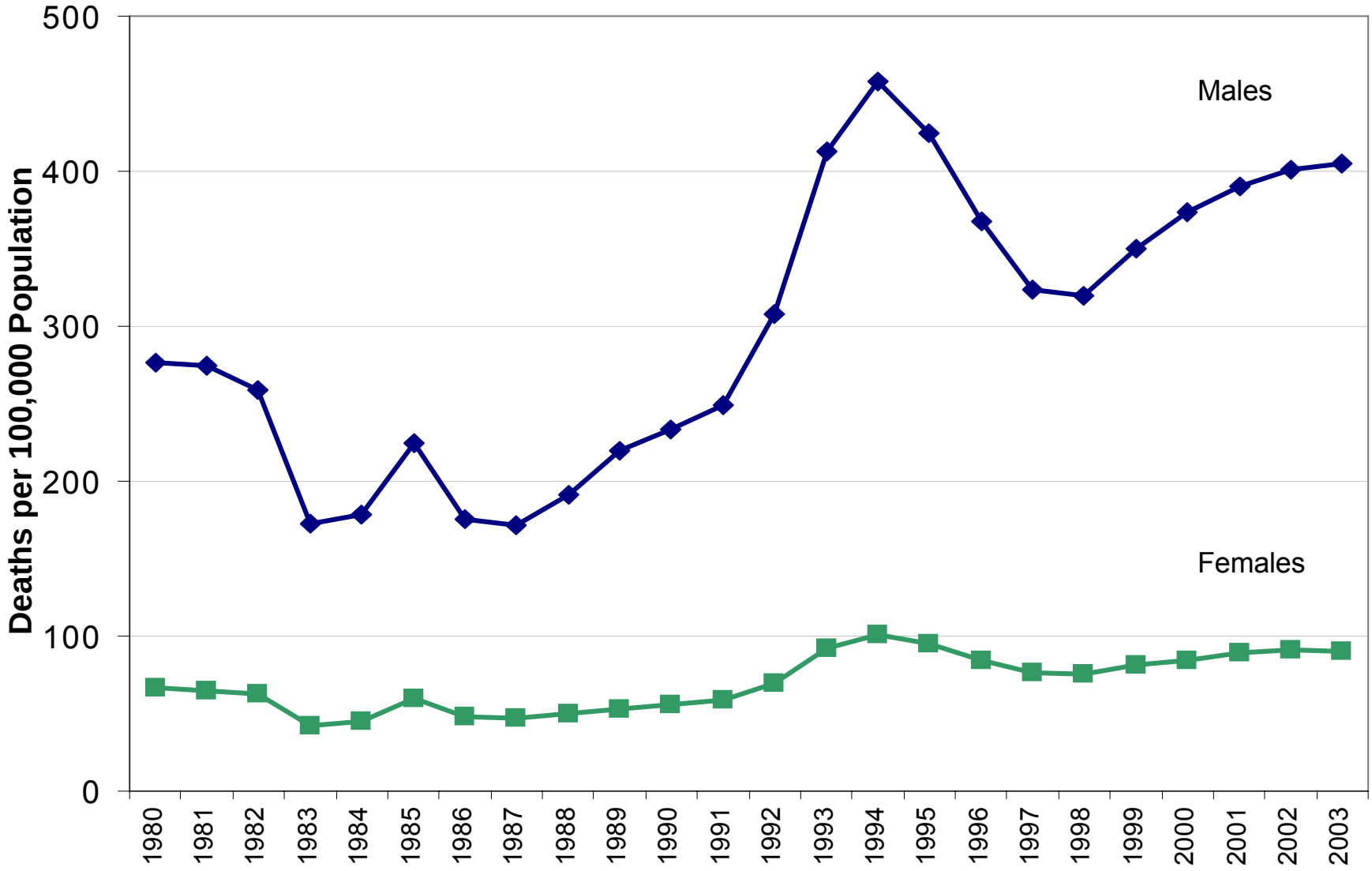
Figure 24

Death from Injury or Poisoning



World Health Organization, *Atlas of Health in Europe (2003).*

Figure 25 Deaths from Injuries and Poisonings in Russia

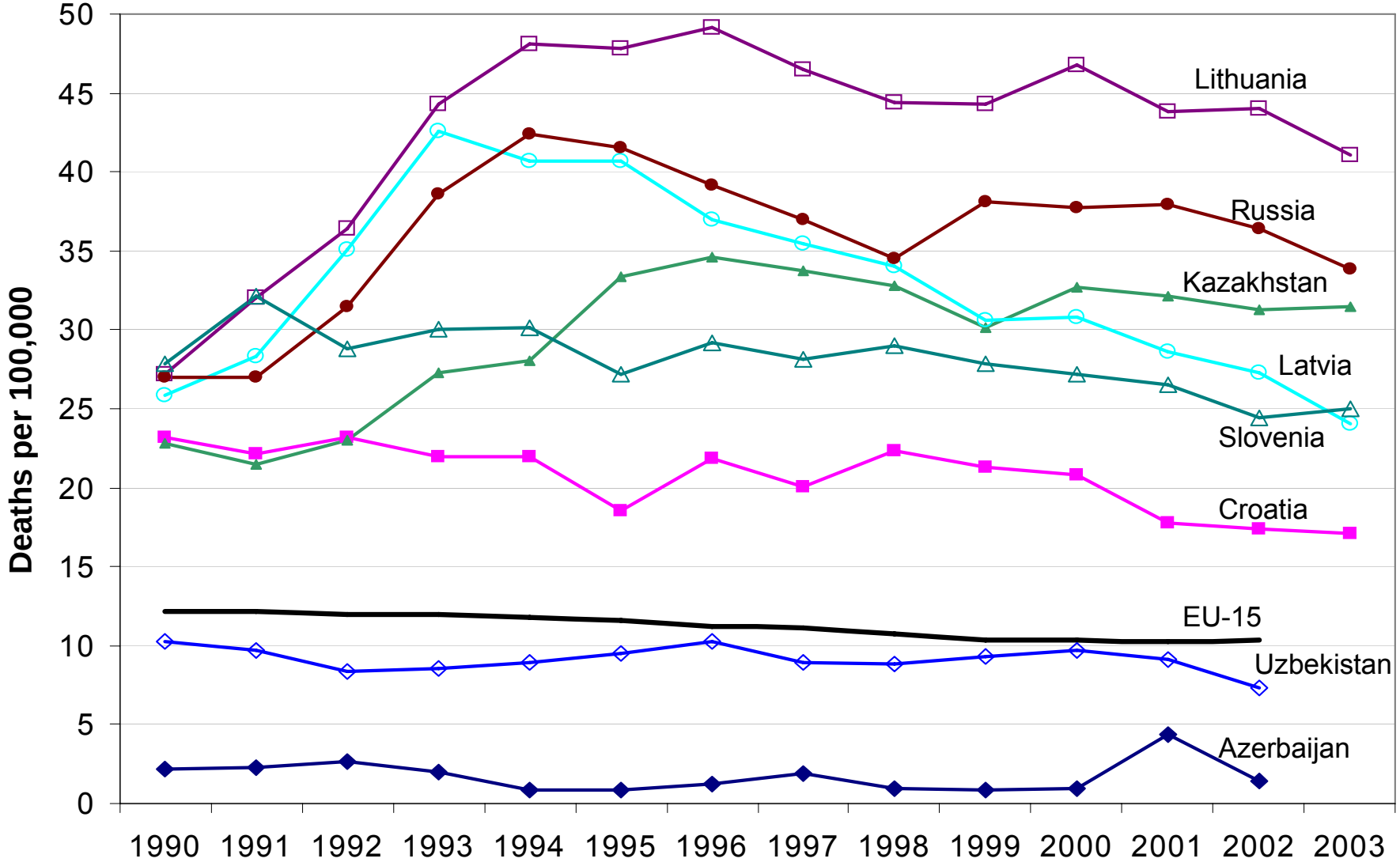


World Health Organization, *European Health for all Database (2004).*

Table 20: Deaths From Suicide and Self Inflicted Injury per 100,000				
	1990	1994	1998	2002
Lithuania	27.2	48.1	44.4	44.0
Russia	27.0	42.4	34.5	36.4
Belarus	21.3	31.7	35.2	32.2
Kazakhstan	22.9	28.1	32.8	31.3
Latvia	25.8	40.7	34.1	27.3
Estonia	27.6	41.7	33.7	26.0
Hungary	38.1	33.2	29.3	25.4
Ukraine	20.5	26.6	28.8	24.5
Slovenia	27.9	30.2	29.0	24.5
Croatia	23.2	22.0	22.4	17.4
Poland	13.8	14.8		14.8
Kyrgyzstan	17.8	18.5	14.1	14.5
Bulgaria	14.1	15.9	16.4	14.3
Czech Republic	19.1	17.3	14.6	13.7
Romania	9.4	13.0	12.6	13.7
Slovakia	16.6	13.6	12.5	13.0
Uzbekistan	10.2	9.0	8.9	7.3
Albania		2.3	6.0	2.4
Armenia	3.3	3.8	2.0	2.4
Azerbaijan	2.2	0.9	0.9	1.4
Bosnia and Herzegovina	10.9			
Georgia	3.8	3.5	3.5	
Macedonia		7.4	8.3	
Moldova				
Serbia and Montenegro		15.9	14.7	
Tajikistan	7.0	5.7		
Turkmenistan	11.4	8.2	10.9	
Europe and Eurasia	20.5	27.4	26.0	25.4
NT CEE	19.9	21.1	24.4	18.2
ST CEE	12.3	14.9	14.7	14.3
Eurasia	21.9	31.6	28.4	28.9
N. FSU	25.2	38.2	33.4	33.4
Muslim Majority	9.3	7.7	8.0	7.0
EU 15	12.19	11.75	10.7	
Britain and Northern Ireland	7.8	7.2	7.2	6.6
France	19.0	19.4	16.5	
Germany	15.5	13.8	12.5	
Denmark	22.4	17.3	13.2	

World Health Organization, *European Health For All Database* (2004).

