

# HEALTH-CARE FINANCING REFORMS IN CENTRAL AND EASTERN EUROPE: COMMON PROBLEMS AND POSSIBLE APPROACHES

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## 1 Introduction

This paper provides an overview of current issues in health-care financing in Central and Eastern Europe (CEE). Like elsewhere around the world, health-care costs in CEE are rising rapidly and are projected to escalate further over the next two to three decades as a result of worsening demographics and rapid ageing of the population. Yet there seems to be little awareness among policymakers and the general public, including parts of economics profession, that there is a major problem with health-care financing. This paper will argue that the problem in question is not the overall level of spending, as countries in CEE spend on average 7-8 per cent of GDP annually on health care, which is close to the average for the 15 “old” EU member states (8.8 per cent in 2004).

Rather, the problem is the unsustainable structure of health-care financing at the macroeconomic level, and flawed financial incentives to health care providers at the microeconomic level. The paper will argue that CEE countries are very similar in this respect: their health-care systems are not effective when financial and other resources used are compared with health outcomes produced; the current way of health-care financing will become increasingly unsustainable; and reform options need to be examined more or less immediately to prevent a financial collapse of the current system. Implementing the necessary reforms would not have to come at the expense of universal access to health care by the population, a principle that is taken for granted in Europe. Not implementing the reforms would eventually require major offsetting cuts in other public expenditure areas and bring into question the existing social contract between CEE states and their citizens.

The existing literature on health-care financing in CEE is not particularly helpful in articulating these issues. One reason is that it is written mostly by narrow specialists in health economics, who tend to focus on country-specific issues and details of cross-country experiences in healthcare financing, without providing a “big picture” from the public finance and macroeconomic perspectives. In other words, it is difficult in the current literature to see the forest for the trees. This paper tries to fill that void. It focuses deliberately on healthcare financing issues from the public finance and macroeconomic perspectives, sometimes at the expense of health economics details.

About 70 per cent of health-care spending in CEE comes on average from public sources and 30 per cent from private sources. Within the public sector, social health insurance funds account for about 80 per cent of general government spending on health care, while 20 per cent is financed from government budgets. Resources for social health insurance funds are for the most part collected through mandatory payroll contributions paid by employers and employees. Private resources for health-care financing are almost entirely patients’ out-of-pocket expenditures, as the role of private health insurance is quite limited in most CEE countries. Total per capita health expenditure (adjusted for purchasing power parity) has increased at an average annual rate of 11.5 per cent in CEE over the past decade, more than twice as fast as in EU-15.

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Against this background, most health-care financing reforms of recent years have focused on cost containment. This has resulted, on the one hand, in the shifting of an increasing portion of health-care costs to households, and, on the other hand, a constant shifting of “fire-fighting” efforts from one segment of the health-care sector to another. The result has been that the majority of stakeholders in health-care reform are dissatisfied with the current situation. However, since no one is willing to lose current benefits, implementing fundamental reforms has become a political non-starter, as the Hungarian referendum on health-care fees from the spring of 2008 clearly indicated.

The paper will start analysing these issues by looking at the basic “outputs” and “inputs” of the health-care sector in CEE (Section 2). Section 3 discusses the main microeconomic and macroeconomic aspects of health-care financing, highlighting some key flaws in the design of financing arrangements for primary and hospital care, which give rise to unnecessary escalation of costs of specialised care and pharmaceuticals. Section 4 looks at some recent reform experiences in CEE. Section 5 concludes with an outline of key reforms that would address the weaknesses of health-care financing identified in the paper.

## 2 Health-care sector in CEE

This section looks at the health-care sector in CEE from a comparative demand-supply perspective. On the demand side, the focus is on basic health outcomes and demographic trends; on the supply side, the focus is on resources in the healthcare sector. The main arguments are that health outcomes in CEE are not particularly laudable; the demographic trends and some structural labour market issues are very unfavourable in their own right and particularly so for sustainability of the current system of health-care financing; and the health-care sector does not seem to use available resources very effectively. To support these arguments, various indicators are compared between Central and South-eastern Europe on one side, and “old” EU member states on the other.<sup>1</sup> The comparisons in the text are done mainly at the level of regional averages, while tables in the Appendix provide country detail.

### 2.1 Health status of the population

The picture of the health status of the CEE population is mixed. Compared with the “old” Europe, life expectancy at birth in both Central and South-eastern Europe is about six years shorter for males as well as females (Table 1). Considering that per capita income in Central Europe was at 48 per cent of EU average (in PPP terms) in 2004, and in South-eastern Europe at a mere 24 per cent of EU average, this is not such a bad outcome, as life expectancy in both regions was just 8-9 per cent shorter for males and 5-7 per cent for females than in EU-15. Moreover, males and females in Central Europe can expect to be sick on average no longer than males and females in EU-15 (seven and nine years, respectively); for South-eastern Europe, there is one extra expected year of sickness for both sexes (Table 1).

