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**PUBLIC HEALTH IN EUROPE : THE 2007-
2009 FINANCIAL CRISIS AND UNECE
ACTIVITIES**

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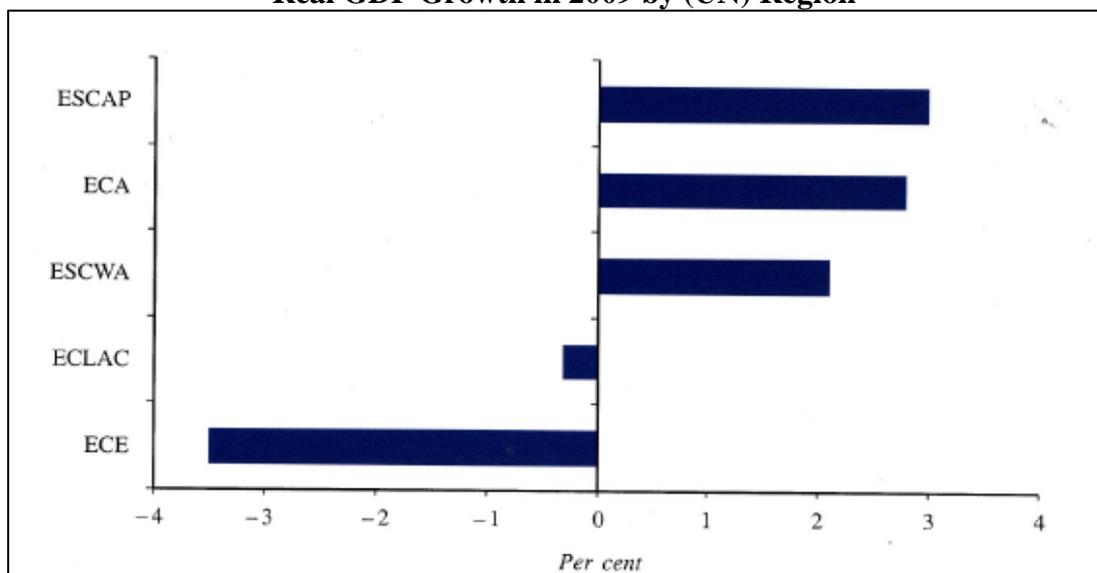
Public Health in Europe: The 2007-2009 Financial Crisis and UNECE Activities

Robert C. Shelburne and Claudia Trentini¹

I. The Economic Situation in the Wider European Area

The 2007-2009 financial and economic crisis impacted the UNECE region² to a much greater degree than the other regions of the world; for instance in 2009, the UNECE was the only region as defined by the five UN's regional commissions to experience substantially negative growth (Figure 1). This was due to the fact that residents in the US and western Europe owned most of the sub-prime assets that were at the heart of the crisis; these regions experienced their worst financial crisis since the Great Depression of the 1930s and their worst economic downturn since the second world war. Although the economic shock was perhaps somewhat smaller in western Europe than in the US, the European contraction in GDP was slightly larger because their fiscal and monetary policy response was more delayed and smaller. The eastern European economies experienced a "sudden stop" in terms of capital inflows, and as a result they, like emerging markets experiencing crises more generally, were limited in their macroeconomic counter-cyclical policy options. As a result they were the worst impacted region not only in the UNECE but in the world.³

Figure 1
Real GDP Growth in 2009 by (UN) Region

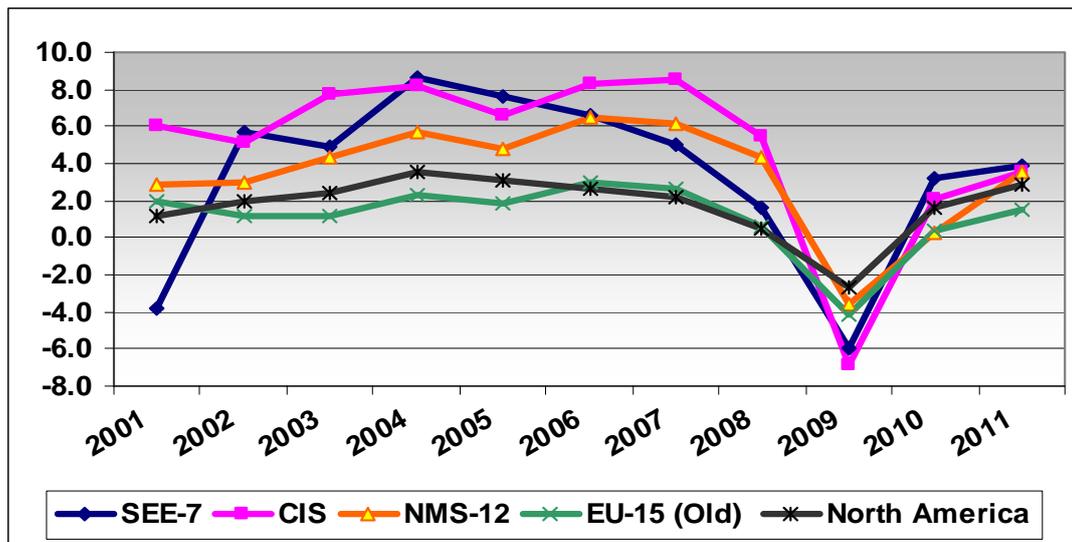


¹ United Nations Economic Commission for Europe. This document was produced as a background study for the UN ECOSOC discussions on the impact of the financial crisis on global public health during the annual meeting of ECOSOC which was held in Geneva, Switzerland.

² The UNECE region is composed of North America, Europe and the CIS and accounts for slightly over one-half of world GDP on a purchasing power parity basis.

³ Another UN document (E/2009/16) produced for the July 2009 ECOSOC meeting summarizes the economic situation in the UNECE region, see [The Economic Situation in the Economic Commission for Europe Region: Europe, North America and the Commonwealth of Independent States in 2008-2009](#).

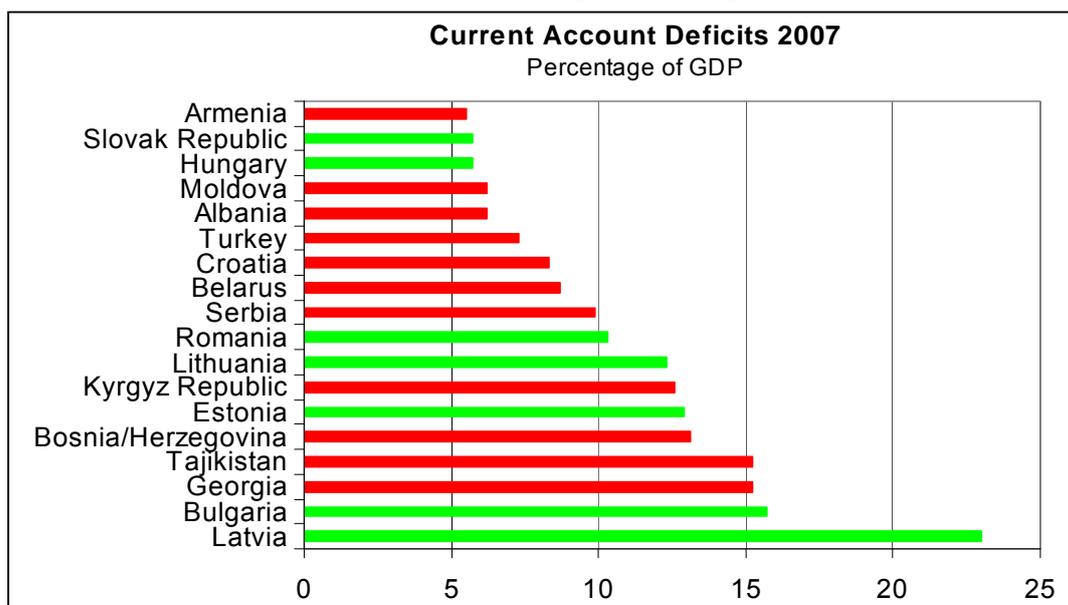
Figure 2
Real GDP Growth in the Sub-regions of the UNECE



Source: UNECE calculations based upon IMF country data and forecasts.