Figure 26 Suicide Rates for Selected E&E Countries

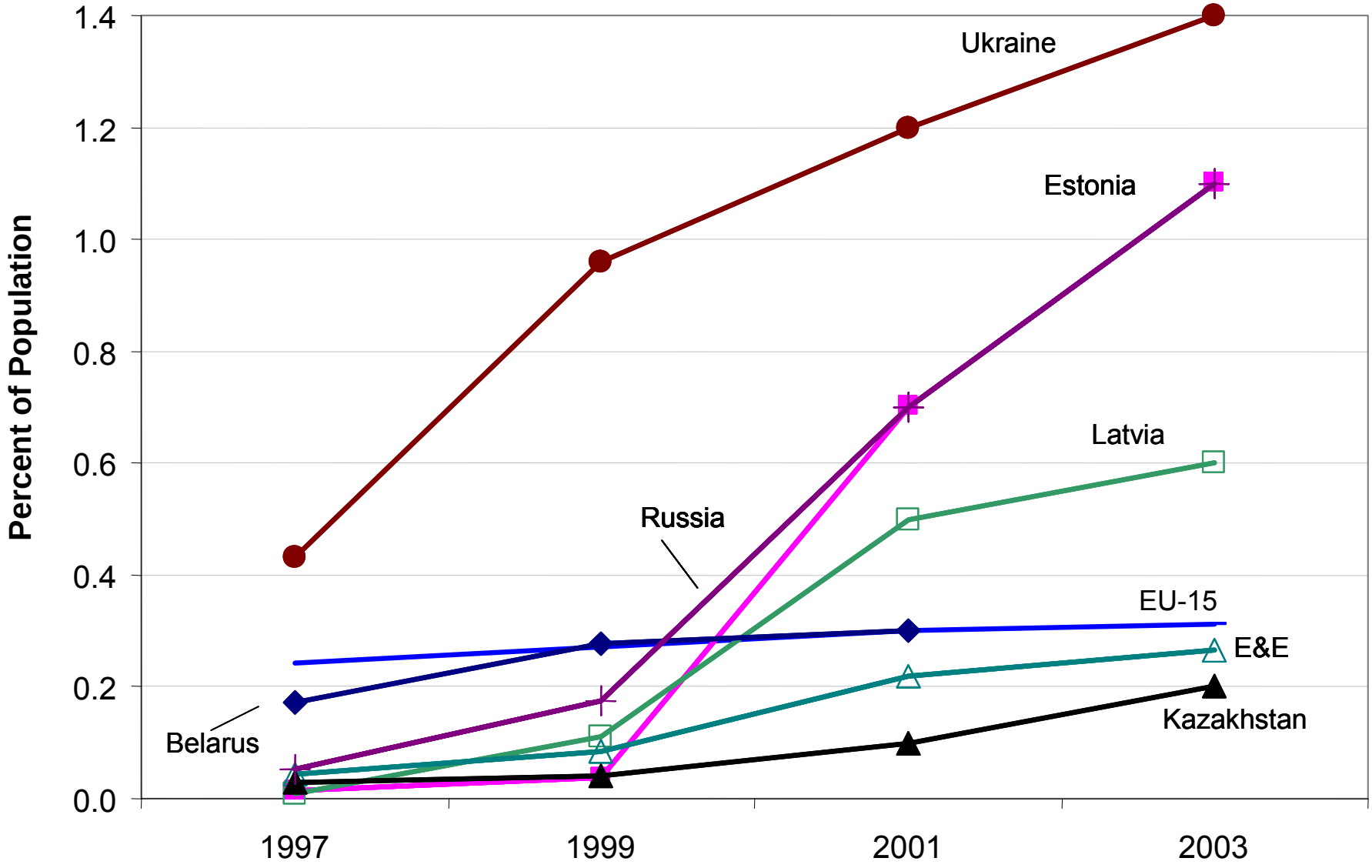


World Health Organization, *European Health for All Database (2005).*

Table 21: Adult HIV Prevalence Rate 15-49 (% of Population, Estimate)						
	1997	1999	2001	2003	Change 1997-03	Change 2001-03
Kazakhstan	0.03	0.04	0.10	0.20	614	100
Estonia	0.01	0.04	0.70	1.10	8044	57
Russia	0.05	0.18	0.70	1.10	2031	57
Latvia	0.01	0.11	0.50	0.60	7233	20
Ukraine	0.43	0.96	1.20	1.40	224	17
Armenia	0.01	0.01	0.10	0.10	1871	0
Azerbaijan	0.01	0.01	0.10	0.10	1900	0
Bosnia and Herzegovina	0.04	0.04	0.10	0.10	183	0
Bulgaria	0.01	0.01	0.10	0.10	1286	0
Croatia	0.01	0.02	0.10	0.10	654	0
Czech Republic	0.04	0.04	0.10	0.10	169	0
Georgia	0.01	0.01	0.10	0.10	1900	0
Hungary	0.04	0.05	0.10	0.10	155	0
Kyrgyzstan	0.01	0.01	0.10	0.10	1900	0
Lithuania	0.01	0.02	0.10	0.10	1784	0
Macedonia	0.01	0.00	0.10	0.10	1083	0
Moldova	0.11	0.20	0.20	0.20	85	0
Poland	0.06	0.07	0.10	0.10	71	0
Romania	0.01	0.02	0.10	0.10	1077	0
Serbia and Montenegro	0.10	0.10	0.20	0.20	109	0
Slovak Republic	0.01	0.01	0.10	0.10	1900	0
Slovenia	0.01	0.02	0.10	0.10	914	0
Tajikistan	0.01	0.01	0.10	0.10	1900	0
Turkmenistan	0.01	0.01	0.10	0.10	1900	0
Albania	0.01	0.01				
Belarus	0.17	0.28	0.30			
Uzbekistan	0.01	0.01	0.10	0.10		
Europe and Eurasia	0.09	0.21	0.46	0.62	580	36
NT CEE	0.04	0.05	0.12	0.13	217	8
ST CEE	0.03	0.03	0.114	0.110	310	-4
Eurasia	0.12	0.28	0.61	0.85	620	38
N.FSU	0.15	0.36	0.77	1.08	642	39
Muslim Group	0.01	0.02	0.10	0.12	946	23
European Monetary Union	0.24	0.27	0.30	0.31	29	3
East Asia and Pacific	0.19	0.21	0.20	0.20	5	0
Latin America and Carib.	0.72	0.60	0.62	0.69	-4	11
Middle East and North Afr.	0.03	0.03	0.09	0.10	233	11
South Asia	0.64	0.54	0.63	0.70	9	11
Sub-Saharan Africa	7.10	8.10	6.98	6.93	-2	-1

UNAIDS, *Global Report on the HIV/AIDS Epidemic* (2004).

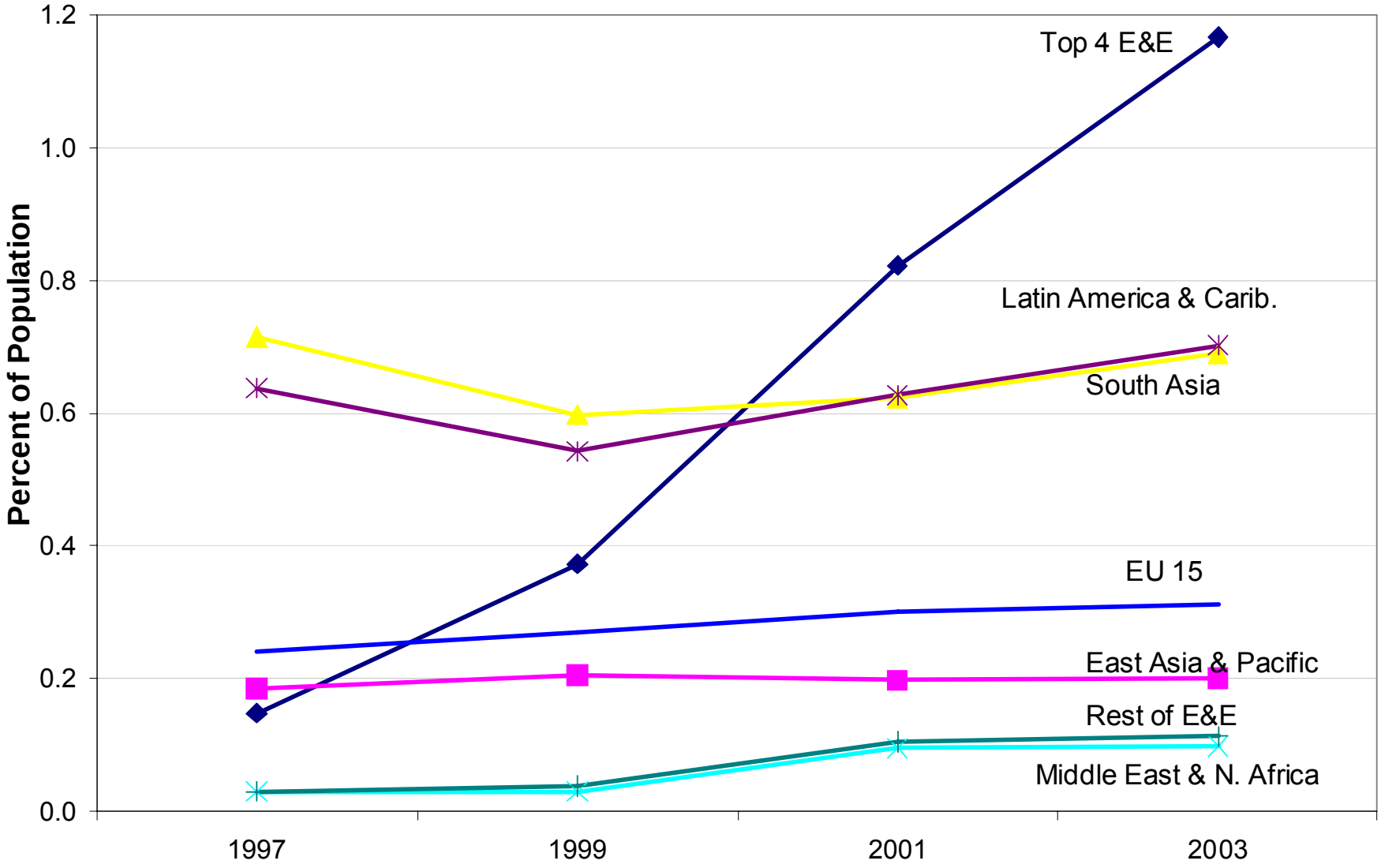
Figure 27 Adult HIV Prevalence Rate (15-49 yrs) in E&E



UNAIDS, *Global Report on the HIV/AIDS Epidemic* (2004).

Figure 28

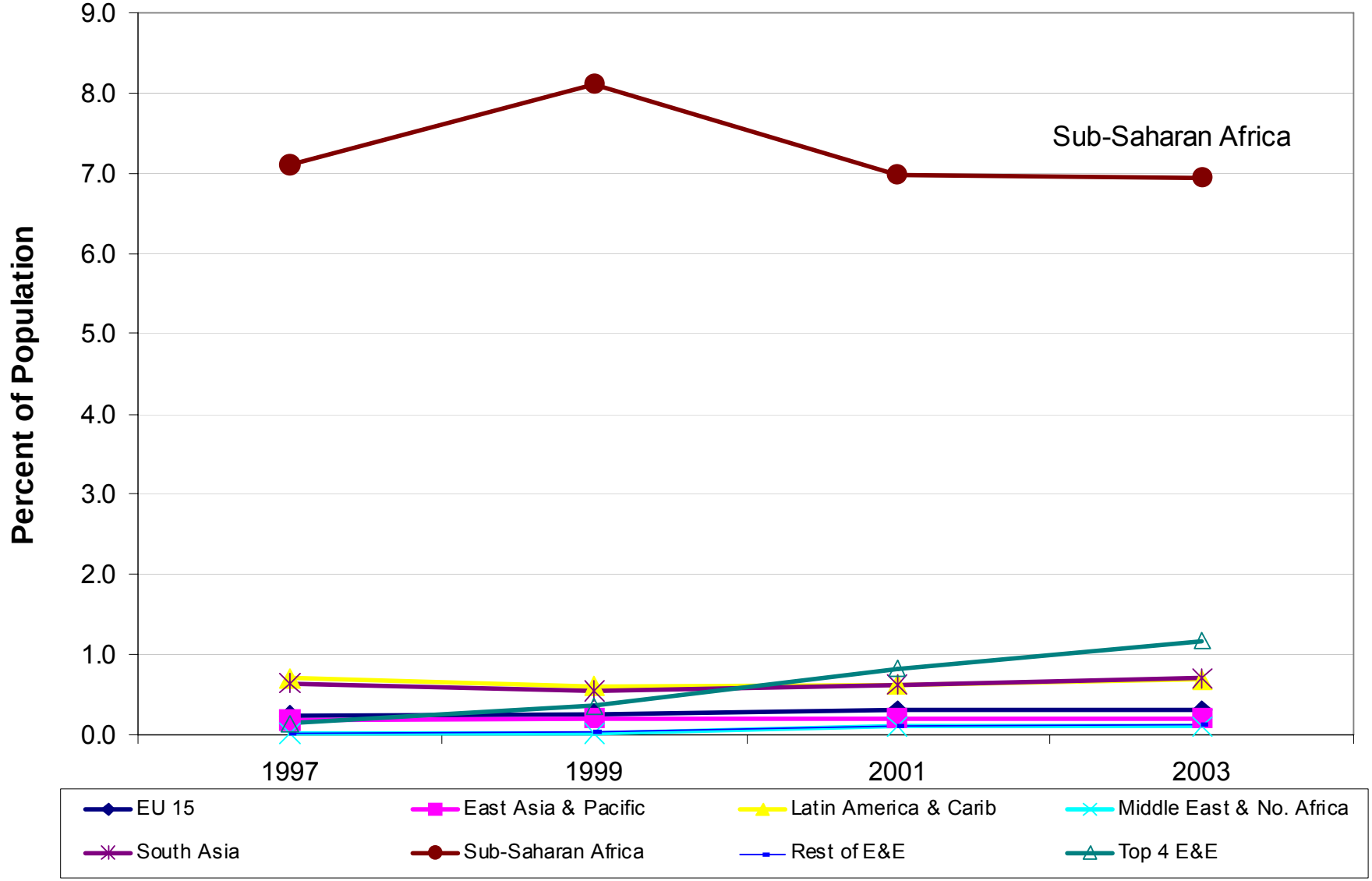
Adult HIV Prevalence Rate (15-49 yrs) in the World Less SSA



Top 4 E&E include Ukraine, Estonia, Russia & Latvia. UNAIDS, *Global Report on the HIV/AIDS Epidemic* (2004).