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<sup>1</sup> The following conventions for designating European regions are used: Central Europe (or CE-8) comprises eight countries that joined EU in May 2004 (the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia); South-eastern Europe (SEE) comprises Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Macedonia, Romania and, depending on data availability, Serbia and Montenegro. CE-8 and SEE are also jointly referred to as Central and Eastern Europe, (CEE) as opposed to Western Europe (EU-15), *i.e.*, 15 countries that were members of EU before May 2004 (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Ireland, Luxembourg, the Netherlands, Portugal, Spain, Sweden, the United Kingdom).

Table 1

## Life Expectancy at Birth and Years of Healthy Life in Europe, 2004

	Life Expectancy at Birth (years)		Expected Years of Healthy Life		Expected Years of Sickness <sup>1</sup>	
	Males	Females	Males	Females	Males	Females
EU-15 <sup>2</sup>	76	82	69	73	7	9
CE-8 <sup>2</sup>	69	78	62	69	7	9
SEE <sup>2</sup>	70	76	62	66	8	10

<sup>1</sup> Calculated as the difference between life expectancy at birth and expected years of healthy life.

<sup>2</sup> Simple average for countries in the region (see text footnote 1 for definitions of regions).

Source: WHO (see Appendix, Table 5); author's calculations.

However, other health outcomes in CEE leave a lot to be desired. The infant mortality rates are significantly higher in CEE: 7 deaths per 1,000 live births in Central Europe and 13 in South-eastern Europe, compared with just 4 in EU-15. The adult mortality rate (*i.e.*, the probability of dying between the ages of 15 and 64) is more than twice higher for males in Central Europe than in EU-15 (234 vs. 113 deaths per 1,000 people); in South-eastern Europe, it is 70 per cent higher; and for females it is around 60 per cent higher in both Central and South-eastern Europe (Appendix, Table 5).

Furthermore, data on major causes of death suggest that preventable health risks are perhaps not taken into account as seriously in CEE as in EU-15. CEE countries have higher age-standardised mortality rates than EU-15 countries for non-communicable diseases, cardio-vascular diseases, cancer and injuries. For instance, in Central Europe there were 630 deaths from cardio-vascular diseases per 100,000 people in 2002, and in South-eastern Europe 732 deaths, compared with 185 in EU-15 (Table 5 in the Appendix).

These developments are probably related to the spread of unhealthy lifestyles over the past decade. For instance, in South-eastern Europe a quarter of the adult female population is overweight, which is almost double the average in EU-15 (Appendix, Table 6). In addition, prevalence of tobacco use is very high, especially among adolescents in Central Europe (29 per cent of girls and boys between the ages of 13-15 smoke) and males in South-eastern Europe (42 per cent are regular daily smokers). In terms of other health risk indicators (percentage of newborns with low birth weight; obesity among the adult male population; prevalence of tobacco use among females; alcohol consumption) the differences among Central, South-eastern and "old" Europe are not so pronounced, although there are many significant outliers in CEE (see Appendix, Table 6, for country details).

## 2.2 Demographic trends

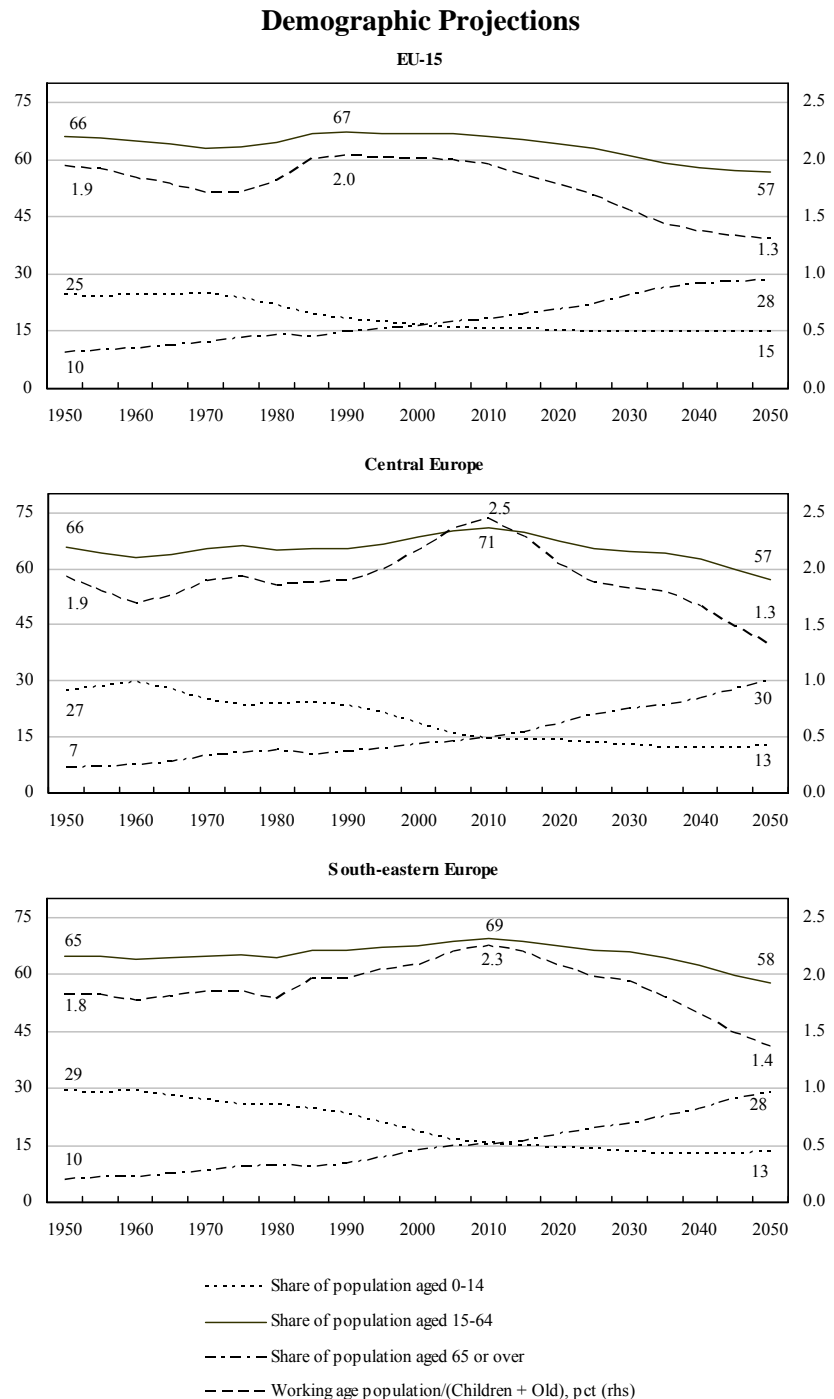
Population trends in CEE have been unfavourable for some time. Total population in Central Europe peaked in 1995 at around 74 million, and it is projected to decline by 20 per cent (to about 59 million) by 2050. In South-eastern Europe, total population peaked in 1990 at around