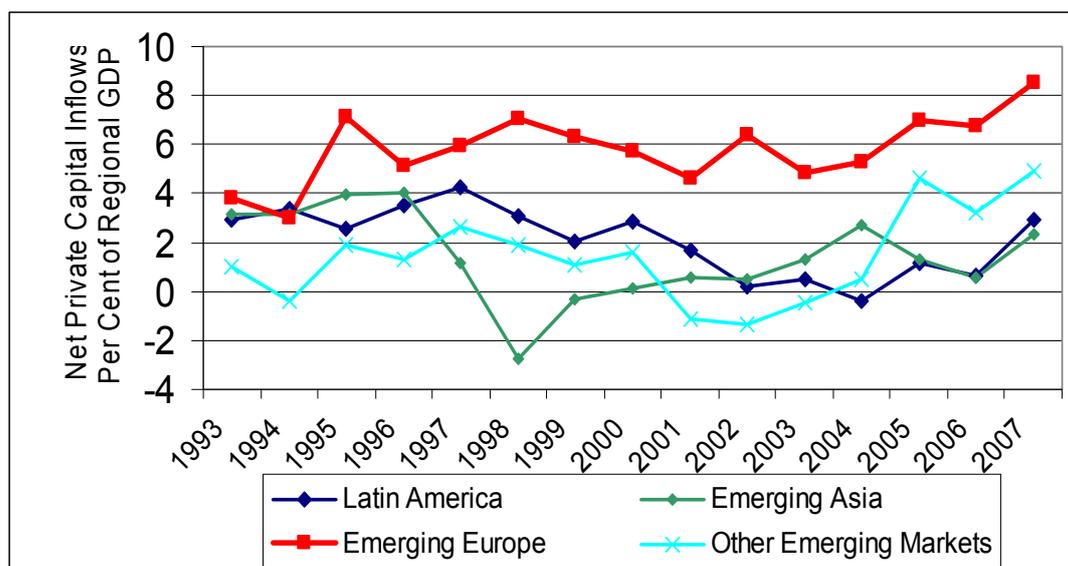
Although growth remained positive in many of the world's emerging economies during this crisis, it was negative in the Europe's emerging markets and for many was even lower than in the advanced economies of North America and western Europe (Figure 2). This was due to several factors but the most important were probably the region's large current account deficits (Figure 3) and their tight trade and financial integration with western Europe. Ironically these were the key factors supporting the European emerging economies' robust growth in the years prior to the crisis.⁴

Figure 3
Current Account Deficits in European Emerging Markets, 2007



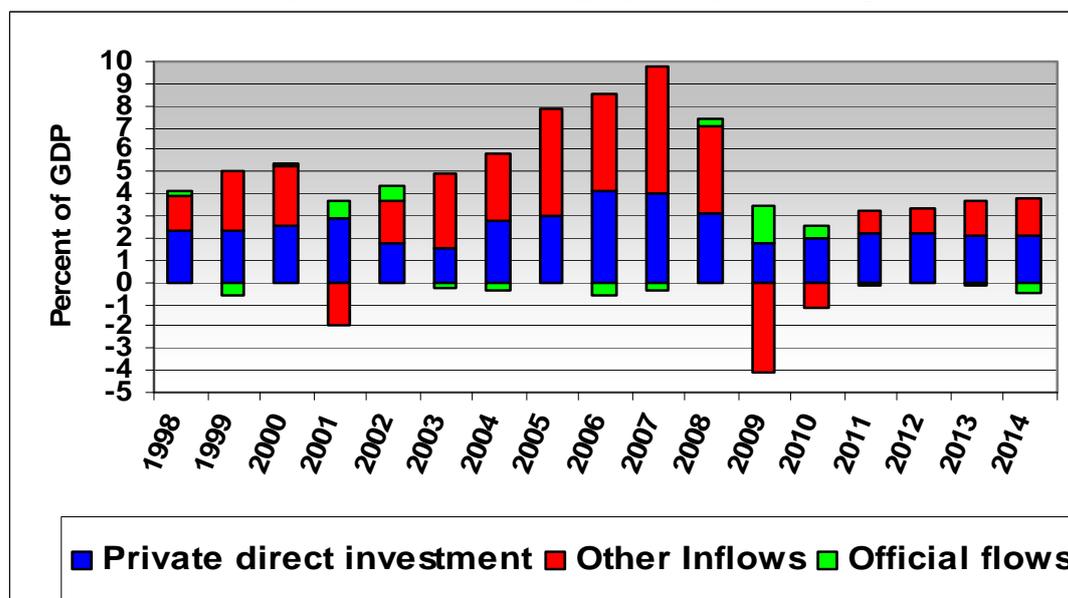
⁴ See Robert C. Shelburne, *Financing Development in Europe's Emerging Markets*, an essay in the United Nations Economic Commission for Europe's Annual Report for 2008, United Nations, New York and Geneva, 2008, p. 13-23.

Figure 4
Net Private Capital Inflows into European Emerging Markets



Once world capital markets ceased to function in 2008 after the collapse of Lehman Brothers, these economies' dependence on private capital inflows (Figure 4) became a major channel by which the crisis entered the region.⁵ Capital inflows, especially the non-FDI component, for Europe's emerging economies are likely to be negative in 2009 and are expected to stay subdued for the next several years (Figure 5).

Figure 5
Capital Inflows to Emerging Europe by Component



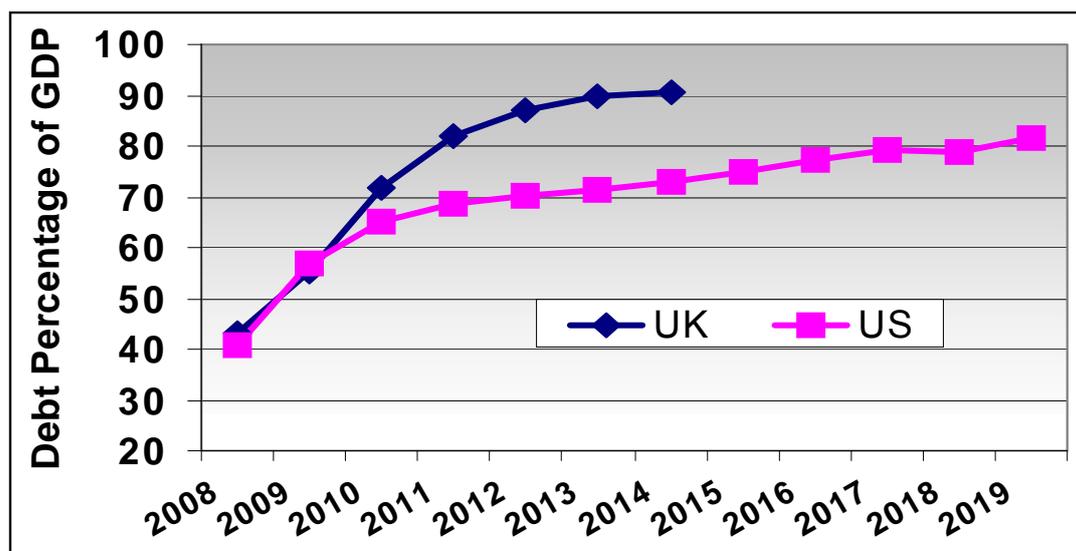
⁵ The macroeconomic vulnerabilities that had developed in the region prior to the crisis are discussed in detail in Robert C. Shelburne, *Current Account Deficits in European Emerging Markets*, UNECE Discussion Paper No. 2008.2; the evolution and impact of the crisis in Europe is examined in Robert C. Shelburne and Jose Palacin, *The 2007-2009 Financial Crisis in Europe* (2009).

Month on month economic indicators covering the region seem to suggest that a modest recovery is visible in the second half of 2009 in Germany, France and the United States. However, unemployment is likely to continue to rise until early 2010 and will reach double-digits throughout the region.

The effects of the crisis were magnified for countries with a heavy dependence on remittances and migration. Economic migration and remittances are important to many transitional countries, and Tajikistan receives the highest levels of remittances in the world (as a percentage of GDP), with Moldova and Kyrgyzstan in third and fourth place.⁶ Current estimates suggest that whereas, worldwide, remittances will decline by between 5 percent and 8 percent in 2009, Europe and Central Asia will be the most severely affected region with declines substantially larger. Initial estimates show that remittance outflows from Russia in mid-2009 were almost 40% below trend. As a result remittances flows to Armenia and Tajikistan declined by more than 30 percent in the first half of 2009. More specifically, the Armenian Central Bank which provides timely data on non-commercial money transfers, reported that inflows in the first of 2009 were 36 per cent lower than in the same period in 2008. Poland and Romania in Eastern Europe also experienced a sharp slowdown in remittances.