Figure 29

Adult HIV Prevalence Rate (15-49 yrs) in the World



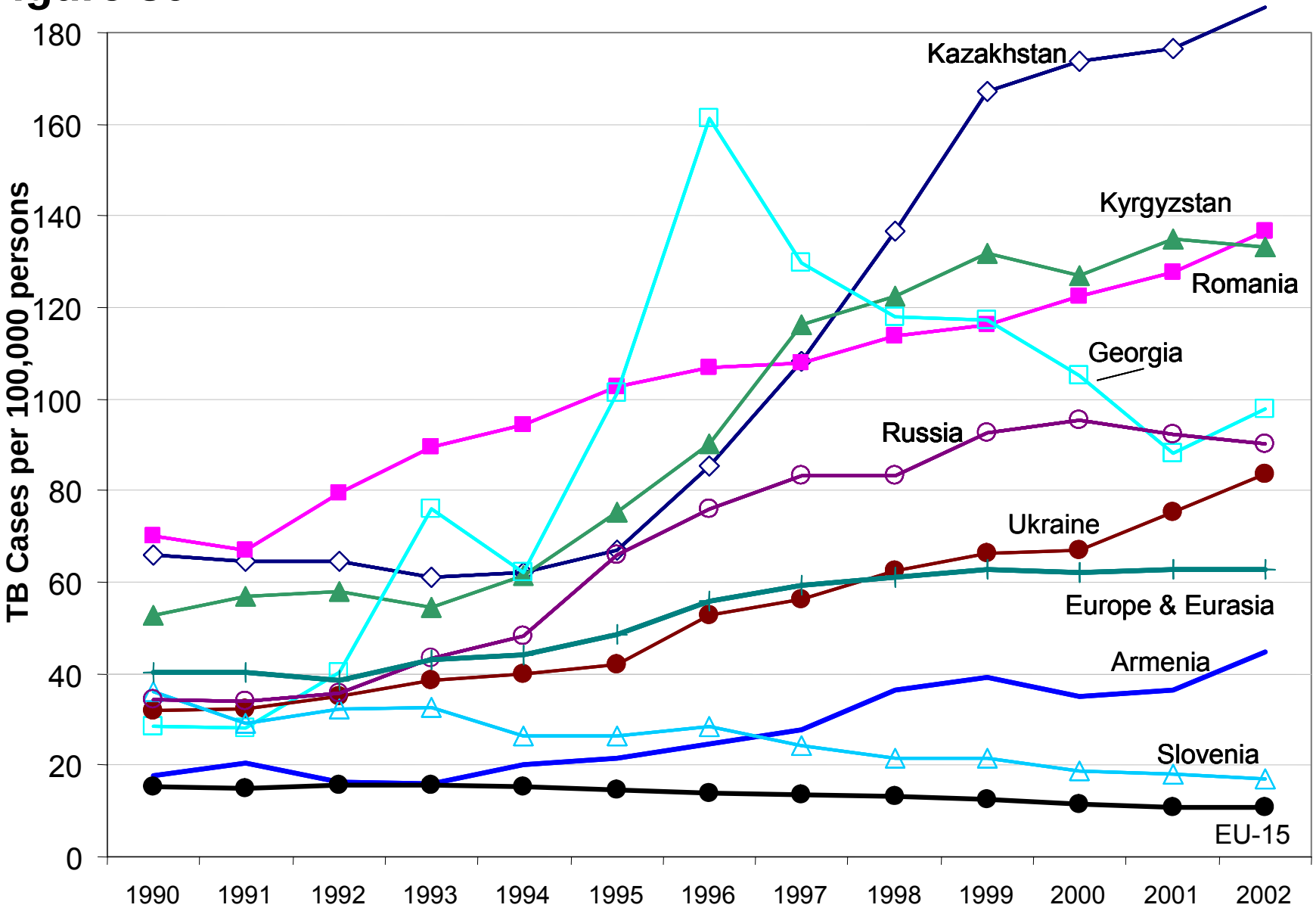
Top 4 E&E include Ukraine, Estonia, Russia & Latvia. UNAIDS, *Global Report on the HIV/AIDS Epidemic* (2004).

Table 22: Average Tuberculosis Incidence Per 100,000					
	1990-94	1995-98	1999-02	1990-02	Change 95-98 to 99-02
Kazakhstan	63.5	99.3	175.8	109.1	77
Romania	80.0	107.8	125.7	102.6	17
Kyrgyzstan	56.7	101.0	131.7	93.4	30
Georgia	47.0	127.5	102.1	88.7	-20
Bosnia and Herzegovina	84.7	71.0	62.6	70.3	-12
Turkmenistan	59.7	61.9	85.0	68.2	37
Russia	39.1	77.0	92.5	67.2	20
Lithuania	47.0	76.1	74.9	64.5	-2
Latvia	38.0	74.4	81.2	62.5	9
Uzbekistan	49.3	53.0	69.3	56.6	31
Ukraine	35.5	53.3	73.0	52.5	37
Azerbaijan	38.9	58.0	61.5	51.7	6
Belarus	34.4	55.8	62.0	49.5	11
Croatia	47.8	46.2	34.9	43.3	-24
Estonia	30.6	50.7	51.0	43.1	0
Bulgaria	33.2	43.1	43.8	39.5	2
Tajikistan	28.6	35.6	51.4	37.8	44
Poland	43.1	37.9	28.0	36.9	-26
Serbia and Montenegro	38.0	37.4	33.8	36.5	-10
Hungary	37.8	39.7	30.0	36.0	-24
Macedonia	35.6	35.5	31.1	34.2	-12
Armenia	18.1	27.6	38.8	27.4	41
Slovakia	31.5	25.4	18.9	25.7	-26
Slovenia	31.3	25.1	18.7	25.5	-25
Albania	19.6	20.6	19.5	19.9	-5
Czech Republic	19.0	18.0	13.3	16.9	-26
Moldova					
Europe and Eurasia	42.0	63.5	75.3	58.9	18
NT CEE	37.6	37.4	29.7	35.2	-21
ST CEE	57.5	69.2	74.6	66.1	8
Eurasia	40.7	70.3	88.7	64.7	26
N. FSU	38.1	70.2	85.9	62.7	22
Muslim Majority	44.7	55.0	70.3	55.7	28
EU 15	15.2	13.8	11.3	13.6	-18
Britain and Northern Ireland	10.7	10.4	10.7	10.6	3
France	15.6	13.3	10.0	13.2	-24
Germany	17.2	13.9	10.0	14.0	-28
Denmark	7.5	9.5	9.7	8.8	3

World Health Organization *European Health For All Database* (2004).

Figure 30

Tuberculosis Incidence



WHO, *European Health for All Database* (2004).

Migration.

Political aspects. ***Refugees*** are largely political emigrants. According to the 1951 Geneva Convention, a refugee is a person who, due to "a well founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country."

As a percent of the population, the number of refugees originating in the EE from 1992-2002 was comparable to Middle East and North Africa levels, notably fewer than levels in Sub-Saharan Africa, and much higher than all other regions of the world (*Table 23* and *Figure 31*). Over the transition, the number of EE refugees was highest in the mid-to-late 1990s.

The EE average of refugees masks considerable differences across the transition region. Far and away, the largest numbers of refugees have been in the Balkans, the Caucasus, and Tajikistan (*Table 23* and *Figure 32*). Among these countries, six transition countries stand out: Bosnia-Herzegovina, Serbia-Montenegro, Croatia, Azerbaijan, Armenia, and Tajikistan. These six countries, in fact, are among the top 20 refugee-producing countries worldwide (population weighted) from 1992-2003 according to the UNHCR (*Table 24*). Bosnia-Herzegovina is second only to Liberia. It is followed by Afghanistan and 5 Sub-Saharan African countries. Croatia is next, ranking 9th worldwide. Bosnia-Herzegovina has produced far more refugees than any other transition country, almost three times more than second ranked Croatia on a per capita basis.

There is a large difference between the number of refugees in the transition region by country of origin, and the number of refugees by country of destination. Refugees by transition country of origin are roughly 30% greater than refugees by transition country of destination (*Table 23* and *Table 25*). This suggests that many refugees are migrating to countries outside the region.

The transition countries which have received the greatest number or refugees are generally the countries which have also produced the most refugees. The five countries with the greatest refugee-producing populations (in descending order: Armenia; Serbia and Montenegro; Croatia, Azerbaijan; and Bosnia-Herzegovina) were also the top five refugee-receiving countries.

There was a striking variation in the destination of refugees in 2002 among the top 10 refugee-producing countries (*Table 26*). Within the Balkans, 73% of the refugees from Serbia and Montenegro went to Western Europe, while 93% of refugees from Croatia stayed within EE, while refugees from Bosnia-Herzegovina spread out among EE countries (35%), Western Europe (35%) and the U.S. (25%). Diversity in destination was just as striking within the Caucasus: a large majority of refugees in Azerbaijan and Georgia stayed in EE (97% in the case of those from Azerbaijan, and at least 78% from Georgia). In the case of Armenia, however, the lion's share of refugees in 2002 went to the U.S. (at least 57%). Other countries with a high proportion of refugees which went to the U.S. in 2002 are Ukraine (90%); Uzbekistan (at least 80%), and Russia (38%).

Transition countries which have had the greatest refugees have generally also had the greatest ***internally displaced persons (IDPs)***. Weighted by population, IDPs from 1992-2002 in the transition region have been greatest far and away in Bosnia-Herzegovina (22,167 per 100,000), followed by Azerbaijan (7,127), Georgia (4,637), Serbia-Montenegro (3,612), Croatia (3,355), Tajikistan (2,038), and Armenia (1,809) (*Table 27*).

Figure 33 shows how the magnitude of IDPs in these key countries has changed during the transition. In the Balkans, IDPs have fallen significantly since the earlier years of the transition; this is particularly so in Bosnia-Herzegovina. In contrast, the number of IDPs in the Caucasus has been much more stable over the transition time periods.

From 1992-2002, the average number of IDPs per 100,000 in these ten transition countries (1,477) was comparable to the average found in Sub-Saharan Africa (1,580). These orders of magnitude are higher than anywhere else in the world; higher than in the Middle East (1,082), and far greater than in the Americas (358) and Asia (140). In fact, the EE region has the dubious distinction of having three countries among the list of the top ten IDP-producing countries per population from 1992-2002 (*Table 28*). Bosnia-Herzegovina had the highest number of IDPs per population in the world from 1992-2002; Azerbaijan was ranked 6th; and Georgia, 9th. Lebanon is ranked 5th, and the remaining six countries in the top ten are all Sub-Saharan African countries.

There have generally been more IDPs than refugees in the transition region. Of the countries where IDPs and refugees have been the most prevalent in the transition region, only Croatia and Armenia have had a greater number of refugees than IDPs (*Table 29* and *Figure 34*). In some cases, the number of IDPs far exceeds the number of refugees; Georgia is the salient case.

Economic aspects. ***Remittances*** play a critical economic role in a number of transition countries. However, estimates by different sources vary widely, and a more rigorous effort to measure remittances as well as their repercussions needs to be pursued. World Bank data on migration remittances attempts to measure workers' remittances (official cash or in-kind transfers from migrants to their households), compensation to employees (wages and salaries of seasonal or other short-term migrant workers), and migrants' transfers (capital transfers of financial assets made by migrants). According to the World Bank data, remittances are highest in three Southern Tier CEE countries: Albania, Bosnia-Herzegovina, and Serbia-Montenegro (12-13% of GDP) (*Table 30*). They are estimated by the World Bank to be far lower in the Caucasus countries of Armenia and Georgia (1 and 3% of GDP, respectively), and far lower still in the EMU (0.2%).

These World Bank estimates, at least for the Caucasus, are likely far from the mark. IMF estimates of remittances and private transfers for Armenia, for example, have ranged from 8-9% of GDP from 1998 to 2002, and a USAID-financed study estimates Armenian remittances to be 25% of GDP (*Figure 35*).

Particularly given these data concerns, comparing remittances across countries worldwide is a precarious exercise. Nevertheless, remittances may be consistently underestimated across countries given that we are drawing from one source in the World Bank (and hence one methodology). In this context, the World Bank estimates that remittances in some of the EE countries are among the highest worldwide (*Table 30* and *Figure 35*). Specifically, remittances in the some countries in the Southern Tier CEE (Albania: 16% of GDP; Bosnia-Herzegovina, 17%; Serbia & Montenegro, 13%) are comparable to the magnitude of remittances in Jordon (20% of GDP), Yemen (17%), El Salvador (12%), Cape Verde (16%), and Jamaica (11%).

Sixty-three percent of the population in EE lived in urban areas in 2002 (*Table 31*). This is less than the 78% in the EMU and the 76% in Latin America and the Caribbean, though well above the ***share of the urban population*** to the total population found in the poorest regions of the world and/or among the Asian developing countries; in South Asia, 28% of the population is urban; 33% in Sub-Saharan Africa; and 38% in East Asia. In general, the higher is the income of a country, the greater is the share of urban population (*Figure 36*).

Within the transition region, the proportion of the urban population is highest in some of the NFSU and Northern Tier CEE countries. In 2002, it was the highest in the Czech Republic (75%), Russia (73%), Estonia (70%), Belarus (70%), Lithuania (69%), and Ukraine (68%). The proportion of urban populations is lowest in the EE region in some of the Muslim-majority countries (Tajikistan, 28%; Kyrgyzstan, 34%; Uzbekistan, 37%; Albania, 44%) and Moldova (42%).

Most of the transition countries conformed to the global trend of ***urbanization*** (i.e., a growing share of the urban population to the total population) from 1990 to 2002 (*Table 31* and *Figure 37*).

However, ten transition countries experienced ***ruralization*** from 1990-2002: most salient are the poorer Eurasian countries of Tajikistan, Moldova, Kyrgyzstan, Uzbekistan, and Azerbaijan, but also included in this trend is Latvia. For Latvia, ruralization seems to be largely the result of ethnic Russians leaving the urban areas. For the other poorer countries, ruralization seems to coincide with a shift from industry to agriculture and, similarly, from people moving out to get access to household plots.

One proxy for ***brain drain*** (or the migration of human capital) might be the trend over time of the proportion of research and development personnel per population (*Table 32* and *Figure 38*). That figure will be influenced by persons who leave the country, though also clearly other factors as well, such as the ability of education systems to train persons.