46 million, and it is projected to decline by almost 30 per cent (to 33 million) by 2050.<sup>2</sup> By comparison, total population in Western Europe will continue to increase until around 2035, when it is projected to peak at around 402 million.

The main reason for the declining population in CEE is the long-term decline in fertility rates: between 1996 and 2006 alone, the average fertility rate in Central Europe declined from 1.5 to 1.3 children per woman, and in South-eastern Europe from 1.7 to 1.3 children per woman (WHO, 2008). By contrast, in the “old” Europe the average fertility rate increased over this decade from 1.5 to 1.6 children per woman.

Another demographic trend that will affect the health-care sector and its financing is the rapid population ageing. At the start of the transition in 1990, the share of population aged 65 and over in total population was just 10 per cent in South-eastern Europe and 11 per cent in Central Europe, compared to 15 per cent

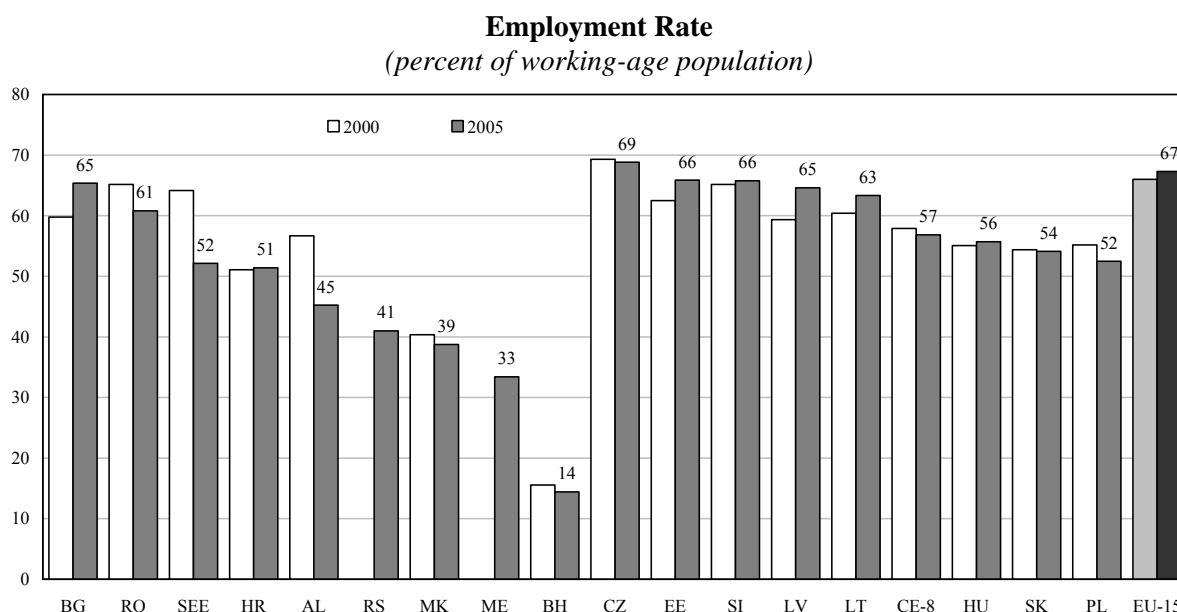
Figure 1



Source: UN, *World Population Prospects*, 2006.