The fiscal deficits of the governments throughout the ECE region increased as the economic slowdown reduced tax revenues and increased expenditures through automatic stabilizer mechanisms, in addition to the discretionary fiscal expansions that were enacted. In the longer run, increased deficits and debt will mean that government budgets will remain under strain and funding for public health initiatives may be reduced. As an example, the attempts in the US to reform its health care system, where a significant number of its citizens lack health insurance, are being constrained by projected government debt levels (Figure 6).

Figure 6
Forecast Public Debt Levels in the US and the UK

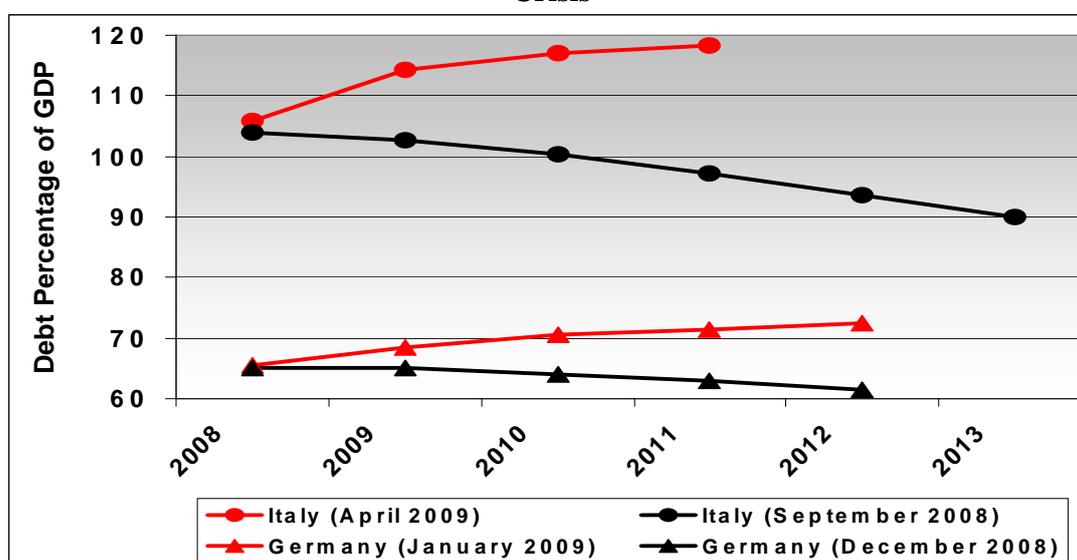


Source: US estimate from the Congressional Budget Office and UK estimate from the UK Treasury.

⁶ The importance of remittances in the transition economies is examined in detail in Robert C. Shelburne and Jose Palacin, *Remittance Flows in the Transition Economies* (2009).

In the eurozone, efforts to keep debt levels within the Stability and Growth Pact (SGP) target were derailed. The fiscal shortfall for the euro-area is forecast to be -6.2% of GDP in 2009 and to worsen further to -6.6% in 2010; these deficits are over twice the 3% limit enshrined in the SGP. Net debt levels are projected to increase from under 60% in 2008 to almost 70% in 2009 and are likely to reach 80% by 2012. As a result as soon as the recovery takes hold, tighter budgets will be needed for many years in order to reduce these debt levels. Programs supporting public health are likely to be similarly affected. As shown in the debt projections for Italy and Germany in Figure 7, this deterioration in the debt situation is due to the 2008-2009 economic crisis.

Figure 7
The Deterioration of Public Finances in Italy and Germany due to the Crisis



Source: The Finance Ministry of the respective country.

In Central and Eastern Europe the crisis highlighted the weaknesses of public finance systems mostly based on indirect taxation and resulted in large cuts in spending programmes and painful rises in taxes. Most likely, these government spending cuts will lead to pressure for an increased role for private sector provision of health and other social programmes. For example, facing GDP drops between 15 and 20 percent, Baltic governments were forced to implement steep budget cuts in an effort to stay on track for joining the eurozone. Budget cuts implied public sector wage cuts (as high as 40% in Latvia), pensions and benefits reductions, and VAT increases. In Latvia budget cuts to the health sector were so wide-ranging that they caused the resignation of the health minister and spurred a new round of civil protests. In Lithuania the austerity measures included a cap on maternity leave benefits. In Estonia, sickness benefits were curbed.

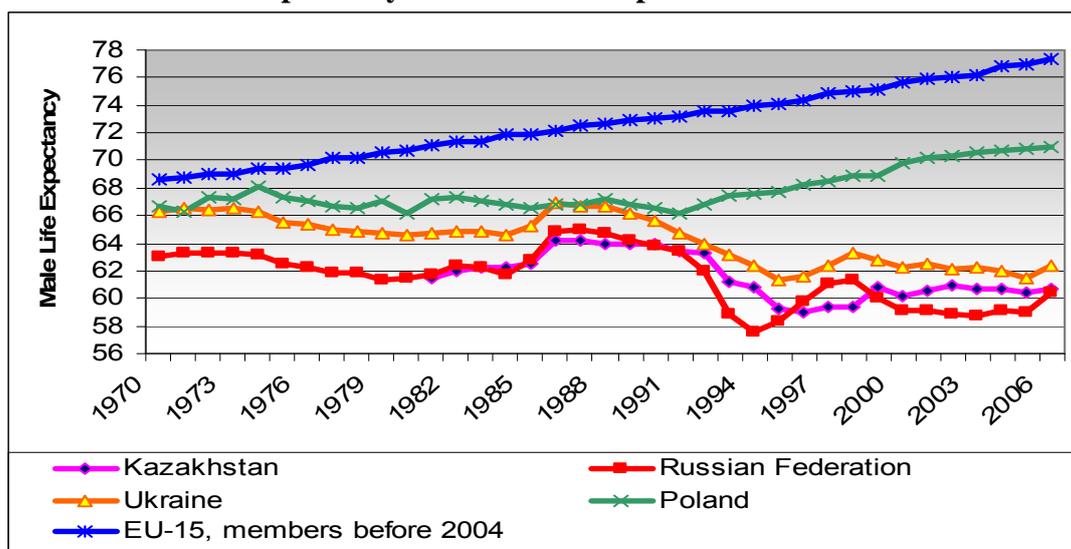
CIS resource-rich countries were able to tap into their foreign-exchange reserves to finance their countercyclical fiscal measures. However, non oil exporting countries (Belarus, Georgia, Tajikistan, Armenia, Moldova, the Kyrgyz Republic) have had very limited fiscal policy space for adjusting to the shock (mainly coming from a sharp reduction in remittances from migrant workers in Russia and lower

export earnings) and required emergency financing from the IMF in order to avoid an economic collapse. For these countries maintaining budget targets for fiscal deficits and domestic borrowing in the face of revenue shortfalls led to a tightening of the fiscal stance, exacerbating recessionary pressures and making it very difficult to protect priority social expenditures from cuts.

II: The Status of Public Health in the ECE Economies

Health outcomes (summarized using life expectancy) have increased steadily over the last 40 years in the advanced economies of the ECE; average life expectancy has increased by about 10 years during this period. There is little evidence that the economic business cycle has had an affect on of the health outcomes in the EU-15. This reflects the strong safety nets that exist in these economies and the fact that health coverage is not generally employment based in many of these economies. In contrast, the transition economies experienced less progress prior to the transition. As shown in Figure 8, male life expectancy in the EU-15 was only about 2 years higher than that in Ukraine or Poland in 1970 but had increased to almost 15 years by 1989 as life expectancy remained essentially constant in these economies over this period. To some degree this is explained by the economic stagnation experienced by these economies during the 1970s and 1980s. Russia experienced little improvement over the 1970-1985 period but life expectancy did increase significantly in the last half of the 1980s. Health outcomes deteriorated substantially in the CIS economies during the beginning years of the transition to market economies, while they remained flat in Poland. By the early 1990s life expectancy began to increase in Poland at a rate similar to western Europe (although at a lower level) but deteriorated further in the CIS. Thus although Ukraine and Poland had a similar life expectancy in 1989, by 2006 Poland's was 9 years longer.