Most transition countries saw a notable decrease in research and development (R&D) personnel from 1994-2001: 11 (out of 18) countries in the transition region saw a decrease in R&D personnel ranging from 9% to 43%. Losses were particularly high in Croatia (43%), Georgia (35%), Bulgaria (33%) and the Ukraine (30%). In contrast, five of the eight Northern Tier CEE countries saw a significant increase in these persons (by 26% in Hungary; 17% in the Czech Republic; 13% in Poland). On the basis of at least this dimension, the EE region has witnessed a growing human capital gap between the Northern Tier CEE and many of the rest of the transition countries.

Moreover, compared to the limited data elsewhere in the world, the declines in R&D persons in many of the transition countries are high by global standards. The overall EE average decrease in R&D personnel from 1994 to 2001 was 27%. Most countries in other parts of the world (for which data are available) had either a slight decrease or an increase in the proportion of R&D persons during this time. Latin America is the salient regional exception, where on the basis of a 10 country sample, R&D personnel per population decreased by 54% from 1994 to 2001.

The numbers of R&D persons in the transition region are generally much higher than those found the developing world, though well below the numbers found in the sample of four Western European countries: 3,488 vs. EE's 2,346 (*Table 32*).

Human trafficking is widely recognized as a very troubling trend in much of the transition region. However, there are few estimates of the magnitude of the problem, and they vary widely.

According to the U.S. State Department, in it's *Trafficking in Person Report of 2004*, the annual supply from CEE and Eurasia countries to the sex industry of Western Europe has been between 120,000 and 175,000 since 1989. EE/USAID's Trafficking in Persons website cites a significantly higher range; it observes that the EE region has been the fastest growing source region in the world over the past decade and is second only to Southeast Asia with estimates of 175,000 to 500,000 persons trafficked annually. Trafficking in Persons in the EE, it notes, exploded with the end of the Cold War. The EE Bureau's Strategic framework contends that as many as 25% of trafficking victims worldwide come from the EE region.

UNECE also claims that there has been a dramatic increase in the women being trafficked from Europe and Eurasia to North America and Western Europe over the past decade. Russia, Ukraine, and Moldova in particular have become the main supplying countries from the transition region since the mid-1990s (*Table 33*). Estimates on Russia range from 500,000 to 1 million; for Ukraine, 400,000; for Moldova, 50,000-100,000 (*Table 33*). Recently they have been joined by Albania (over 8,000), Lithuania (several thousand per year), and Central Asia (5,000 from Kazakhstan; 4000 from Kyrgyzstan) and Romania (no data available).

The Balkans Counter-Trafficking Regional Clearing Point provides estimates of trafficking victims assisted within the South East Europe region. These data no doubt underestimate the true numbers by some large multiple. In that context, of the 5,203 trafficking victims assisted in South East Europe from January 2000 to June 2003, most came from Albania (43%); Moldova (22%);

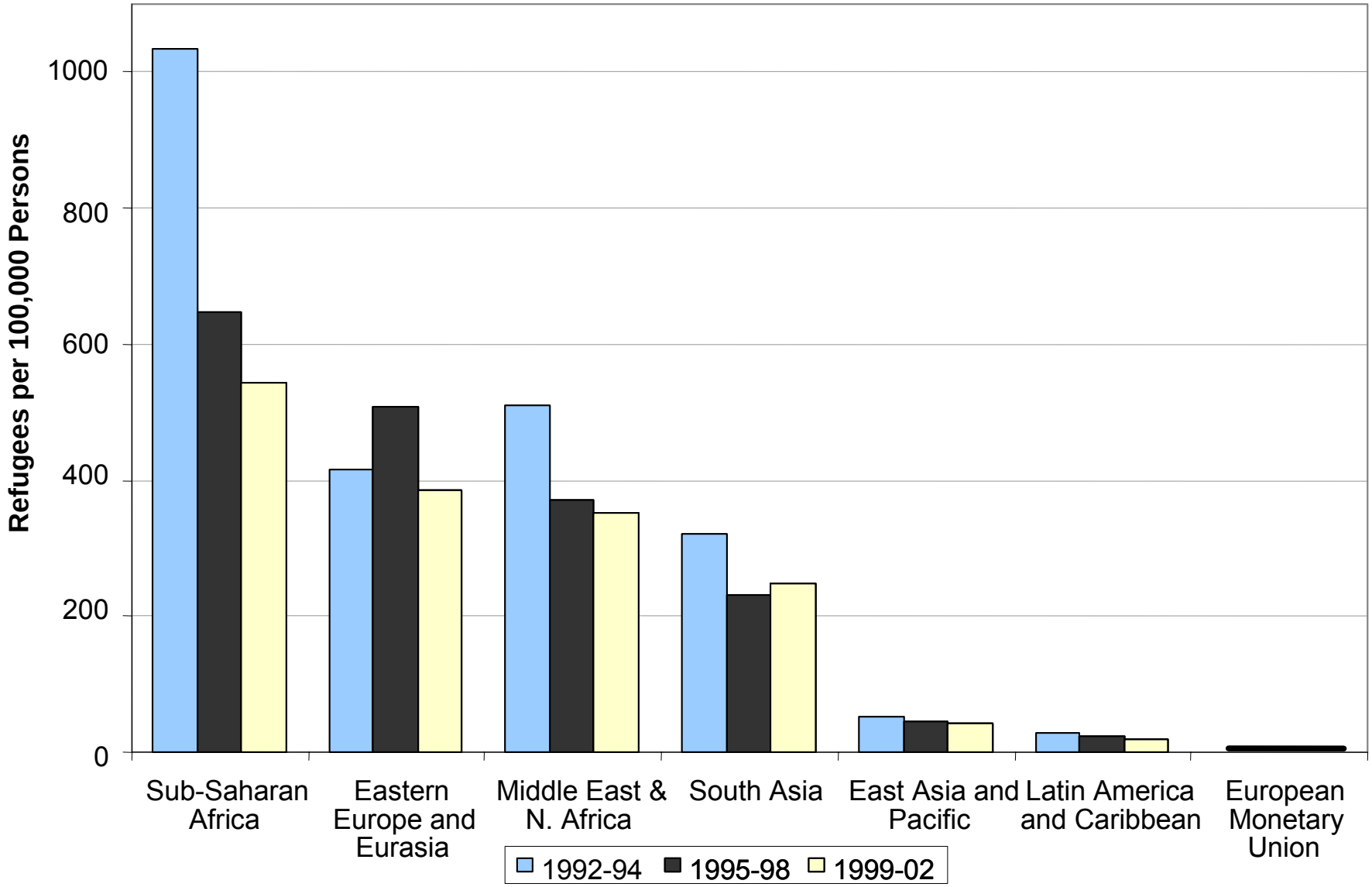
and Romania (15%). 88% of the assisted human trafficking cases which either transited through or stayed in the transition region used as a country of destination or transit either Macedonia (31%), Bosnia-Herzegovina (31%), Kosovo (16%) or Albania (10%).

Finally, one outcome of population change may be changes in ***ethnic compositions***, either as a result of natural changes (majority population increases or decreases at a different rate than other populations) and/or migration (majority population migrates at a different rate than other populations). Ethnic majorities constituted 80% of their national populations on average in the transition region in 2002, a slight increase from 79% in 1992 (*Table 34*). Highest majority ethnic concentration is found in Albania (95%), and Armenia (93%); lowest in Bosnia (44%), Kyrgyzstan (52%), and Kazakhstan (53%). Ten transition countries have become more ethnically homogenous from 1992 to 2002 (as defined by an increase in the population share of the ethnic majority): Kazakhstan's ethnic homogeneity increased the most (from 40% in 1992 to 53% in 2002), followed by Uzbekistan and Latvia (*Table 34* and *Figure 39*). Only four countries have had a decrease in the population share of the largest ethnic group: Hungary, Slovenia, Bulgaria, and Serbia-Montenegro. There doesn't appear to be a link between the concentration of ethnic majorities and the increase in the concentration of ethnic majorities. More homogenous countries do not seem to further homogenize any faster than more heterogeneous countries.

Table 23: Refugee Population by Origin (per 100,000 persons)				
	1992-94 avg	1995-98 avg	1999-03 avg	1992-03 avg
Bosnia and Herzegovina	15,751	19,883	11,681	15,333
Croatia	2,766	6,856	6,825	5,758
Armenia	5,790	6,163	1,473	4,175
Azerbaijan	4,125	3,209	3,414	3,526
Serbia and Montenegro	646	843	1,855	1,199
Tajikistan	1,105	1,249	926	1,079
Georgia	103	618	385	416
Slovenia	1,090	288	90	344
Macedonia	58	510	290	330
Albania	144	177	258	201
Uzbekistan	66	203	51	109
Russia	159	126	35	97
Kyrgyzstan	0	218	38	96
Moldova	5	82	111	81
Latvia	0	0	79	76
Kazakhstan	0	160	31	66
Romania	104	54	32	57
Estonia	0	0	54	52
Belarus	0	0	52	51
Lithuania	0	0	39	38
Ukraine	1	9	72	32
Poland	55	27	12	28
Hungary	44	23	13	24
Czech Republic	42	14	22	24
Bulgaria	0	0	20	20
Turkmenistan	0	0	12	12
Slovak Republic	0	0	8	8
Europe and Eurasia	415	487	368	423
NT CEE	70	27	20	37
ST CEE	1,511	2,096	1,795	1,833
Eurasia	291	297	183	251
Muslim Group	833	776	708	748
Balkans	3,183	4,425	3,768	3,844
Caucasus	3,144	2,953	2,085	2,644
E&E less Balkans&Caucasus	99	103	53	84
Sub-Saharan Africa	1,034	647	543	744
Middle East & N. Africa	510	371	352	402
South Asia	321	232	248	261
East Asia and Pacific	52	46	43	50
Latin America and Caribbean	29	25	18	27
European Monetary Union	0	0	1	1
United Nations High Commission for Refugees (UNHCR), *Global Refugee Trends* (2004). Population from World Bank, *World Development Indicators* (2004).				

Figure 31

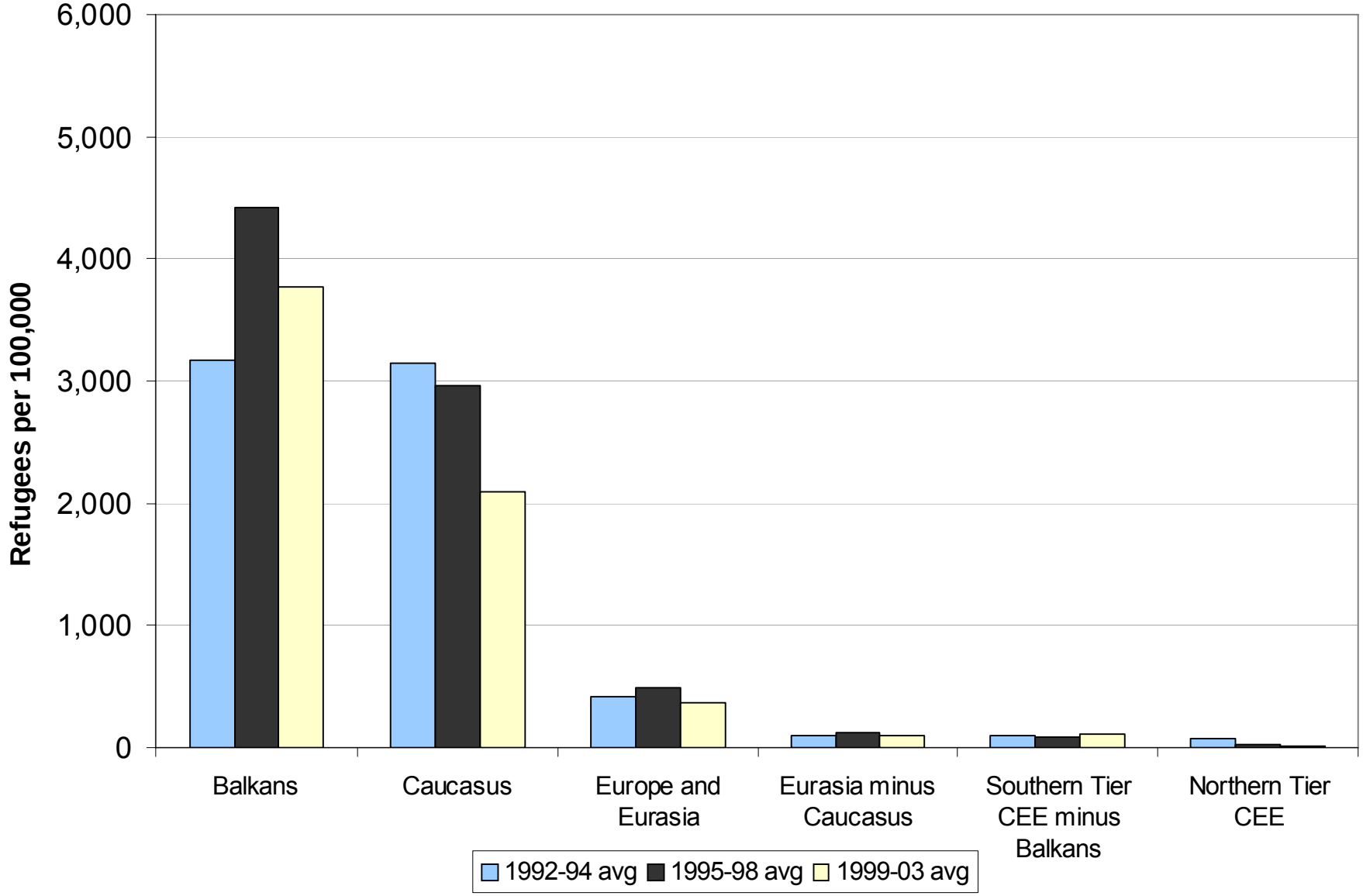
Refugees in the World by Origin



United Nations High Commission for Refugees (UNHCR), Global Refugee Trends (2004).