<sup>2</sup> These figures do not include Serbia (population estimated at 7.4 million in 2006), Kosovo (1.9 million) and Montenegro (0.6 million), for which UN demographic projections are not available. However, demographic trends in these three economies are similar to those in SEE – total population has been declining since 1990.

Figure 2



Source: UN Economic Commission for Europe, author's calculations.

in EU-15 (Figure 1). By 2005, that share had already increased to 15 per cent in South-eastern Europe and 14 per cent in Central Europe (17 per cent in EU-15). According to the latest UN projections, the pace of population ageing will accelerate through the middle of this century, with the share of elderly reaching close to 30 per cent in all three regions by 2050.

The working-age population will peak in 2010, at 69 per cent of total population in South-eastern Europe (Figure 1, bottom panel) and at 71 per cent in Central Europe (middle panel). In EU-15, the share of the working-age population already peaked in 1990, at 67 per cent of total population (top panel). As a result, the ratio of working-age population to children and the elderly is projected to decline sharply between 2010 and 2050, from 2.5 to 1.3 in Central Europe (middle panel), and from 2.3 to 1.4 in South-eastern Europe (bottom panel). In EU-15, the decline in this ratio will be less pronounced, from 2.0 in 2010 to 1.3 in 2050 (top panel). In other words, whereas currently there are around 2½ persons of working age per each child and elderly in Central Europe, by 2050, other things equal, there will be only around 1¼ working persons available to support each “dependent” member of the population.<sup>3</sup>

In addition to unfavourable demographics, sustainability of health-care financing is also at risk because of some unresolved structural labour market issues in CEE. As noted above, the bulk of health-care financing in CEE comes from mandatory health insurance contributions, which are related to employment status. However, employment rates in CEE are very low, averaging 49 per cent in South-eastern Europe and 61 per cent in Central Europe, compared to around 67 per cent in EU-15 (Figure 2). Moreover, employment rates declined in SEE between 2000 and

<sup>3</sup> Dependent persons are meant to be those not paying a major part of their health-care costs through either employment related health insurance contributions or personal income or indirect taxes.

Table 2

## Labour Markets, Demographics and Burden of Health-care Financing

Country	Employed (percent of total population)	Ratio of Population Not Paying Health Insurance Contributions to the Number of Employed		
		Total Not Paying Contributions/ Employed	Elderly (65+)/ Employed	Unemployed/ Employed
Czech Republic	49	1.1	0.29	0.08
Hungary	38	1.6	0.40	0.08
Poland	37	1.7	0.36	0.22
Slovakia	39	1.6	0.30	0.21
Slovenia	46	1.2	0.34	0.07
Estonia	45	1.2	0.37	0.09
Latvia	45	1.2	0.37	0.10
Lithuania	43	1.3	0.36	0.09
Bulgaria	45	1.2	0.38	0.01
Croatia	35	1.8	0.50	0.15
Romania	42	1.4	0.35	0.08
Albania	30	2.4	0.28	0.17
Bosnia-Herzegovina	9	10.1	1.38	0.90
Macedonia	27	2.7	0.41	0.59
Montenegro	23	3.3	...	...
Serbia	28	2.6	...	0.48
<b>Central Europe<sup>1</sup></b>	<b>43</b>	<b>1.4</b>	<b>0.35</b>	<b>0.12</b>
<b>SEE<sup>1</sup></b>	<b>30</b>	<b>2.2</b>	<b>0.39</b>	<b>0.25</b>

<sup>1</sup> Simple average, for South-eastern Europe excluding Bosnia and Herzegovina.  
Sources: UN Economic Commission for Europe; WHO; author's calculations.

2005 by at least 4 percentage points, while in Central Europe they increased perceptibly only in the Baltic states.

As a result, the burden of health-care financing is very unevenly distributed. Only 43 per cent of the population in CE-8 and 30 per cent in SEE are contributing to social health insurance funds, while the remaining 60-70 per cent of the population – retirees, family members of insured persons, the unemployed and other non-active persons – pay for only a fraction of their health-care costs through indirect taxes and personal income tax, if any (Table 2). If CEE countries maintain such low rates of employment, the burden of health-care financing will clearly become unsustainable with the rapid ageing of the population over the coming decades.

The high proportion of retirees in CEE countries is also significant because the distribution of health expenditure by age is highly skewed towards older people. In the United States, for which the most comprehensive data are available, 36 per cent of total health-care expenditure is incurred by those 65 years and older, although their share in total population is only 12 per cent

(Hsiao, 2000). For CEE there are no comparable data, but for an illustration one can use data from Croatia, which show that expenditure on retirees and their families has accounted for about 43 per cent of total health insurance expenditure on average since 2000 (Croatian Institute for Health Insurance, 2006). This proportion can be expected to increase faster than the share of elderly in total population (currently at 16 per cent in Croatia) because demand for health care will increase with rising per capita income. The rising demand for health services in combination with a narrowing base for collecting health insurance contributions will further amplify the issue of sustainability of health-care financing systems.