Figure 8
Male Life Expectancy in Selected European Economies 1970-2006



Source: Based on data from the WHO Europe dataset.

In the CIS economies there was a further deterioration, although of a lesser degree, after the 1998 Russian currency crisis. Public expenditures in general and on health in particular declined throughout the 1990s and only partially recuperated in the last decade before the 2007-2009 economic crisis. The severe economic conditions combined with limited public funds and weak public health institutions, allowed diseases such as AIDS, tuberculosis, alcoholism to become well-established within these societies.⁷ Thus the deterioration in health outcomes experienced during the transition was not a temporary setback which was rapidly overcome once economic growth returned, but instead evolved into a more “permanent” phenomenon as certain diseases and social practices became firmly ingrained. Thus the economic chaos of the transition period produced a long-run decline in health outcomes that is still evident today as many of the CIS now have life expectancies below what they had been before the transition.

A particularly dramatic case is Ukraine which is experiencing the fastest depopulation process in Europe. The probability of reaching old age in Ukraine is lower compared to Central European countries. This is especially true for Ukrainian males, with adult male deaths being at levels comparable to countries with less than one-fifth the GNP per capita of Ukraine. Moreover, Ukrainians spend almost 13 percent of their lives in poor health, compared to Poles where this number is 8 percent, or Slovenians and Czechs with 9 percent of their lives spent in poor health. Further, a recent study by the World Bank found that half of deaths before the age of 75 in Ukraine could be avoided through adequate prevention and treatment.

In the transition economies, health care systems required major institutional restructuring after moving to market economies. In some of these economies much is still required in terms of setting up health insurance programs and their regulatory frameworks. There is also a need to better identify the most vulnerable populations and design programs that can address their needs.

Economic crises generally have the greatest impact on infants and the elderly. However, in the CIS what was unusual was that the highest increases in mortality were experienced by prime working age men 25-54; thus the health crisis has had a particularly large impact on economic output.

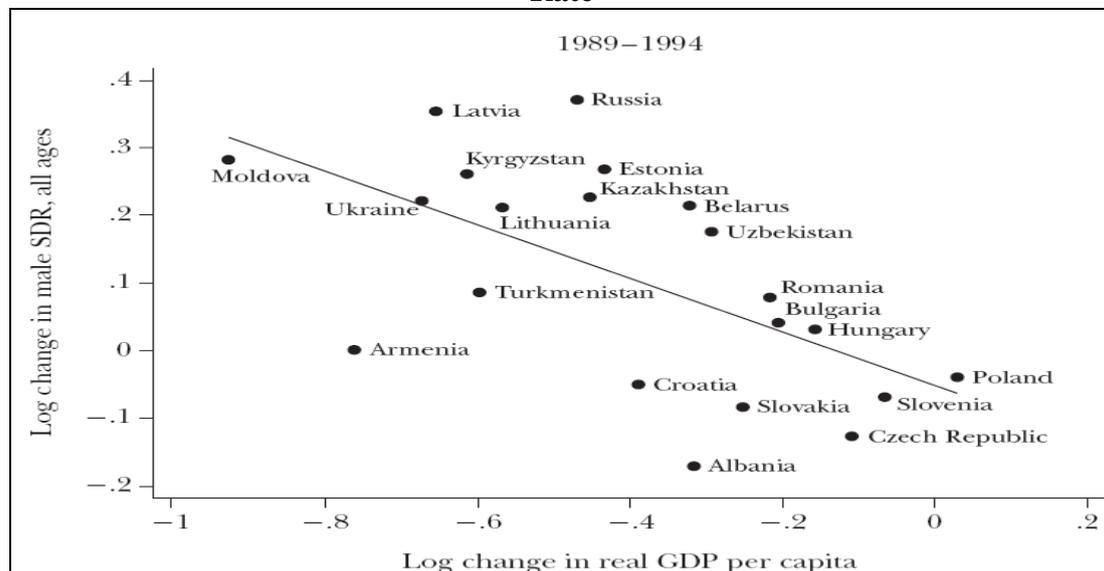
One important reason for this decline in the health of the working age population has been the increase in alcohol consumption in the European CIS. For example, alcohol consumption in Russia doubled between 1987 and 1994. Half (52%) of the deaths of Russian males between the ages of 15 and 54 were related to alcohol abuse between 1990 and 2001; the comparative statistic for the rest of the world is 4%. A high percentage of these deaths is due to drinking alcohol not meant for consumption, i.e., cologne or antiseptics. A Russian male 15 years old is five times more likely to die by age 35 as one in western Europe. Although the problem is more severe for men, excessive alcohol consumption also has had significant consequences

⁷ Former communist countries failed in keeping up with development in the west also because of an increase of health care complexity: i.e. the growth in chronic disease, the emergence of new forms of infectious disease, and the introduction of new treatments requiring integrated delivery systems. See Martin McKee and Ellen Nolte, Health Sector Reforms in Central and Eastern Europe: How Well Are Health Services Responding to Changing Patterns of Health?, *Demographic Research*, 2 (7), 2004.

for Russian women as well. In Ukraine, 40% of deaths among working-age (20-64) men were alcohol related.

Note that the EU new member States (NMS) largely avoided the declines in life expectancy associated with the transition. This is explained by the fact that they experienced smaller declines in income during the transition. There was generally a high correlation between the size of the economic decline during the transition and the increase in mortality rates (see Figure 9).⁸ This evidence suggests that with the large income declines in 2009, much of eastern Europe and the CIS are likely to experience some deterioration in life expectancy due to the current financial crisis. Higher unemployment, increased poverty, strained safety nets, and pressure on government budgets will all contribute to this deterioration in public health.

Figure 9
The Relationship between the Size of the Transitional Recession and Male Death Rate



Source: Elizabeth Brainerd and David Cutler, *Journal of Economic Perspectives*, 19 (1), 2005, p111.

There is a gender gap for life expectancy throughout the ECE region; this one favoring women for a change. Women live about five years longer, roughly the same as they did 40 years ago; although, more recently, men have gained slightly.

Generally as countries become richer, a higher percentage of their national income is devoted to health expenditures. Currently in the EU total health expenditures account for about 9% of GDP with three-fourths of that (or 6.5%) being classified as public health expenditures. Health expenditures as a percent of GDP are lower in the transition economies. The lower percentage found in the transition economies relative to the advanced economies is explained significantly by their lower per capita incomes. Compared with the rest of the world, however, once income levels are controlled for, health expenditures in the transition economies appear to be “normal”. Nevertheless there is significant diversity within this group, with some economies

⁸ Elizabeth Brainerd and David Cutler, Autopsy on an Empire: Understanding Mortality in Russia and the Former Soviet Union, *Journal of Economic Perspectives*, 19 (1), 2005, pp. 107-130.

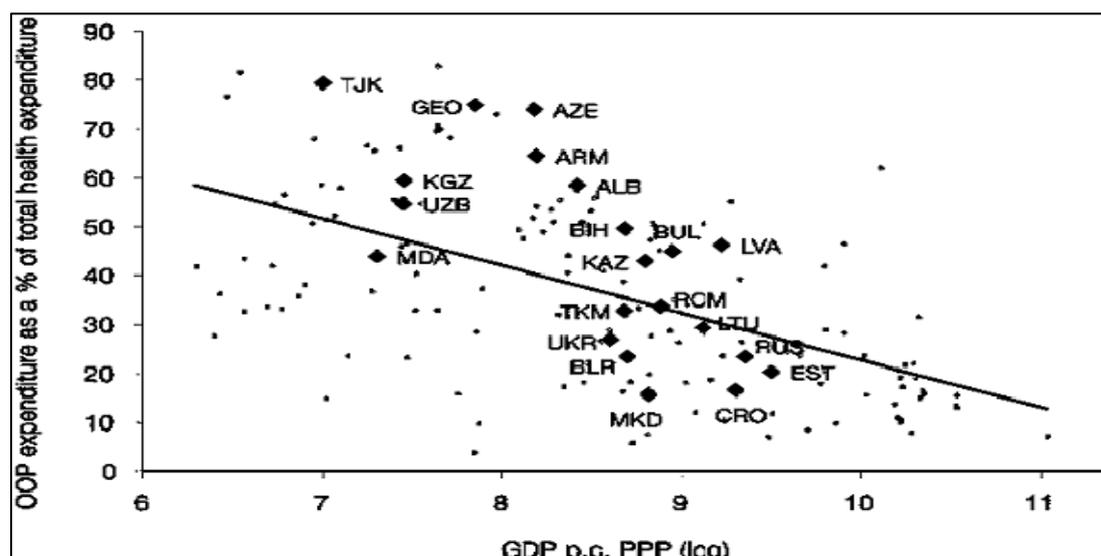
spending twice as much as other countries which have the same level of national income. For the ECE region, although the public share of total health expenditures increases as per capita income increases, the richer countries also have older populations so that may be an additional factor explaining this higher share.