Figure 32

Refugees in E&E by Origin



United Nations High Commission for Refugees (UNHCR), Global Refugee Trends (2004).

Table 24: Refugees from Top 20 Refugee Producing Countries, 1992-03 avg

	1,000s	per 100,000 persons
Liberia	499	17,234
Bosnia-Herzegovina	**586**	**15,333**
Afghanistan	3,078	12,964
Eritrea	365	9,627
Burundi	497	7,752
Rwanda	540	7,689
Somalia	575	7,060
Sierra Leone	323	6,839
Croatia	**263**	**5,758**
West Bank/Gaza	141	5,354
Armenia	**136**	**4,175**
Azerbaijan	**276**	**3,526**
Iraq	706	3,247
Angola	334	2,910
Mozambique	277	1,672
Sudan	429	1,456
Serbia & Montenegro	**124**	**1,199**
Tajikistan	**64**	**1,079**
Vietnam	458	610
Morocco	166	607

United Nations High Commission for Refugees

(UNHCR), *Global Refugee Trends* (2004).

Table 25: Refugee Population by Country of Destination (per 100,000 persons)

	1992-94 avg	1995-98 avg	1999-03 avg	1992-03 avg
Armenia	9,097	7,505	8,512	8,530
Serbia and Montenegro	4,598	5,680	4,266	4,839
Croatia	6,094	2,536	448	2,859
Azerbaijan	3,144	2,933	705	2,128
Bosnia and Herzegovina		1,009	1,039	1,037
Slovenia	2,490	517	148	921
Macedonia	1,350	242	467	613
Turkmenistan	385	391	337	358
Kyrgyzstan	468	313	200	292
Albania	92	252	38	132
Kazakhstan	31	89	122	91
Hungary	124	69	51	78
Tajikistan	24	32	160	75
Russia		140	24	73
Belarus	18	148	4.8	70
Uzbekistan	36	10	129	62
Czech Republic	35	21	12	21
Slovak Republic	16	23	8	16
Bulgaria	7	10	26	15
Ukraine	10	10	5.8	8.0
Georgia		0.2	11.8	6.0
Romania	4.2	2.3	7.3	4.7
Lithuania		0.6	5.3	3.7
Poland	3.4	1.9	3.2	2.8
Moldova			2.4	2.4
Estonia			0.6	0.6
Latvia		0.1	0.3	0.3
Europe and Eurasia	357	367	237	326
NT CEE	92	29	15	41
ST CEE	1,446	1,352	936	1,253
Eurasia	213	265	160	221
Muslim-majority	607	550	243	440
Balkans	3,793	3,547	2,446	3,275
Caucasus	3,356	2,885	2,004	2,689
EE less Balkans & Caucasus	35	82	37	59

United Nations High Commission for Refugees (UNHCR), *Global Refugee Trends* (2004).

Table 26: Destination of Refugees in 2002 (thousands and %)

	USA	Western Europe	EE	Other	Unknown	Total
	---------- thousands ----------					
Bosnia and Herzegovina	92.3	130.1	129.1	0.0	4.2	371.6
Croatia	6.3	4.3	250.7	0.0	1.7	269.7
Azerbaijan	2.4	3.2	247.5	0.0	1.6	254.7
Serbia and Montenegro	16.1	118.0	12.0	0.0	2.9	161.3
Tajikistan	0.0	0.0	61.8	0.0	1.3	63.0
Russia	18.5	5.2	17.9	0.0	5.6	49.1
Ukraine	29.0	0.0	0.0	0.0	3.2	32.1
Georgia	0.0	0.0	11.4	0.0	3.3	14.7
Armenia	5.1	1.2	0.0	0.0	2.8	9.1
Uzbekistan	3.2	0.0	0.0	0.0	0.8	4.0
	---------- percent ----------					
Bosnia and Herzegovina	25	35	35	4	1	100
Croatia	2	2	93	3	1	100
Azerbaijan	1	1	97	0	1	100
Serbia and Montenegro	10	73	7	8	2	100
Tajikistan	0	0	98	0	2	100
Russia	38	10	36	4	11	100
Ukraine	90	0	0	0	10	100
Georgia	0	0	78	0	22	100
Armenia	57	13	0	0	30	100
Uzbekistan	80	0	0	0	20	100

United Nations High Commission for Refugees (UNHCR), *Global Refugee Trends* (2004).

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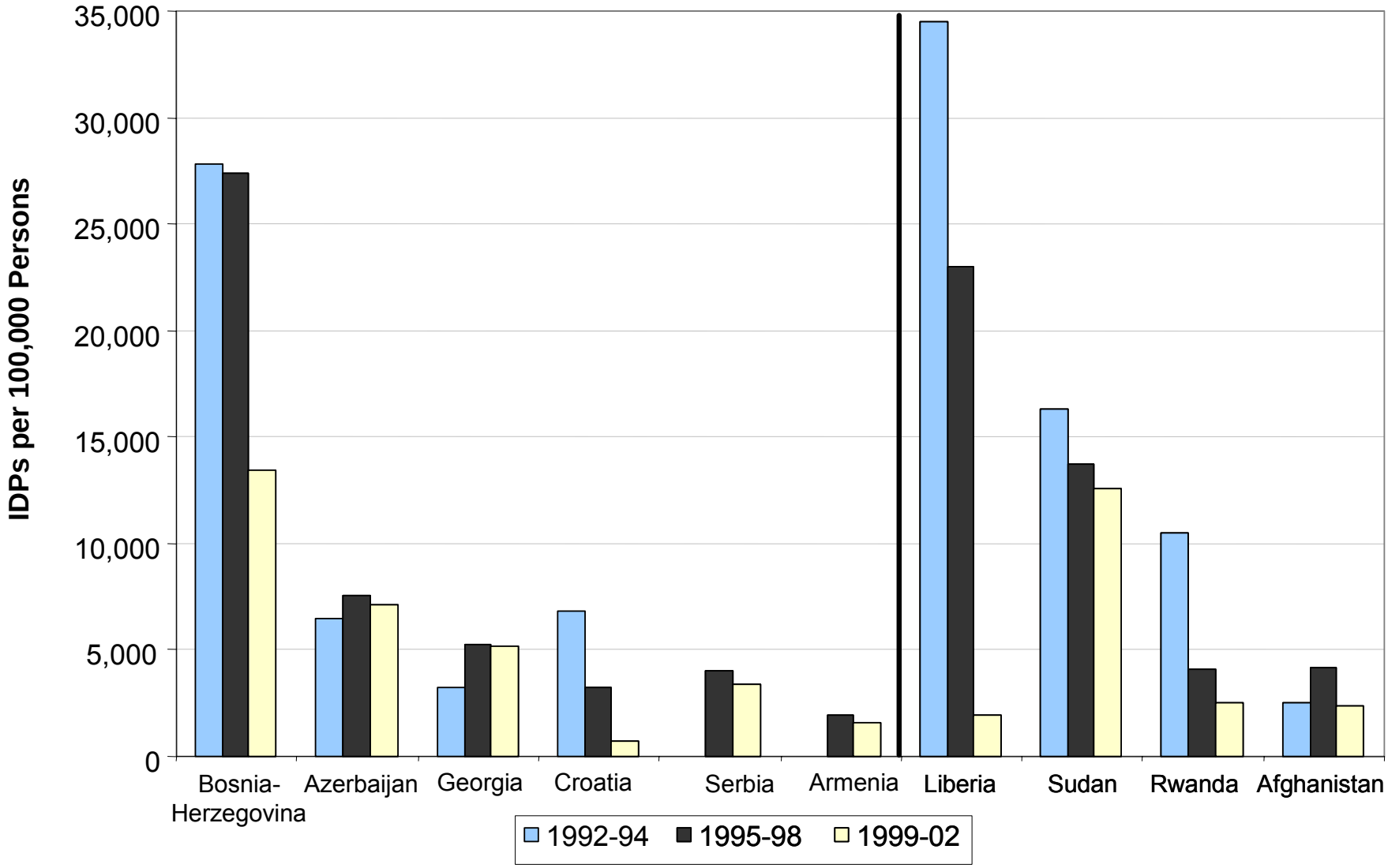
Table 27: Internally Displaced Persons (per 100,000 population)

	1992-94	1995-98	1999-02	1992-02
Bosnia & Herzegovina	27,807	27,379	13,450	22,167
Azerbaijan	6,482	7,519	7,121	7,127
Russia	303	229	421	321
Serbia-Montenegro	0	4,046	3,376	3,612
Georgia	3,229	5,232	5,145	4,637
Croatia	6,835	3,247	697	3,355
Tajikistan	3,836	448	0	2,038
Armenia	0	1,961	1,611	1,809
Moldova	460	0	0	464
Macedonia	0	0	727	744
E&E Subtotal (10 countries)	1,419	1,464	1,261	1,477
Liberia	34,476	23,027	1,951	18,486
Angola	15,790	11,953	14,883	14,065
Lebanon	14,668	10,642	7,185	10,483
Somalia	13,819	3,243	3,946	6,383
Mozambique	13,466	790	0	3,960
World Aggregates:				
Africa	2,504	1,211	1,243	1,580
W. & E. Europe & Eurasia	764	1,025	776	863
South and Central Asia	121	158	132	140
Americas & Caribbean	305	303	440	358
Middle East	1,050	994	1,097	1,082
East Asia and Pacific	38	51	97	66

U.S. Committee for Refugees, in International Federation of Red Cross and Red Crescent Societies, *World Disasters Report* (1998 & 2003)

Figure 33 Internally Displaced Persons (IDPs)



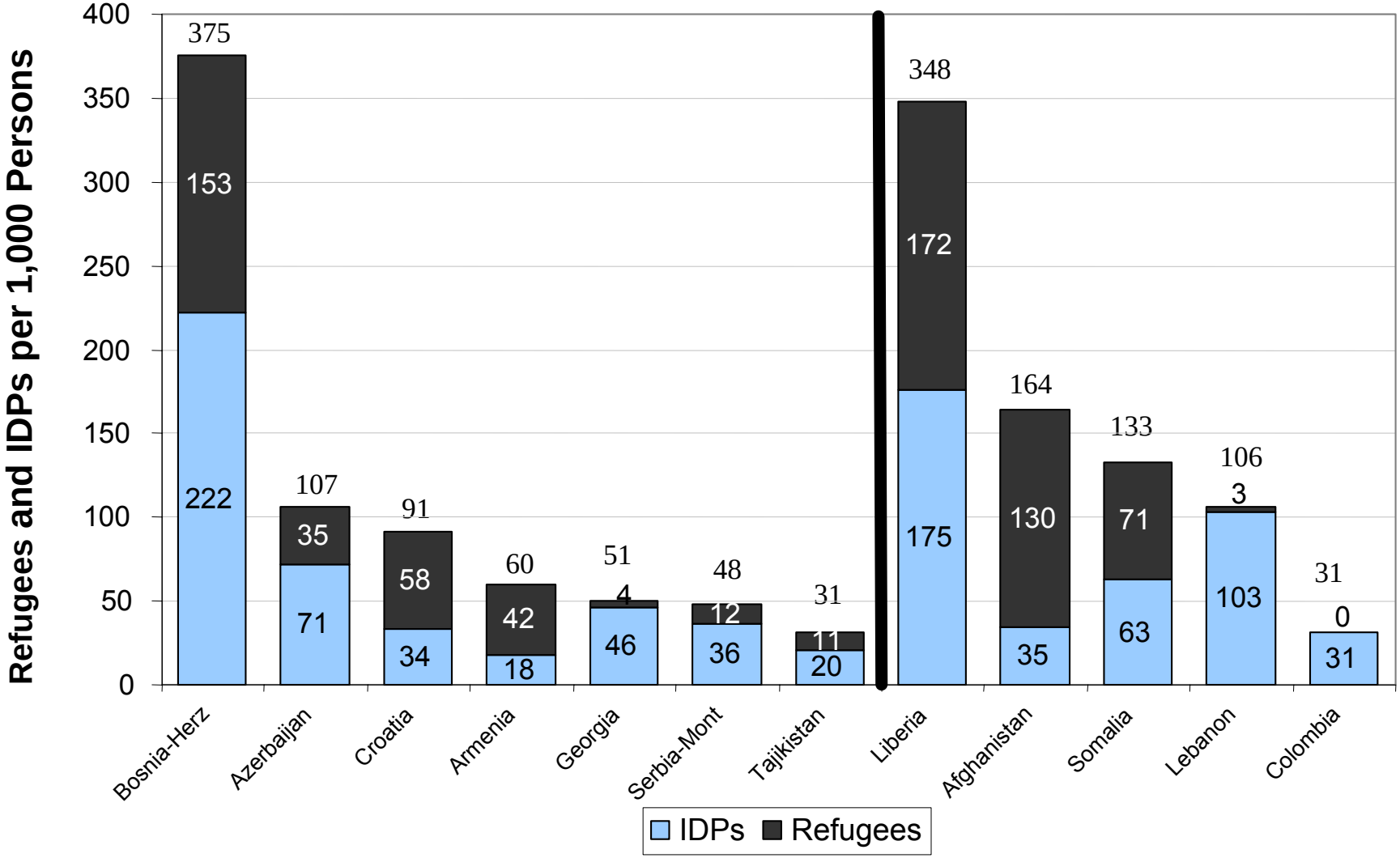
U.S. Committee for Refugees, in International Federation of Red Cross and Red Crescent Societies, World Disasters Report (1998 and 2003).