### 2.3 Supply of health-care services

Viewed from the supply side, there are several indications that the health-care sector in CEE does not use the available resources effectively.

In the hospital sector, there is a pronounced oversupply of beds, ranging from about 600 to over 800 beds per 100,000 people, compared with about 560 on average in EU-15 (Appendix, Figure 7, first panel). This excess supply is partly a heritage of socialist health systems, and partly a consequence of the current system of hospital financing (discussed below).<sup>4</sup> The oversupply is also present to some extent in medical professions such as dentists (Appendix, Figure 7, third panel), nurses and midwives.

By contrast, the number of physicians in CEE is lower compared to Western Europe, ranging from under 100 to around 300 per 100,000 people, compared with around 330 in Western Europe (Appendix, Figure 7, second panel). This is also part of the legacy of socialist health systems and seems to reflect primarily the centralisation of health-care services in hospitals and the reliance on specialists rather than general practitioners in the past. According to transition country profiles compiled by the European Observatory on Health Systems and Policies, primary care was traditionally undervalued in former socialist countries, so much so that, at the start of the transition, the concept of a family physician or a general practitioner did not exist in countries such as Poland. Narrow specialties dominated the system and primary care physicians routinely referred patients to specialists for the conditions that have been treated by a general practitioner in Western Europe would. Patients also sometimes bypassed the primary health care on their own, and went straight to specialists, who usually had access to better medical equipment.

The imbalance between primary and secondary care is still very much felt today. In most Western European countries primary care facilities treat about three quarters of medical cases. In most CEE countries, they treat less than 50 per cent of all cases.<sup>5</sup> The imbalance has worsened in some respects over the past decade: the number of hospital admissions per 100 patients has increased in CEE by 1.4 patients since 1996, to 16.6 inpatient care admissions per 100, while in Western Europe this number has fallen slightly, to 17.7 inpatient care admissions per 100 (Table 3).

As a result of the bias towards hospital care, total inpatient expenditure as a percent of total health expenditure was higher in CEE than in EU-15 (39 per cent vs. 37 per cent on average over the past decade), and the average length of stay in hospitals was longer (10.1 days vs. 9.7 days) (Table 3). One should note, however, some positive developments in this area: the share of inpatient expenditure and the average length of stay in hospitals have both declined in CEE since 1996 (by 3½ percentage points and 3 days, respectively), and more so than in EU-15.

<sup>4</sup> For an overview of the legacy of the Soviet-style health-care systems, see Davis (2007) and Mihalyi (2000).

<sup>5</sup> Based on country reports published by European Observatory on Health Systems and Policies.

Table 3

## Selected Indicators of Health-care Expenditure and Efficiency in Europe

Indicator	Average <sup>1</sup>		Change <sup>2</sup>	
	CEE <sup>3</sup>	EU-15 <sup>4</sup>	CEE <sup>3</sup>	EU-15 <sup>4</sup>
<b>Total health expenditure, 1996-2005</b> (PPP\$ per capita)	633	2,306	11.5	5.4
<b>Public sector health expenditure, 1998-2004</b> (percent of total health expenditure) WHO estimates	70.3	74.5	-0.3	0.2
<b>Private households' out-of-pocket payment on health, 1998-2004</b> (percent of total health expenditure)	27.6	17.9	0.2	-0.1
<b>Total inpatient expenditure, 1996-2006</b> (percent of total health expenditure)	39.2	37.1	-3.5	-0.5
<b>Total pharmaceutical expenditure, 1996-2006</b> (percent of total health expenditure)	24.4	15.6	4.8	0.9
<b>Pharmaceutical expenditure, 1996-2005</b> (PPP\$ per capita)	263	323	7.9	6.2
<b>Outpatient contacts, 1996-2006</b> (per person per year)	6.8	5.5	0.30	0.46
<b>Inpatient care admissions, 1996-2006</b> (percent)	16.6	17.5	1.41	-0.04
<b>Average length of stay, all hospitals, 1996-2004</b> (days)	10.1	9.7	-3.0	-0.2
<b>Salaries, 1996-2006</b> (percent of total public health expenditure)	41.0	47.3	7.5	-0.1

<sup>1</sup> Unweighted country averages over periods shown in parentheses.

<sup>2</sup> For indicators in PPP\$ per capita, average annual percentage change over period shown in parentheses; for indicators in percentage of health expenditure, cumulative change over standardised 10-year period, in percentage points; for other indicators, increase (in given units) over standardised 10-year period.

<sup>3</sup> Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Montenegro, Poland, Romania, Serbia, Slovakia and Slovenia.

<sup>4</sup> Fifteen EU member states before 2004.