III. ECE Activities, the MDGs and Public Health

There is a growing consensus that many (both advanced and emerging) of the ECE's health systems are in crisis and will require major investments over the long term to bring them back to health. The rising cost of medicine and the ageing of the population are placing new demands on systems already under severe strain. Although governments are giving health a high priority, they have limited possibilities for meeting existing and future health needs within their budgets and are increasingly looking to the private sector to play a greater role in the provision of much needed facilities and ancillary services.

Public Private Partnerships (*PPPs*), with the private sector designing, constructing and maintaining the building but with all clinical services provided by the public sector under an availability and key performance indicator-based (*KPI*) payment regime, are becoming more and more widespread. These projects have already demonstrated success in some of the advanced economies, and with appropriate safeguards they can be applied more widely throughout the region as a component of governments' health strategies. To build the skills within governments to use these new tools, the UNECE is preparing a toolkit of trainer modules on how to use PPPs, including one devoted to the health sector and specifically relating to the construction of hospitals using PPPs.

Figure 10
Transition Economies' Out of Pocket Spending as a Percentage of Total Health Expenditure versus GDP Per Capita, 2003



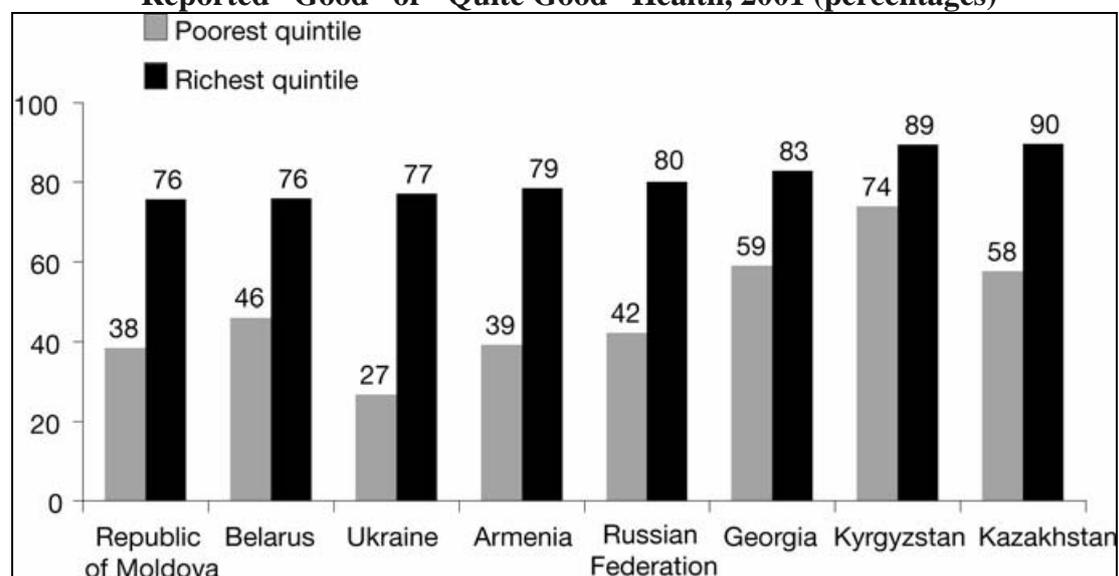
Source: WHO European Office (2007)

The share of health expenditure that is accounted for by private out-of-pocket expenses generally falls as per capita income increases. For the transition economies

this private share is relatively high and this not only harms the poor more but also increases their health vulnerability during economic recessions.

One indication of the current shortcoming of health policy in the region is the significant and rising socioeconomic inequalities in health and health care access. Given the sharp increase in income inequality during most of the 1990s, the health gap between those at the top and at the bottom of the income ladder has widened. Rising inequalities in access are largely due to the rise in informal payments (out-of-pocket expenditure), but inequalities in health are only partly explained by unequal access. The available evidence suggests that public expenditures in central and eastern Europe (CEE) and the CIS have done little to redress the inequities embodied in health systems, although this should be a primary aim.

Figure 11
Reported “Good” or “Quite Good” Health, 2001 (percentages)



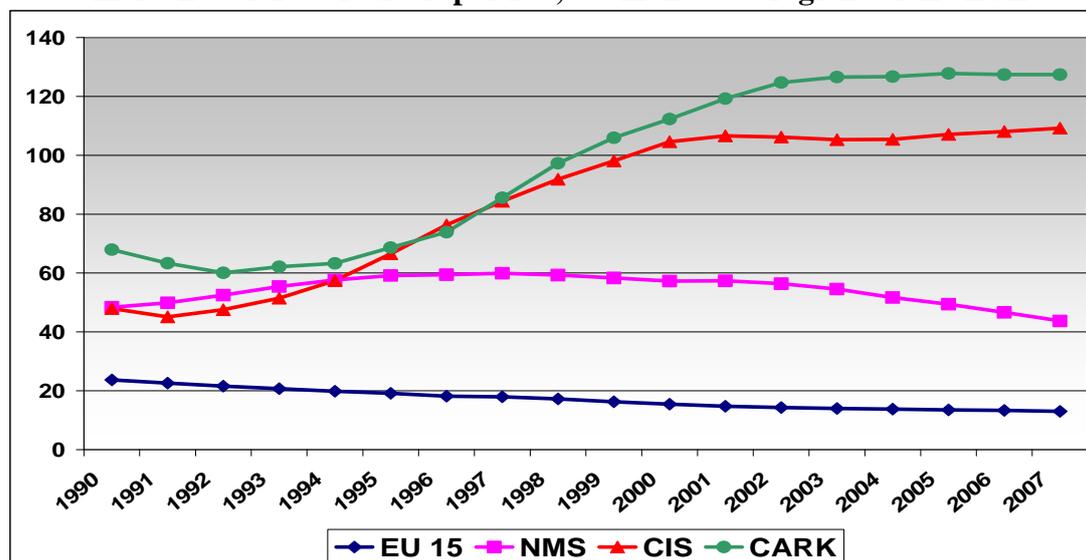
Source: WHO European Office (2007)

In the ECE region, HIV/AIDS and tuberculosis are major public health concerns and are part of the Millennium Development Goals (MDGs). The incidence of these diseases increased rapidly during the 1990s transition when many of these economies did not have the resources or established institutions to contain these diseases (see figure 12). The economic crisis may limit the recent progress in controlling these diseases by increasing poverty, reducing governmental support for treatment, and increasing a number of social behaviors that have contributed to these such as prostitution and drug use.

In western Europe, spots of social marginalization and immigration from high TB-burden countries have resulted in increasing incidence of tuberculosis, especially in the major cities such as London, Paris, Barcelona and Milan. In the CEE and the CIS the transition crisis implied a huge increase in the incidence of drug resistant tuberculosis. While NMS managed to control the incidence with its peak in the late 1990s, the CIS have been less successful as rates there were rising as recently as 2002 and have now stabilized at a fairly high level. The incidence rate in the CIS and especially the central Asian CIS is now about three times higher than in the NMS and

almost ten times higher than in western Europe. The incidence rate in the CIS is now about twice the level prior to the transition crisis. The death rate from TB is much higher in the CIS due to drug-resistant varieties and less aggressive treatment.

Figure 12
Incidence of Tuberculosis per 100,000 in the Sub-regions of the ECE



Note to the graph: CARK: the central Asian republics (Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan and Kazakhstan). Source: WHO Europe dataset.