Table 28: Top 10 IDP Producing Countries, 1992-2002 avg.

	1,000s	per 100,000 persons
Bosnia & Herzegovina	**857**	**22,167**
Liberia	502	18,486
Angola	1,618	14,065
Sudan	4,091	14,017
Lebanon	427	10,483
Azerbaijan	**554**	**7,519**
Somalia	509	6,383
Rwanda	456	6,028
Georgia	**247**	**4,658**
Mozambique	591	3,960

U.S. Committee for Refugees, in International Federation of Red Cross and Red Crescent Societies, *World Disasters Report* (1998 & 2003)

Figure 34 Refugees and Internally Displaced Persons (IDPs) By Country of Origin



UNHCR, *2002 Statistics on Asylum-Seekers, Refugees and Others of Concern to UNHCR* (2002).
Refugees are foreign persons granted humanitarian status or temporary protection as recognized by the 1951 UN Refugee Convention. Internally Displaced Persons (IDPs) are citizens who have been displaced from their homes and are under the protection of the UNHCR.

Table 29: Refugees and IDPs (per 100,000), 1991-02 avg.

	IDPs	Refugees	IDPs to Refugees
Georgia	4,637	416	11.1
Moldova	464	81	5.7
Russia	321	97	3.3
Serbia-Montenegro	3,612	1,199	3.0
Macedonia	744	330	2.3
Azerbaijan	7,127	3,526	2.0
Tajikistan	2,038	1,079	1.9
Bosnia & Herzegovina	22,167	15,333	1.4
Croatia	3,355	5,758	0.6
Armenia	1,809	4,175	0.4
EE Subtotal (10 countries)	1,477	846	1.7
Balkans	6,733	4794	1.4
Russia-Georgia	472	108	4.4
Armenia-Azerbaijan	5,552	3732	1.5
Colombia	2,995	17	175
Lebanon	10,483	293	36
Liberia	18,486	17,234	1.1
Somalia	6,383	7,060	0.9
Afghanistan	3,081	12,964	0.2

United Nations High Commission for Refugees (UNHCR), *Global Refugee Trends* (2004);

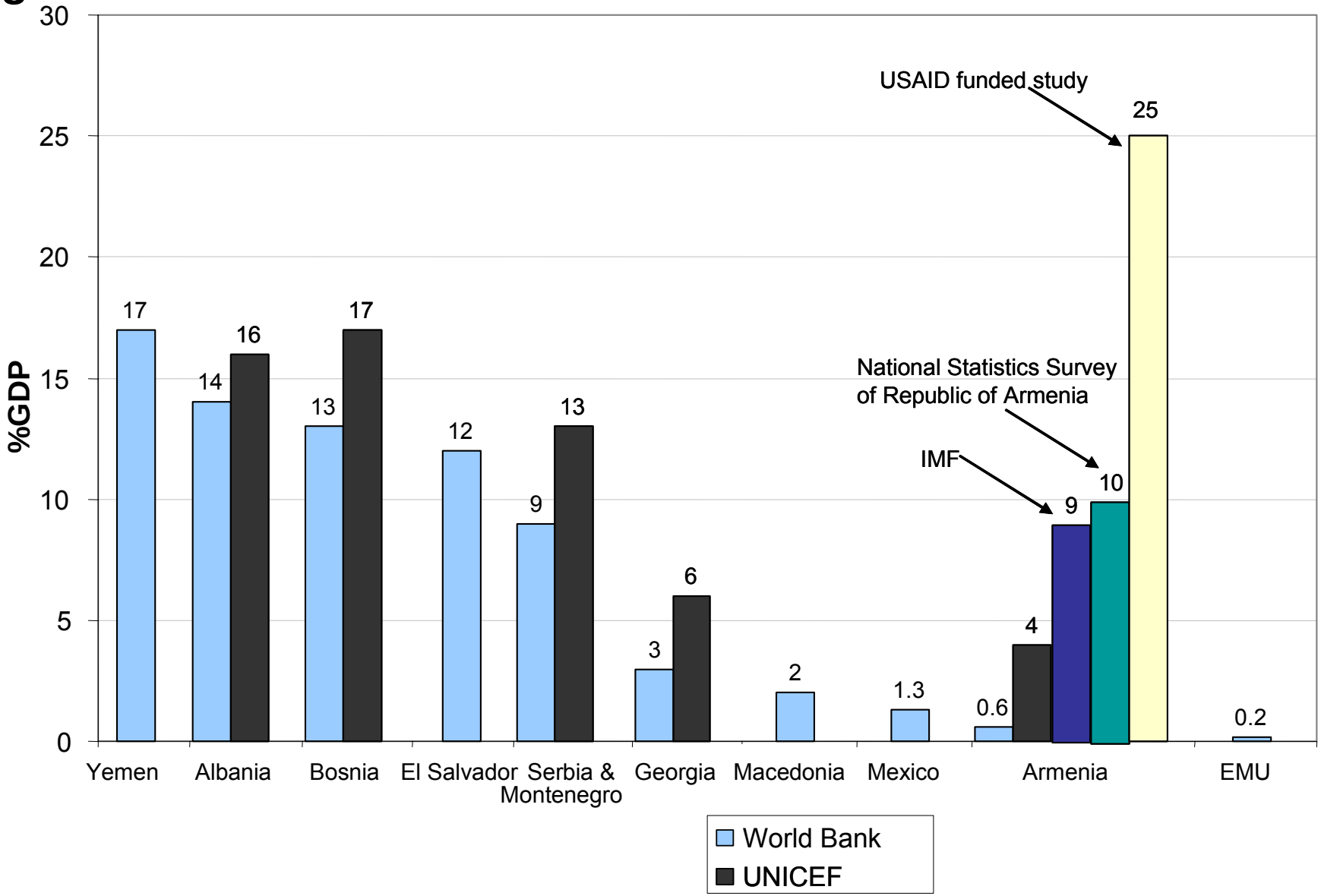
U.S. Committee for Refugees, in *World Disasters Report* by International Federation of Red Cross and Red Crescent Societies (1998 and 2003).

Table 30: Migration Remittances as a % Percent of GDP			
	1995-98	1999-02	1995-02
Albania	15.3	13.1	14.2
Bosnia and Herzegovina	16.6	11.7	12.7
Serbia and Montenegro	5.4	12.7	9.0
Georgia	3.3	3.1	3.2
Croatia	2.7	2.8	2.7
Macedonia	1.4	2.2	1.9
Azerbaijan		1.7	1.7
Tajikistan	0.0	2.5	1.2
Kyrgyzstan	0.1	1.8	1.0
Armenia	0.7	0.6	0.6
Poland	0.6	0.5	0.5
Kazakhstan		0.4	0.4
Latvia	0.0	0.5	0.4
Ukraine		0.3	0.3
Belarus	0.2	0.1	0.2
Slovenia	0.2	0.1	0.1
Moldova	0.1	0.1	0.1
Hungary	0.0	0.1	0.1
Lithuania	0.0	0.1	0.0
Estonia	0.0	0.0	0.0
Romania	0.0	0.0	0.0
Russia	0.0	0.0	0.0
Bulgaria			
Czech Republic			
Slovak Republic			
Turkmenistan			
Uzbekistan			
Europe and Eurasia	0.6	0.9	0.8
EE minus Albania & Bosnia	0.4	0.7	0.5
NT CEE	0.3	0.3	0.3
ST CEE	3.4	4.3	3.7
Eurasia	0.1	0.3	0.2
Muslim-majority	1.0	1.6	1.4
Balkans	0.5	0.7	0.6
Caucasus	2.3	2.2	2.2
EE less Balkans & Caucasus	0.2	0.3	0.3
Jordan	20.8	19.8	20.3
Yemen	20.2	14.1	17.2
Cape Verde	17.2	14.4	15.8
El Salvador	10.9	12.9	11.9
Jamaica	9.9	11.7	10.8
India	2.2	1.9	1.9
Mexico	1.3	1.3	1.3
European Monetary Union	0.1	0.2	0.2
Latin America and Caribbean	0.7	1.1	0.9
Southern Asia	2.4	2.3	2.3

World Bank, *World Development Indicators* (2004).

Figure 35

Remittances as % GDP, Avg. 1995-02



World Bank, *World Development Indicators (2004);* UNICEF, *Social Monitor 2004* (October 2004); IMF .