Source: WHO (Europe), European health for all database, November 2007.

A similar heritage of the past is the low number of pharmacists in CEE. Since medicines were typically dispensed by hospitals, the network of pharmacies was underdeveloped. To this day there is a striking difference between Western and eastern Europe in this regard: in the former, there are on average 80 pharmacists per 100,000 people; in the latter, about 65 at most, with some countries having less than 10 (Appendix, Figure 7, fourth panel).

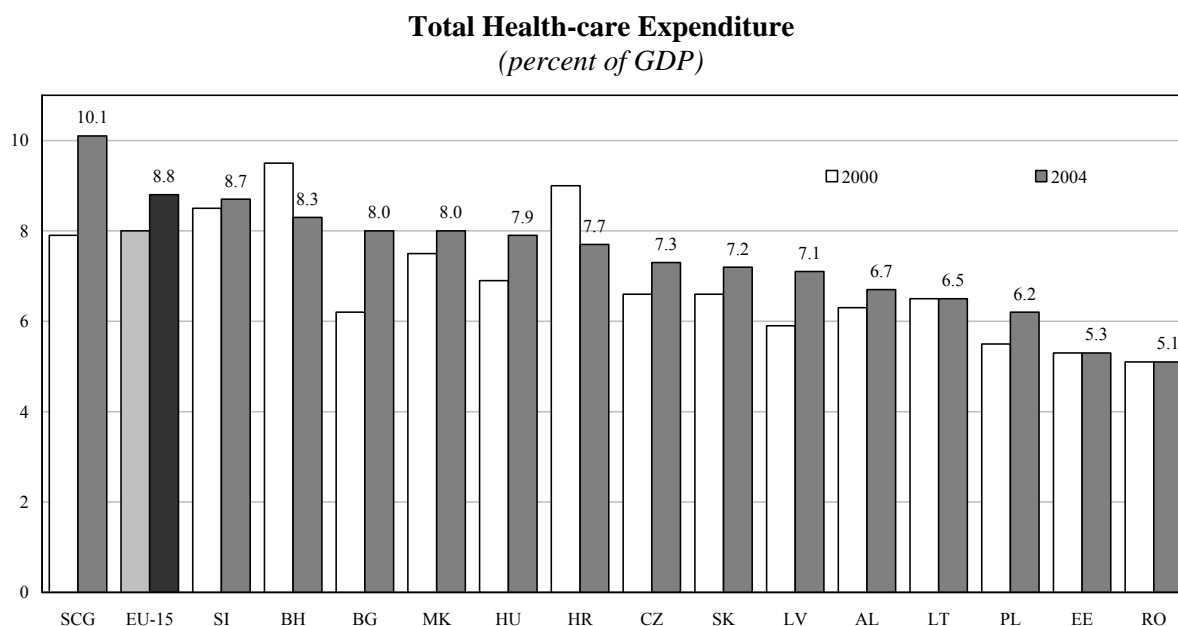
To understand how these few, admittedly crude, indicators of supply of health-care services relate to overall efficiency in health-care provision, one needs to consider some basic microeconomic and macroeconomic aspects of health-care financing.

### 3 Financing

Unfavourable trends in the health-care sector are often explained by the lack of resources devoted to this sector. However, CEE countries, as noted above, do not lag significantly behind



Figure 3



Source: WHO, 2006 World Health Report.

EU-15 in terms of the share of health-care expenditure in GDP: in South-eastern Europe, countries spent on average 7.7 per cent of GDP on health care in 2004; in Central Europe 7.0 per cent; and in Western Europe 8.8 per cent (Figure 3).

Rather than to the lack of funding, the unfavourable trends in the health-care sector can be traced to some flaws in the design of health-care financing at the microeconomic and macroeconomic levels. In other words, the relatively large resources that CEE countries devote to the health care are partly wasted because of inefficient financing arrangements.

### 3.1 Microeconomic aspects

#### 3.1.1 Primary health care

As the “gatekeepers” of the healthcare system, primary-care physicians play an influential role in determining the costs of health care by prescribing drugs and referring patients for specialist or hospital care. In most CEE countries, primary-care physicians are paid on the basis of “capitation” payments, *i.e.*, flat fees per patient per year.

This system was put in place in many countries as a temporary measure in the early 1990s, partly because of ease of administration and because it prevents over-billing. However, what has been apparently overlooked is that this system provides an incentive to physicians to sign up as many patients as possible. As a result, physicians might end up with too many patients for the limited amount of time they have. This might in turn lead to rationing of services to free up time to see more patients. Some preventative care might be cut back; more patients might be referred to specialists than would otherwise be the case (as this would save the primary-care doctor time for

more detailed check-ups); and medicines might be prescribed more liberally. An additional reason for the shifting of healthcare provision to secondary and tertiary facilities is that capitation payments do not allow most primary care doctors to outfit their offices with adequate medical equipment, so they are more or less forced to send patients to clinics and hospitals.