Progress in controlling the spread of HIV/AIDS has been disappointing, especially in the CIS where its incidence continues to rise despite quite large increases in funding by the Russian government.⁹ Currently it is estimated that approximately 2.5 million people in the former transition economies are infected with HIV with new infections increasing by about 300,000 a year. Injecting drug use (IDU) and unprotected sex are the main means of transmission for the HIV virus; current estimates are that for the CEE/CIS region approximately 70% of HIV infections are due to injecting drugs. In the transition economies, there are currently about 3.2 million people who inject drugs; this is slightly below one percent of the population. Drug use was quite low in the region before the transition crisis and its recent increase is significantly due to the economic and social dislocations associated with the transition crisis. Young people account for a surprisingly high percentage of those with HIV/AIDS; for the CEE/CIS estimates are that more than 80% of those with HIV/AIDS are under 30 years old¹⁰ and in Belarus 60% are below 24 years old and in Ukraine 25% are below 20 years old.¹¹ (By comparison only 33% of those infected in western Europe are under 30.) Young people also account for a high percentage of those injecting drugs as a quarter of them are believed to be under the age of 20.¹² Condom use among injecting drug users is quite low and estimated to be below

⁹ In 2007 the Russian government was spending \$444.8 million on HIV-related activities which is 57 times more than in 2005.

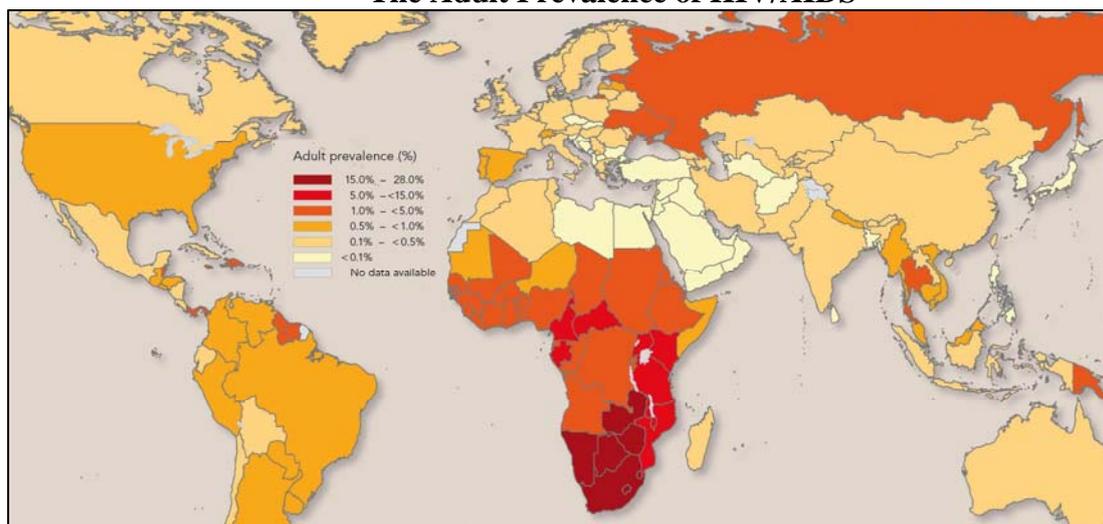
¹⁰ See, *HIV/AIDS in Europe and Central Asia*, United Nations Children's Fund, CEE/CIS and Baltics Regional Office, 2004.

¹¹ See, *At Great Risks of HIV/AIDS: Young People in Eastern Europe and Central Asia*, Joint United Nations Programme on HIV/AIDS, 2005.

¹² See *World Youth Report 2007*, chapter 6 entitled, *Labour Market Challenges and New Vulnerabilities for Youth in Economies in Transition*.

20%.¹³ Unlike the situation in much of the rest of the world, HIV/AIDS in the former transition economies is largely a male disease since 72% of those infected are male.¹⁴ UNDP observes that in the CIS region “today, this is predominantly an epidemic among urban, young, male injecting drug users and their sexual partners.” More recently, however, the incidence of HIV/AIDS in women has been increasing due to sex with drug users. For example, in Russia 44% of new infections were women in 2007; this has increased from only 21% in 2000. Heterosexual transmission is particularly high (around 50% of infections) in Belarus and Moldova. The sex trade is also escalating the heterosexual transmission of HIV/AIDS as condom use with prostitutes is reported to be below 50% and in some areas a third or more of sex workers are HIV positive.¹⁵ The Russia government, however reports that for the country overall, 6% of sex workers are infected.¹⁶ Homosexual transmission in the region has not been extensively investigated and there is limited data on this but current estimates for Russia suggest that only about 1% of new infections are the result of homosexual contact. The infection rate (about 5%) is particularly high in the Russian prison population; a high percentage of these are/were intravenous drug users and were infected before entering prison. The transmission from mother to child during pregnancy has been limited in Russia and eastern Europe through the aggressive use of antiretroviral drugs.

Figure 13
The Adult Prevalence of HIV/AIDS



Russia and Ukraine are becoming “new epicenters” in the global HIV/AIDS pandemic. Ukraine has the highest infection rate in either Europe or the CIS; currently

¹³ See, *The Changing HIV/AIDS Epidemic in Europe and Central Asia*, Joint United Nations Programme on HIV/AIDS, 2004.

¹⁴ See, *At Great Risks of HIV/AIDS: Young People in Eastern Europe and Central Asia*, Joint United Nations Programme on HIV/AIDS, 2005.

¹⁵ For example, a study of young prostitutes in St. Petersburg, Russia found that 33% were HIV positive; see, *2006 Report on the Global AIDS Epidemic*, Joint United Nations Programme on HIV/AIDS, 2006.

¹⁶ See, *Country Progress Report of the Russian Federation on the Implementation of the Declaration of Commitment on HIV/AIDS, January 2006-December 2007*, Ministry of Health and Social Development of the Russian Federation, 2008.

over 400,000 or 1.6% of the adult population (age 15-49) are infected.¹⁷ Worst-case scenarios for future infection in Russia foresee over 1 percent of their adult population being infected by 2010. Prevalence rates of these levels are approaching those currently experienced in some of the sub-Saharan Africa countries (see figure 13). The infection rate in both countries varies significantly in the different geographical regions; for example in Ukraine the infection rate is 6 times higher in the east of the country compared to the western regions. Maintaining a higher level of support is critical for containing the spread of this disease; and increased efforts towards prevention are also needed.

Poor nutrition is a significant problem in the Caucasus and the central Asian CIS. Of particular concern is a deficiency of vitamins and minerals in the diets of these populations, especially children. In these economies, approximately one-third to one-half of all children are found to be suffering from anemia; it is also significant amongst adult women.¹⁸ Infant mortality is also relatively high in these economies and survey-based studies find that it is often twice the reported official rates. Given this situation, it is somewhat ironic that obesity also appears to be a major health concern. Ultimately this poor nutrition results in impaired mental development, lower educational attainment, less labor market participation and an earlier retirement age, and lower working life productivity.¹⁹ Poor health outcomes also magnify inequality as it has been shown that ill health has greater economic consequences for the poor. Thus the issue is not simply one of how a poor economic situation affects health but of how poor health affects the economic situation.

Traffic accidents are a major cause of death and disability; they are the tenth cause overall, and for those 15-19 years old, they are the number one cause of death. Worldwide annually this amounts to 1.3 million deaths and 50 million injuries. It is expected that the number of cars will triple between now and 2030 (700 million to 2 billion); the expected increase in accidents will have an unacceptably high human, economic and social costs.

Within the UNECE region, traffic fatalities per person are four times higher in some economies than others. Per vehicle, the differences are even greater approaching a factor of ten. In the CIS traffic fatalities are especially high by global comparison (see figure 14).²⁰ As this variation in fatalities show, public policy in terms of infrastructure design, vehicle requirements, legal standards (alcohol limits, seat belt

¹⁷ See, [Ukraine: National report on Monitoring Progress Towards the UNGASS Declaration of Commitment on HIV/AIDS, January 2006-December 2007](#), Ukrainian Ministry of Health, 2008.

¹⁸ See, *Vitamin and Mineral Deficiency: A Global Assessment*, The Micronutrient Initiative of UNICEF, 2004.