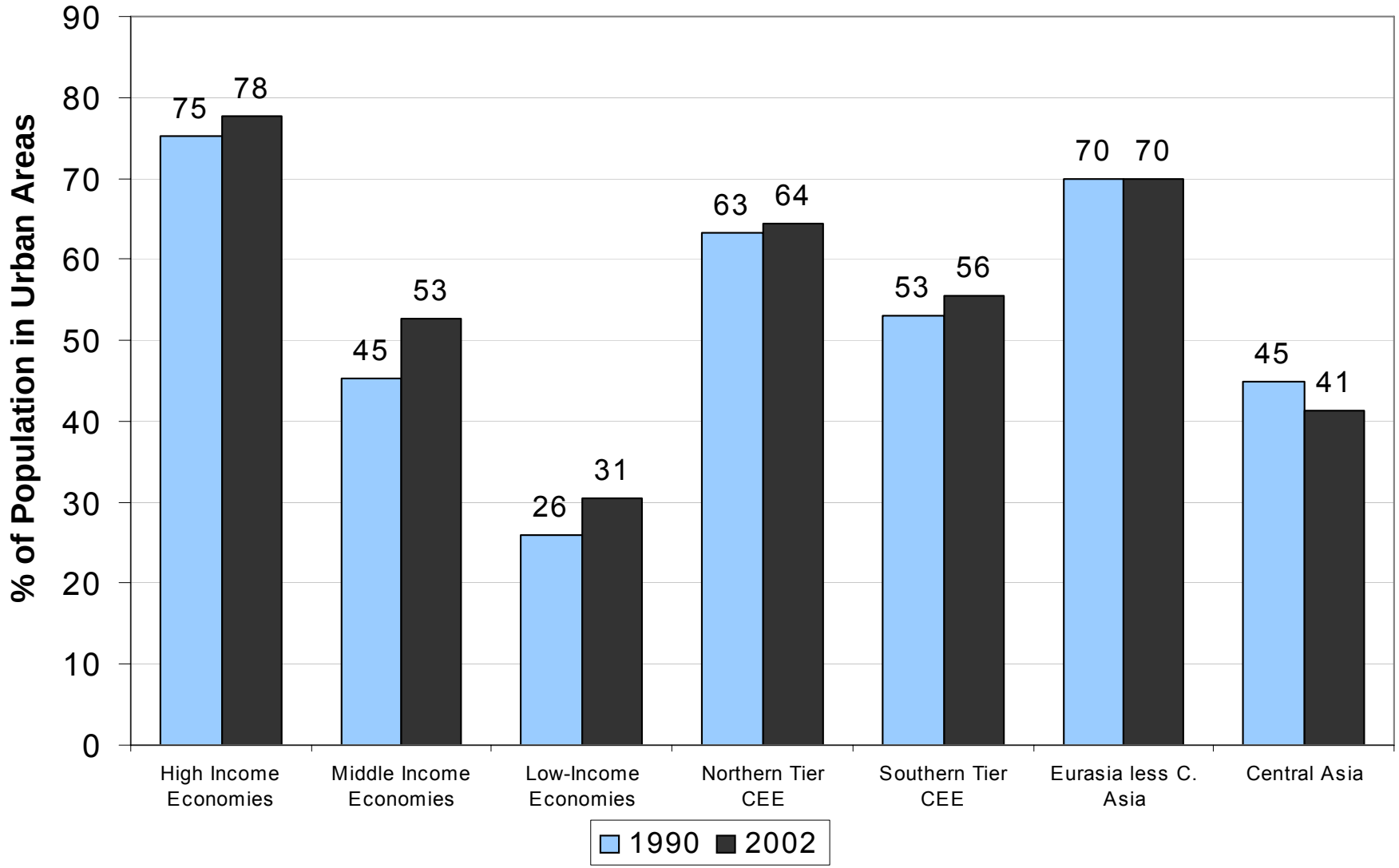
Table 31: Rates of Urbanization

(% of Pop. In Urban Areas)	1990	1994	1998	2002	% Change 1990-02
Albania	36	39	41	44	21
Bosnia-Herzegovina	39	41	42	44	12
Croatia	54	55	57	59	9
Belarus	66	68	69	70	5
Hungary	62	63	64	65	5
Romania	54	54	55	56	4
Poland	61	61	62	63	3
Macedonia	58	59	60	60	3
Georgia	55	56	56	57	3
Slovakia	57	57	57	58	2
Serbia-Montenegro	51	51	52	52	2
Ukraine	67	67	68	68	2
Bulgaria	67	68	68	68	2
Lithuania	68	68	68	69	1
Armenia	67	67	67	67	0
Turkmenistan	45	45	45	45	0
Czech Republic	75	75	75	75	0
Russia	73	73	73	73	-1
Kazakhstan	57	57	56	56	-2
Estonia	71	70	70	70	-2
Slovenia	50	50	50	49	-2
Azerbaijan	54	53	52	52	-4
Uzbekistan	40	39	37	37	-8
Kyrgyzstan	38	36	35	34	-9
Moldova	47	45	43	42	-11
Tajikistan	32	28	28	28	-13
Latvia	70	69	64	60	-14
Europe and Eurasia	63	63	63	63	-0.4
NT CEE	63	64	64	64	1.8
ST CEE	53	54	55	56	5
Eurasia	65	65	64	64	-2
Muslim-majority	41	40	39	39	-5
Balkans	50	51	52	53	6
Caucasus	57	57	56	56	-2
EE less Balkans & Caucasus	64	64	64	64	-0.7
European Monetary Union	75	76	77	78	3
East Asia and Pacific	28	31	35	38	35
Latin America and Carib.	71	73	75	76	7
Middle East and North Afr.	53	55	57	58	9
South Asia	25	26	27	28	12
Sub-Saharan Africa	26	28	31	33	28
Low-Income Economies	26	27	29	31	18
Middle-income Economies	45	48	50	53	16
High-income Economies	75	76	77	78	3

World Bank, *World Development Indicators* (2004).

Figure 36

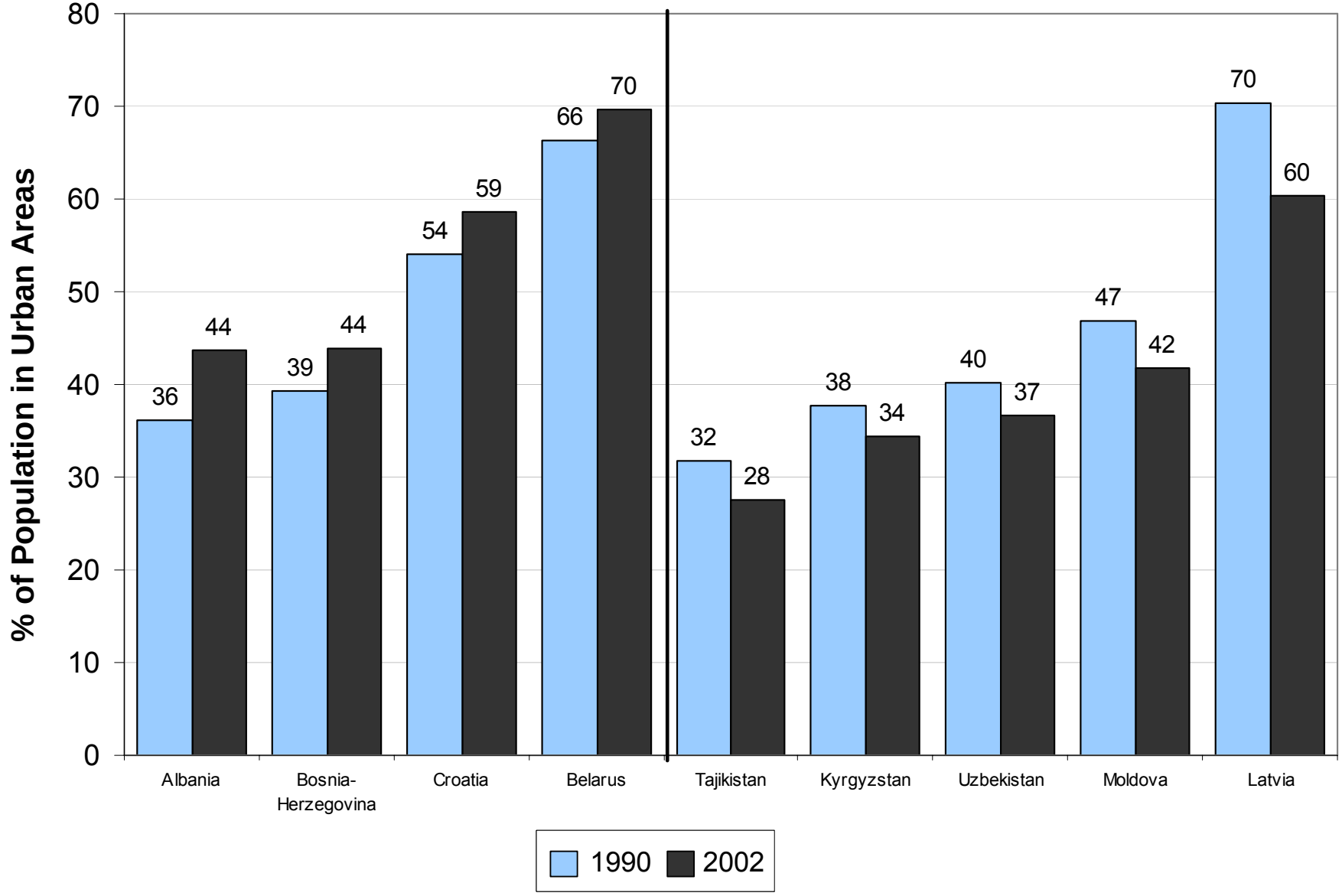
Urbanization in the World



World Bank, *World Development Indicators* (2004).

Figure 37

Urbanization & Ruralization in E&E



World Bank, *World Development Indicators* (2004).

Table 32: R&D Personnel per Million Inhabitants			
	1994-96	1999-01	% Change
Croatia	2,674	1,534	-43
Georgia	3,857	2,514	-35
Bulgaria	2,460	1,639	-33
Ukraine	3,886	2,712	-30
Romania	1,961	1,458	-26
Belarus	2,647	2,153	-19
Kyrgyzstan	772	630	-18
Slovenia	3,678	3,135	-15
Latvia	1,579	1,376	-13
Armenia	1,731	1,536	-11
Moldova	1,763	1,597	-9
Estonia	2,488	2,334	-6
Russia	4,208	4,045	-4
Slovakia	2,586	2,633	2
Lithuania	2,719	2,795	3
Poland	1,299	1,473	13
Czech Republic	1,854	2,178	17
Hungary	1,545	1,950	26
Albania			
Azerbaijan			
Bosnia & Herzegovina			
Kazakhstan			
Macedonia			
Serbia & Montenegro			
Tajikistan			
Turkmenistan			
Uzbekistan			
Europe and Eurasia	3,230	2,346	-27
NT CEE	1,670	1,842	10
ST CEE	2,171	965	-56
Eurasia	3,905	2,746	-30
Muslim Majority			
Balkans			
Caucasus	3,042	1,096	-64
E&E less Balkans&Caucasus	3243	2515	-22
Congo	100	70	-30
Mongolia	708	647	-9
Panama	317	308	-3
Zambia	56	55	-2
Germany	4,155	4,457	7
Mexico	366	408	11
China	459	584	27
Uganda	34	38	12
El Salvador	15	47	213
EU-15 (4 countries)	2,732	3,488	32
Latin America & Caribbean (10 countries)	1,626	749	-54
East Asia & Oceania (5 countries)	870	1,506	73

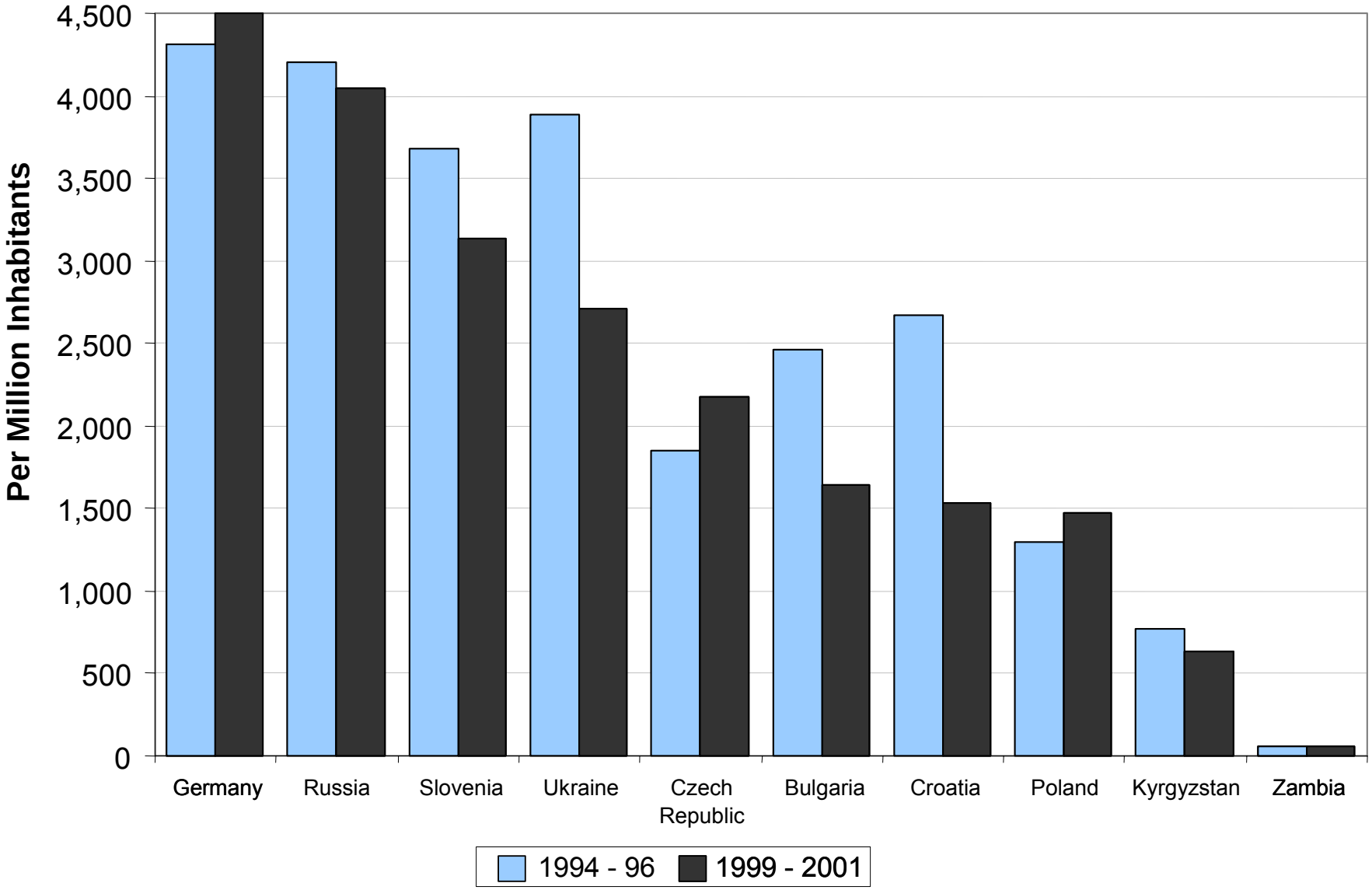
UNESCO Institute for Statistics (1997 and 2004).

1/ 1996 for Lithuania, Mexico, Tunisia, Uganda, Congo, Zambia, Mongolia, Germany and China; 1994 for Romania, Kyrgyzstan and Madagascar.

2/ 1997 for Kyrgyzstan; 1999 for Croatia, Latvia, Georgia, Zambia, Germany and Mexico; 2000 for Bulgaria, Estonia, Moldova, Ukraine, Armenia, Congo, Mongolia and Uganda.

Figure 38

R&D Personnel in E&E
1994-96 vs. 1999-01



UNESCO *Institute for Statistics* (1997 and 2004).