Several indicators of health-care expenditure in CEE confirm this broad picture. The number of outpatient contacts in CEE was almost 25 per cent higher on average than in EU-15 over the past decade (6.8 vs. 5.5 contacts per person per year) (Table 3). Pharmaceutical expenditure was significantly higher in CEE than in EU-15: it accounted for 24 per cent of total health-care expenditure on average during 1996-2006, compared with 16 per cent in EU-15. Pharmaceutical expenditure also increased much faster than in EU-15, both as a percentage of total health expenditure and in per capita terms adjusted for purchasing power.

At the other end of the health-care chain, the number of inpatient care admission, as already noted, has increased faster, and on average accounted for a higher proportion of health-care expenditure in CEE than in Western Europe. And because much of the treatment that could have been done in primary care has shifted towards more sophisticated and expensive forms of health care, the overall costs per capita have increased almost twice as fast as in EU-15, by 11.5 per cent per annum on average during 1996-2005, compared with 5.4 per cent per annum on average in Western Europe.

### 3.1.2 Hospital financing

The hospital payment system in CEE countries usually involves a combination of flat fees per bed per day (for patient accommodation); fees for physicians' services; and separate compensation for pharmaceuticals and other materials. In addition, hospital budgets are often limited by a "global ceiling", with hospitals being subject to financial penalties if they exceed the ceiling.<sup>6</sup>

These hospital financing methods have some serious flaws. Capacity-based payments encourage hospitals to keep the beds full and extend the length of stay, since high occupancy results in steady funding based on the per diem reimbursement. Low occupancy rates also increase the risk that the global ceiling on the hospital budget might be lowered the following year. As noted above, the average length of stay in all hospitals was indeed longer in CEE than in EU-15 during the past decade, although it decreased over this period.

Reimbursing physicians on a fee-for-service basis is an improvement compared with flat fees in primary care. However, this system works properly only if the fees are set at levels that provide reasonable compensation for material and labour costs, and if bills hospitals submit are properly monitored and audited. For many CEE countries there is no solid evidence that these conditions are fulfilled, as evidenced, among other, by the widespread practice of "under-the-table payments" to physicians and other medical staff (Dixon *et al.*, 2007; Bredenkamp ad Gragnolati, 2007; OECD, 2008). Another recent example has been proliferation of the so-called "code creep" under the hospital payment system based on diagnostic groups.<sup>7</sup>

<sup>6</sup> For country details, see reports of European Observatory on Health Systems and Policies, and public expenditure reviews of the World Bank.

<sup>7</sup> Under this system, patients are categorised on the basis of diagnoses and resources needed for their hospital treatment. This system can help reduce costs to the health insurance compared with the fee-for-service scheme, but introduces incentives that might give rise to high costs, such as categorising patients into more complex and therefore more expensive diagnostic groups.

More generally, the prevailing hospital payment methods do not provide an incentive for hospitals to increase productivity: the health insurance funds essentially reimburse hospitals for inputs used rather than outcomes. Hospital management therefore has little incentive to try to economise on inputs and realise higher net income for distribution to owners, *i.e.* central and local governments, or to hospital employees. On the other hand, when hospitals are faced with an unexpected rise in costs that might break the overall budget limit, the management typically cannot adjust staffing levels and often has to implement ad hoc cost-saving measures such as restricting the use of medications or procedures (World Bank, 2004). This has contributed to much faster growth of salaries as a proportion of total public health expenditure in CEE (a cumulative of 7.5 percentage points on average over 1996-2006) than in EU-15 (-0.1 points) (Table 3).

### 3.1.3 Co-payments

Co-payments for primary care, outpatient specialist care, inpatient care and for pharmaceuticals are a common feature of the healthcare systems in Western Europe. A well-known study by OECD (2004a) concluded that establishing modest cost-sharing requirements may be appropriate when policymakers wish to reduce the burden on the public budget. Health-care services in CEE countries are not entirely free, either: in most cases, patients are required to pay to access health services through a system of co-payments for different types of treatment and medicines. The authorities often emphasise the role of co-payments as a means of increasing the share of private health-care financing (Jevčák, 2006). However, the contribution of co-payments to the overall health budget has been limited, as large segments of the population are exempt from making the payments.<sup>8</sup> And where higher co-payments were introduced (eg, Hungary, Poland, Slovakia), setbacks in terms of lowering of co-payments, extending the coverage of exempt categories etc. were common. The most recent case was repeal of some co-payments in a referendum in Hungary in 2008 (discussed below).

More generally, there is often no reimbursement by social health insurance funds for treatment provided by dentists and physicians in private practice. As a result, the share of private payments in total health-care expenditure is often substantial (see below), with negative consequences for equity in access to health-care services.