¹⁹ The labor market implications of poor health in the transition economies is examined empirically at the micro-level in chapter 4 of Marc Suhrcke, Lorenzo Rocco, and Martin McKee, *Health: A Vital Investment for Economic Development in Eastern Europe and Central Asia*, WHO European Office for Investment for Health and Development, 2007.

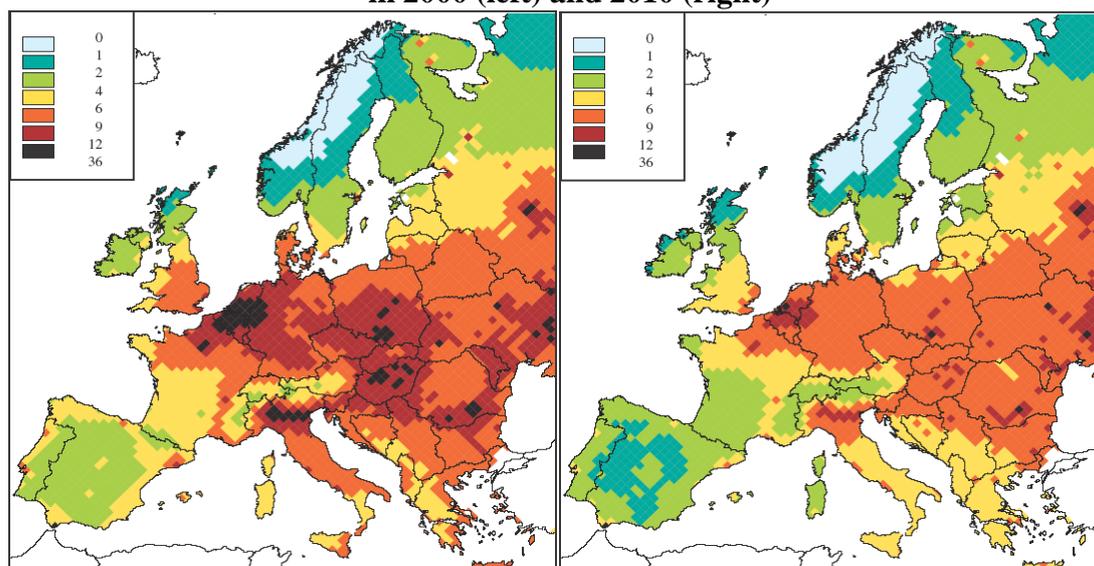
²⁰ Russia's traffic mortality is five or six time higher than in several EU countries. While road fatalities rose in Russia by about 25 per cent over the last two decades, they have declined by 59 percent in the Western European countries and by 21 percent in Canada and the United States. This rate is even more remarkable considering the different car density: 161 cars per 1000 people in Russia compared with 448 in Sweden and 524 in Germany. See also World Bank (2009) *Confronting "Death on Wheels": making roads safe in the Russian Federation*

Another of the UNECE's flagship programs in this area is a project on setting road traffic casualty reduction targets, which is a global project carried on by the five United Nations Regional Commissions, under UNECE coordination. It has been found that getting a country to commit to a specific numerical casualty target is often more effective than getting them to commit to specific policies. This project is designed to discover a set of best practices in using this technique that can be used by all United Nations member States which want to improve road safety. Increased co-operation amongst the Regional Commissions should be a priority for addressing road safety. The UNECE has invited the other Regional Commissions to define the framework for this co-operation, and specific steps and means to achieve this are being discussed.

The high mortality rates in the European CIS due to disease and traffic accidents are particularly problematic when combined with the very low fertility rates in these economies. As a result the population of these economies is expected to decline in the coming decades. For example the population of Russia and Moldova are forecast to decline by over 25% between 2005 and 2050 while that of Ukraine is to decline by 34%.²¹ Population declines of this magnitude will have significant and mostly negative implications for future economic growth in these economies and the ability of these governments to provide health care for aging populations.

Environmental pollution is another major health concern for the UNECE region that can only be addressed with public policy. Much progress has been made over the past two decades, not only in reducing the emissions and depositions of air pollutants and greenhouse gases and thereby reducing their health impacts, but also in the sharing of information and knowledge (see figure 16). Since the effects of air and water pollution are often transboundary, i.e., traveling across borders, the solutions also need to be transboundary.

Figure 16
Loss of Life Expectancy due to Fine Particle Air Pollution
in 2000 (left) and 2010 (right)



²¹ Using the medium variant from the *World Population Prospects*, UN Department of Economic and Social Affairs, 2006.

Under UNECE auspices²², five multilateral environmental agreements (MEAs) serve as a framework in which countries can agree on common solutions to the transboundary problems affecting health and the environment. Under the Convention on Long-range Transboundary Air Pollution governments carve out strategies and policies to abate pollution across the UNECE region. The Aarhus Convention supports the public's access to environmental information, and the Industrial Accidents Convention helps countries prevent accidents and prepare and respond to them.

The Transport, Health and Environment Pan-European Programme (THE PEP) was recently re-launched with a renewed impetus from governments to link sustainable policy approaches across the three sectors, helping transport authorities consider health and environmental impacts when building roads and planning cities.

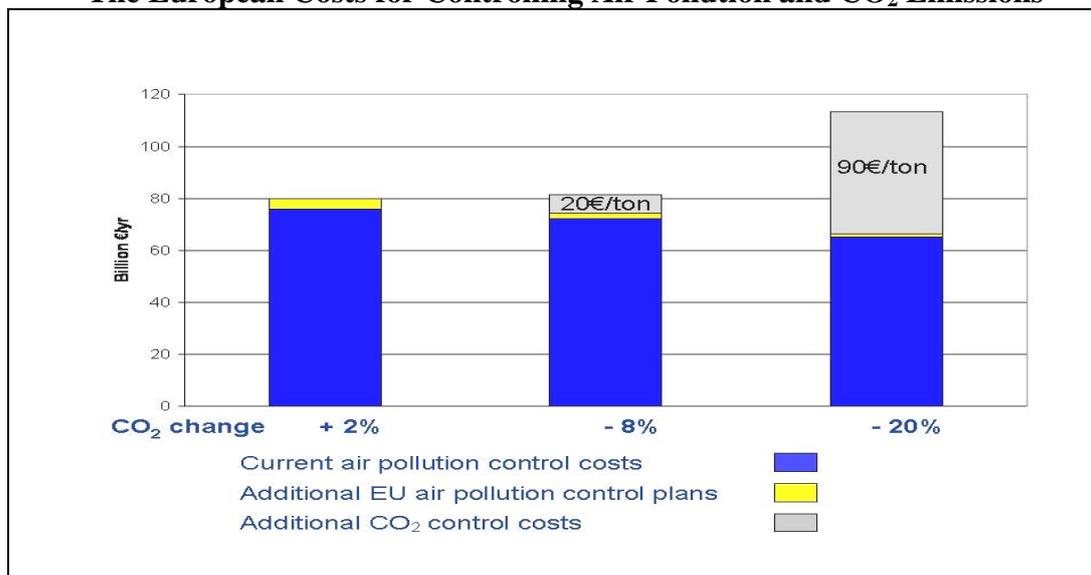
The World Forum for Harmonization of Vehicle Regulations previously adopted amendments to UNECE regulations to limit the maximum admissible level of vehicle emissions for various gaseous pollutants (e.g. carbon monoxide, hydrocarbons, nitrous oxides and particulate matter). These have resulted in a substantial abatement (by more than 97 percent in the last three decades) of the pollutant emissions limits for new cars and commercial vehicles. The World Forum also demonstrated in 2007 the close link between the market fuel quality and the emissions of pollutants from motor vehicles. It recognized that further reduction of emissions required that cleaner fuel be available to consumers. The lack of harmonized fuel quality standards was seen as hampering the development of new vehicle technologies (e.g. catalyst, particle filter). For that reason, the World Forum was urged to develop uniform standards for cleaner fuels, and therefore set up a specific expert group to discuss recommendations for market fuel quality. A first set of specifications is expected to be finalized by the end of 2010.