Table 33: Human Trafficking in selected sending countries (1989-2001)

Major sending countries	Estimated number of trafficked women and receiving countries
Albania	Over 8,000 (of whom 30% are under 18) Italy, UK
Kazakhstan	5,000 United Arab Emirates (IOM, 1999)
Kyrgyzstan	4,000 (Northern part) Middle East, Turkey, Europe (IOM 1999,) 5,000 (Southern part) United Arab Emirates (IOM annually,)
Lithuania	Several thousands per year: The Balkans, Germany, Austria, UK
Moldova	500,000 – 1,000,000 The Balkans, Austria, Germany, Greece (IOM, 1990-1999)
Russian Federation	50 countries throughout the world, including Germany, Italy, Greece, Switzerland, Austria, Bosnia and Herzegovina, Serbia and Montenegro, Israel, Middle East, Turkey, USA (US Intelligence, 1990-2000)
Ukraine	400,000 Germany, Italy, Greece, Switzerland, Netherlands, Bosnia and Herzegovina, Serbia and Montenegro, Bulgaria, Switzerland, Israel, Middle East, Turkey, Canada and USA (Ukrainian Ministry of Interior, 1990-1998)

UNECE, *Economic Roots of Trafficking in the UNECE Region (December 2004).*

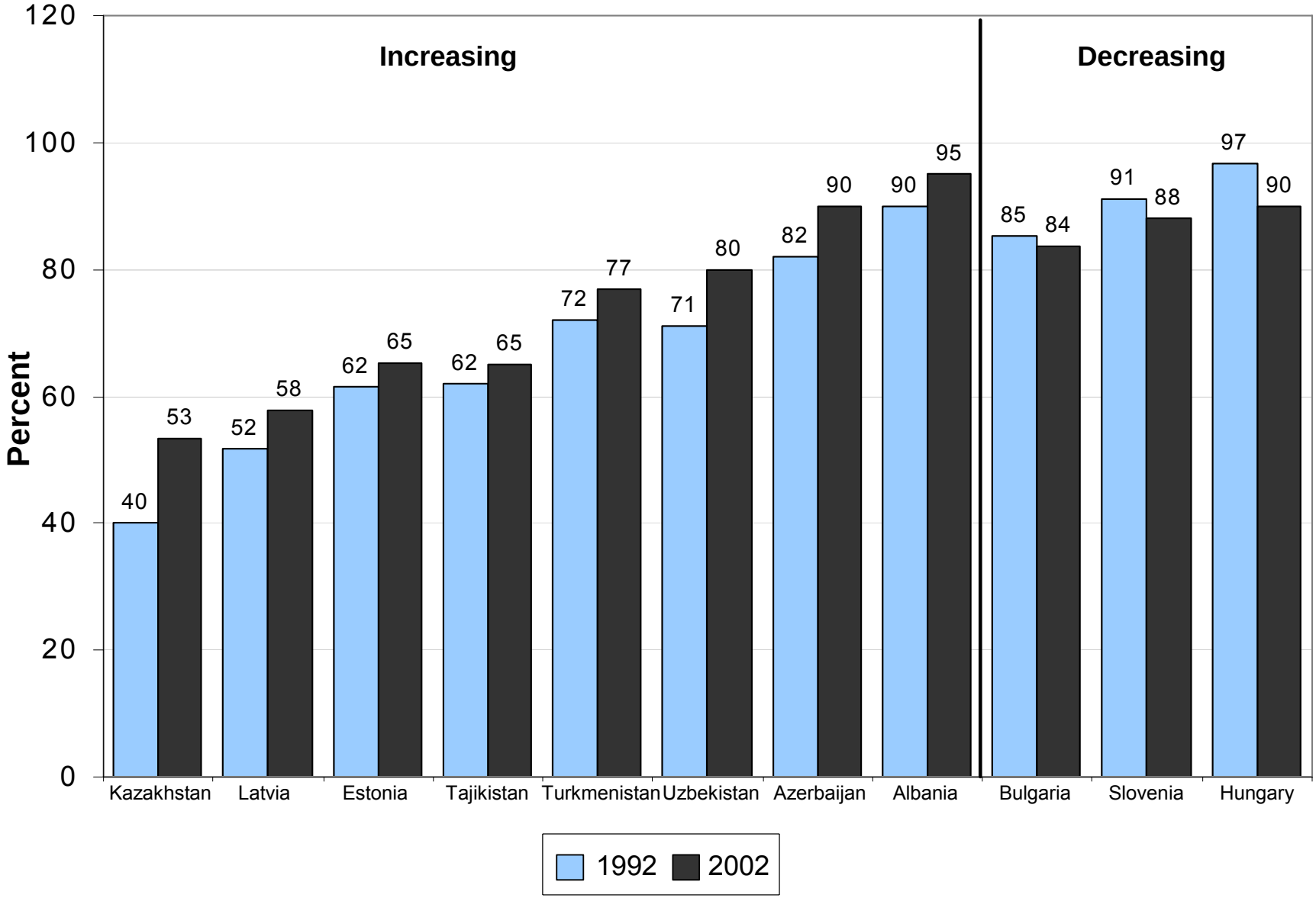
Table 34: Change in Concentration of Ethnic Majority (percent)

	1992	1995	1999	2002	Change 1992-02
Kazakhstan	40	42	46	53	33.5
Uzbekistan	71	71	80	80	12.7
Latvia	52	52	57	58	11.4
Azerbaijan	82	90	90	90	9.8
Turkmenistan	72	73	77	77	6.9
Estonia	62	62	65	65	6.2
Albania	90	95	95	95	5.6
Tajikistan	62	65	65	65	4.7
Belarus	78	78	78	81	4.2
Georgia	69	70	70	70	1.9
Kyrgyzstan	52	52	52	52	0.8
Lithuania	80	80	81	81	0.6
Romania	89	89	89	90	0.4
Croatia	78	78	78	78	0.1
Slovakia	86	86	86	86	0.1
Armenia	93	93	93	93	0.0
Bosnia-Herzegovina	44	38	38	44	0.0
Czech Republic	81	81	81	81	0.0
Moldova	65	65	65	65	0.0
Poland	98	98	98	98	0.0
Russia	82	82	82	82	0.0
Ukraine	73	73	73	73	0.0
Macedonia	67	65	66	67	-0.6
Serbia-Montenegro	63	63	63	62	-1.1
Bulgaria	85	85	85	84	-2.0
Slovenia	91	91	91	88	-3.3
Hungary	97	90	90	90	-6.9
Europe and Eurasia	79	79	79	80	1.8
NT CEE	91	90	90	90	-0.5
ST CEE	79	79	78	79	0.7
Eurasia	75	76	77	77	2.7
Muslim-majority	86	87	92	93	8.5
Balkans	63	62	62	63	-0.9
Caucasus	80	84	84	84	5.4
EE less Balkans & Caucasus	79	79	80	81	1.6

CIA, *World Factbook* (1992, 1995, 1999 and 2002).

Figure 39

Ethnic Concentration



CIA, *World Fact book* (1992 and 2002). Ethnic concentration is the ethnic majority as percent of total population.

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Appendix: Country Group Definitions.

Eastern Europe and Eurasia Regional Groups

Eastern Europe and Eurasia (EE): Czech Republic, Hungary, Poland, Slovakia, Slovenia, Estonia, Latvia, Lithuania, Albania, Bulgaria, Romania, Bosnia-Herzegovina, Croatia, Macedonia, Serbia-Montenegro, Belarus, Moldova, Russia, Ukraine, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, Armenia, Azerbaijan, Georgia (Northern Tier CEE, Southern Tier CEE and Eurasia).

Northern Tier CEE: The Czech Republic, Hungary, Poland, Slovakia, Slovenia, Estonia, Latvia, Lithuania.

Baltics: Estonia, Latvia, Lithuania.

Southern Tier CEE: Albania, Bulgaria, Romania, Bosnia-Herzegovina, Croatia, Macedonia, Serbia-Montenegro.

Balkans: Albania, Bosnia-Herzegovina, Croatia, Macedonia, Serbia-Montenegro, and Slovenia.

Eurasia: Belarus, Moldova, Russia, Ukraine, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, Armenia, Azerbaijan, Georgia

Northern Former Soviet Union (FSU): Estonia, Latvia, Lithuania, Russia, Ukraine, Belarus, Moldova

Central Asian Republics: Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan.

Caucasus: Armenia, Azerbaijan, Georgia.

Muslim-majority: Albania, Azerbaijan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan.

World Regional Groups

European Monetary Union (EMU): Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain.

EU-15: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom.

East Asia and the Pacific: Australia, Japan, New Zealand, Brunei, French Polynesia, Guam, Hong Kong, Macao, New Caledonia, N. Mariana Islands, Singapore, Taiwan, American Samoa, Rep. of Korea, Malaysia, Palau, China, Fiji, Kiribati, Marshall Islands, Micronesia, Papua New Guinea, Philippines, Samoa, Thailand, Tonga, Vanuatu, Cambodia, Indonesia, Dem. Rep. Korea, Lao PDR, Mongolia, Myanmar, Solomon Islands, Vietnam.

Latin America and the Caribbean: Aruba, Bahamas, Bermuda, Cayman Islands, Netherlands Antilles, Virgin Islands, Antigua & Barbuda, Argentina, Barbados, Brazil, Chile, Dominica, Grenada, Mexico, Panama, Puerto Rico, St. Kitts and Nevis, St. Lucia, Trinidad & Tobago, Uruguay, Venezuela, Belize, Bolivia, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Jamaica, Paraguay, Peru, St. Vincent and Grenadines, Suriname.

Middle East and North Africa: Israel, Kuwait, Qatar, United Arab Emirates, Bahrain, Lebanon, Oman, Saudi Arabia, Iran, Iraq, Jordan, Syria, West Bank & Gaza, Yemen, Libya, Malta, Algeria, Djibouti, Egypt, Morocco, Tunisia.

South Asia: Maldives, Sri Lanka, Afghanistan, Bangladesh, Bhutan, India, Nepal, Pakistan.

Sub-Saharan Africa: Botswana, Gabon, Mauritius, Mayotte, Seychelles, South Africa, Cape Verde, Equatorial Guinea, Namibia, Swaziland, Angola, Benin, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Comoros, Congo D.R., Congo Rep., Cote d'Ivoire, Eritrea, Ethiopia, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Niger, Nigeria, Rwanda, Sao Tome & Principe, Senegal, Sierra Leone, Somalia, Sudan, Tanzania, Togo, Uganda, Zambia, Zimbabwe.

World Bank Income Groups

Low-income Economies: Afghanistan, Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, Cameroon, Central African Republic, Chad, Comoros, Dem. Rep. Congo, Rep. Congo, Cote d'Ivoire, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Ghana, Guinea, Guinea-Bissau, Haiti, India, Kenya, Dem Rep. Korea, Kyrgyzstan, Lao PDR, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Moldova, Mongolia, Mozambique, Myanmar, Nepal, Nicaragua, Niger, Nigeria, Pakistan, Papua New Guinea, Rwanda, Sao Tome & Principe, Senegal, Sierra Leone, Solomon Islands, Somalia, Sudan, Tajikistan, Tanzania, Timor-L'Este, Togo, Uganda, Uzbekistan, Vietnam, Rep. Yemen, Zambia, Zimbabwe.

Middle-income Economies: Albania, Algeria, Armenia, Azerbaijan, Belarus, Bolivia, Bosnia-Herzegovina, Brazil, Bulgaria, Cape Verde, China, Colombia, Cuba, Djibouti, Dominican Republic, Ecuador, Egypt, El Salvador, Fiji, Georgia, Guatemala, Guyana, Honduras, Indonesia, Iran, Iraq, Jamaica, Jordan, Kazakhstan, Kiribati, Macedonia, Maldives, Marshall, Micronesia, Morocco, Namibia, Paraguay, Peru, Philippines, Romania, Russia, Samoa, Serbia-Montenegro, South Africa, Sri Lanka, Suriname, Swaziland, Syria, Thailand, Tonga, Tunisia, Turkey, Turkmenistan, Ukraine, Vanuatu, West Bank & Gaza, American Samoa, Antigua & Barbuda, Argentina, Barbados, Belize, Botswana, Chile, Costa Rica, Croatia, Czech Republic, Dominica, Estonia, Gabon, Grenada, Hungary, Latvia, Lebanon, Libya, Lithuania, Malaysia, Mauritius, Mayotte, Mexico, Northern Mariana Islands, Oman, Palau, Panama, Poland, Saudi Arabia, Seychelles, Slovakia, St. Kitts & Nevis, St. Lucia, St. Vincent and Grenadines, Trinidad & Tobago, Uruguay, Venezuela.

High-income Economies: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Rep. Korea, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States, Andorra, Aruba, Australia, Austria, Bahamas, Bahrain, Belgium, Bermuda, Brunei, Canada, Cayman Islands, Channel Islands, Cyprus, Denmark, Faeroe Islands, Finland, France, French Polynesia, Germany, Greece, Greenland, Guam, Hong Kong, Iceland, Ireland, Isle of Man, Israel, Italy, Japan, Rep. Korea, Kuwait, Liechtenstein, Luxembourg, Macao, Malta, Monaco, Netherlands, Netherlands Antilles, New Caledonia, New Zealand, Norway, Portugal, Puerto Rico, Qatar, San Marino, Singapore, Slovenia, Spain, Sweden, Switzerland, United Arab Emirates, United Kingdom, United States, Virgin Islands.