Climate change will have major public health implications especially for the world's tropical regions by reducing agricultural production and access to clean water while increasing the incidence of tropical diseases. Since the UNECE region emits over one-half of global carbon emissions the region will have a major responsibility for addressing this crisis. Currently, the UNECE economies appear to be committed to negotiating a new post-Kyoto treaty, however, as always there is a devil in the details. The recent WTO finding that border taxes can be used to eliminate environmental dumping has huge implications for achieving an agreement.²³ Concerns have been raised by some that reducing carbon emissions will impose huge economic costs on the advanced economies and this will have a very negative impact on global competitiveness and future living standards. However as shown in figure 17 below, the economic costs of reducing carbon emissions by 20% are actually less than what is being spent to control traditional forms of air pollution.

²² More information on UNECE activities regarding the environment is available at the [UNECE Environmental web site](#).

²³ However, ideally such border taxes will not actually have to be used. Some of the pros and cons of this option are explored in, Aaditya Mattoo, Arvind Subramanian, Dominique van der Mensbrugge, and Jianwu He, [Reconciling Climate Change and Trade Policy](#), Policy Research Working Paper 5123, World Bank, 2009.

Figure 17
The European Costs for Controlling Air Pollution and CO₂ Emissions



The World Forum has also been active in the area of reducing greenhouse gas emissions in the transport sector by improving the energy efficiency of vehicles and increasing the use of biofuels. A number of innovative technologies to improve the energy efficiency of the vehicle fleet are being examined; these include the development of environmentally friendly vehicles, such as hybrid and electric vehicles, hydrogen and fuel cell vehicles, the use of other alternative energy sources such as liquefied petroleum gas, compressed natural gas, and biofuels, the installation of engine management systems (e.g. the stop-and-go function or gearshift indicator), intelligent transport systems (to improve the traffic management), tyre-pressure monitoring systems and the development of tyres with low rolling resistance (to reduce fuel consumption), etc.

The UNECE has a significant number of other activities related to climate change which were discussed in considerable detail at the UNECE's Biennial Commission Meeting in March 2009.²⁴ Two are of particular interests. The Global Energy Efficiency 21 is a program that the UN regional commissions have recently undertaken that focuses on financing energy efficiency investment projects for climate change mitigation, based upon the UNECE's experience gained over the last several years under its [Energy Efficient 21 project](#). This is a capacity building program that provides technical assistance in helping countries identify and develop bankable investment projects. It also assists municipal and national authorities in introducing economic, institutional and regulatory reforms that support investment projects. Another significant UNECE activity concerns urban and building design that is environmentally sustainable.²⁵ Both of these UNECE activities promoting energy efficiency will be highlighted at side events at the Copenhagen Conference on Climate Change in December 2009.

²⁴ See, [Climate Change Mitigation and Adaptation: The Work of the UN Economic Commission for Europe](#), 2009.

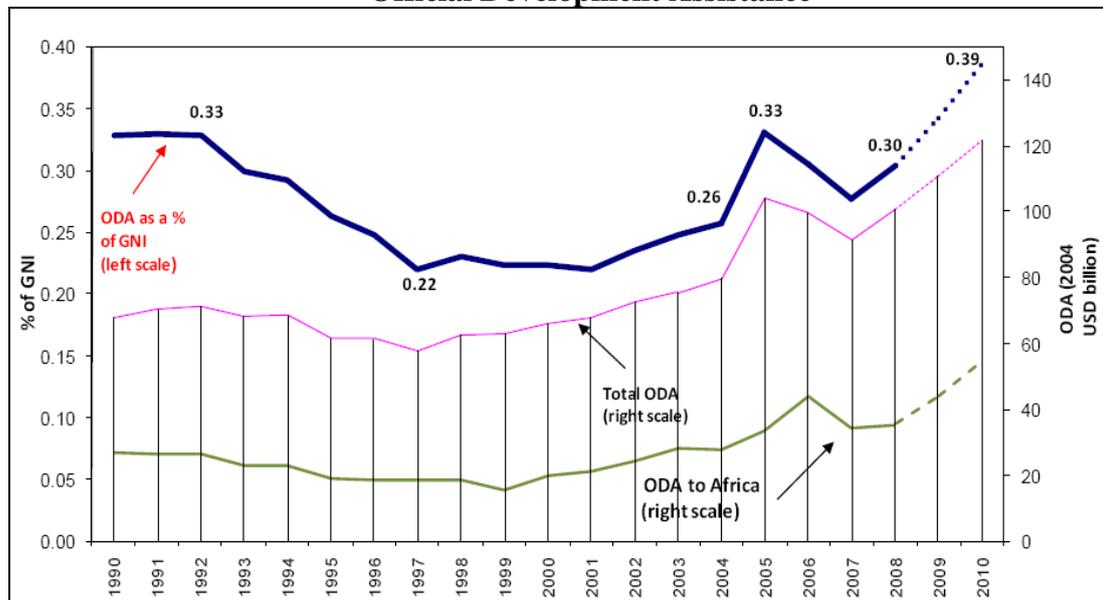
²⁵ See the [UNECE Housing and Land Management](#) web site for further information.

IV. Official Development Assistance (ODA) and the Economic Crisis

Increased deficits/debt will not only have negative consequences for the UNECE economies' own health systems but may reduce the ability of the UNECE's advanced economies (which provide approximately 85% of ODA) to fulfill their aid commitments. Although only a small percentage of ODA is allocated to the health sector, it is nevertheless extremely important. Lower aid by the advanced UNECE economies could endanger global public health and food programs. As an example, in the last years Georgia launched – with the help of various international healthcare and donor organizations - a wide reaching reform of the health care sector including: an improvement of health training institutions, the introduction of free emergency care; the launching of a health insurance scheme, a wide hospital expansion (both physically and geographically) plan, and a substantial increase of the ratio of nurses to doctors from 1:1 to 2:1. The reforms might now be jeopardized by the crisis and the related donors' aid cuts.²⁶

Given that the severity of the crisis only became apparent in the fall of 2008, official data on how the crisis may impact ODA is not available for inclusion in this paper; however, it should be pointed out that there was no reduction in ODA during the 2000-2002 economic downturn. The OECD remains optimistic that countries will continue to try to achieve the commitments that were made at Gleneagle and in UN forums (Figure 18). The degree to which assistance being suggested for climate change mitigation will substitute for assistance for more traditional aid projects will need to be monitored.

Figure 18
Official Development Assistance



²⁶ Since 1991 Georgian healthcare has been struggling to overcome the effects of a post-communist collapse in government spending. Health facilities have deteriorated and the vast majority are now in a very poor state across the country. Pre- and peri-natal care and other areas of reproductive health are still in a poor condition, while maternal and child mortality rates are the highest in the Caucasus region.

V. Conclusions

The economic and financial crisis of 2007-2009 had a serious impact on the larger European region. For western Europe this was the deepest economic downturn since the Second World War. Given the well-developed safety nets for this region the immediate impact on health is likely to be minor. However the crisis will negatively affect the long-run level of per capita income and has left government fiscal positions' in a poor state; both of these developments will likely have some minor impact on health outcomes for years to come. The deterioration of government finances also raises a concern that the region's contribution to global public health through its assistance programs may be negatively impacted. In the coming years, pollution control, including of green house gas emissions, is a major challenge for the region. Providing health care for an aging population is also a fundamental challenge for economies with problematic public finances.

Eastern Europe and the European CIS were the most severely affected regions of the world. Despite the large economic downturns in these economies, this crisis was still not as great as that that occurred during the 1990s with their transition from planned economies to market economies. Although significant progress has been made in establishing social safety nets and public health programs in these countries over the last decade, these remain inadequate and as a result this economic crisis is likely to have a noticeable negative impact on public health throughout eastern Europe and the CIS.

Even before the current economic downturn, there were a number of significant health concerns for eastern Europe and the CIS that were continuing to deteriorate which could have been significantly improved with realistic levels of public expenditures and the implementation of proper policies. The health care systems (often enterprise-based) and institutions collapsed during the transition due to the breakup of the economic and political systems and even the countries themselves (i.e., the Soviet Union and Yugoslavia). The poor health outcomes for the region are due to the fact that a number of diseases and social behaviors became established during the turmoil of the 1990s transition and did not recede as prosperity returned after 2000. The increase in inequality that developed during the transition is reflected in growing inequalities for access to health care and in health care outcomes. Today, the region is characterized (relative to other regions with similar levels of income) by its high death rates from noncommunicable diseases. The issues of alcoholism and traffic fatalities are highlighted in this paper. For communicable diseases, the European CIS are central in the global fight against TB and HIV/AIDS.