## 3.2 Macroeconomic aspects

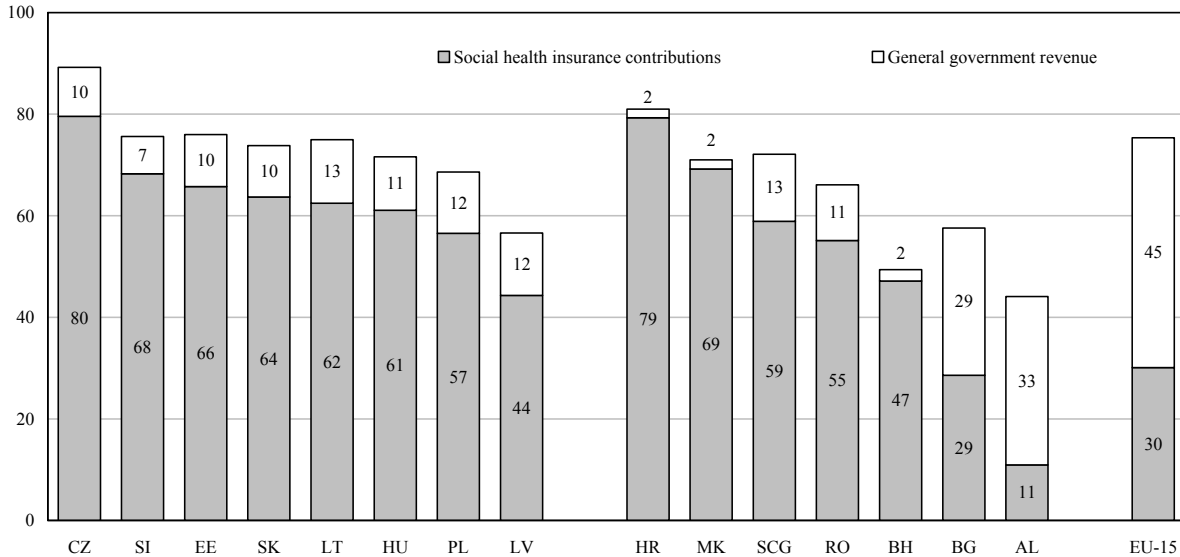
### 3.2.1 Public expenditure

Public sector expenditure in CEE accounted on average for 70 per cent of total health-care expenditure during 1998-2004, compared with 75 per cent in EU-15 (Table 3 and Appendix, Table 7). As noted above, health-care systems in CEE are financed predominantly through social health insurance contributions, *i.e.*, payroll taxes earmarked for health insurance. Within general government expenditure, social health insurance accounts for 85 per cent of total health-care expenditure in Central Europe, and 76 per cent in South-eastern Europe (Figure 4). This is significantly higher than in Western Europe because many EU-15 countries (Denmark, Finland, Ireland, Italy, Portugal, Spain, Sweden and the United Kingdom) finance all or most of their health-care expenditure from general government revenue rather than health insurance

<sup>8</sup> In Croatia, for instance, the exempt categories represent almost two-thirds of the population; they include children and students, retirees, the unemployed, people receiving minimum income, recruits in mandatory military service and war veterans.

Figure 4

**General Government Expenditure on Health Care**  
(percent of total health-care expenditure)



Source: WHO, 2006 World Health Report.

contributions. The only CEE countries where health insurance contributions are not the main source of health-care financing are Albania and Bulgaria.

The basic contribution rates for mandatory health insurance vary widely, from around 3-6 per cent in Albania and Bulgaria, to 15-17 per cent in former Yugoslav republics (Table 4). In some countries, contributions are paid only by employers; in Poland, only by employees; in others, they are shared in different proportions between employers and employees. Who exactly bears the burden of health contributions (and what part of it) – whether the employer at the expense of profits or workers at the expense of wages – cannot be determined because there has been no systematic research on the incidence of payroll taxes, or on elasticity of labour demand and supply with respect to these taxes.

However, one can assume that health-care contributions increase the cost of labour regardless of who pays them. This encourages employers to hire workers on temporary contracts, to hire workers without registering them, or to substitute capital for labour. Such practices affect in particular the young, female workers and those who, because of fear of unemployment, are not satisfied with their current jobs but do not actively seek other jobs in which they could be more productive. If health insurance costs for employers were partly reduced and shifted to the government budget, labour costs would be proportionately reduced without reducing net wages, which would most likely encourage employers to create new jobs. Health insurance reform is thus closely related to the issues of labour market flexibility and opportunities for increased employment.

A special problem has been widespread *payment arrears*, usually to wholesale distributors of pharmaceuticals, and *hospital debt*. For instance, in 2006 Croatian government took a commercial bank loan equivalent to 6 per cent of the state health insurance fund revenue to pay

Table 4

## Social Health Insurance Contribution Rates

Country	Contribution Rate for Salaried Workers (percent of payroll)	Employer: Employee shares	Contribution Rates for Self-employed
Czech Republic	13	66:33	13½-35 per cent of net pre-tax income
Hungary	14	79:21	14 per cent of declared income plus lump-sum
Poland	7¾	0:100	7½ per cent of declared income
Slovakia	13¾	50:50	13.7 per cent of declared income
Slovenia	13¾	53:47	13¾ per cent of declared income
Estonia	13	100:0	13 per cent of declared income
Bulgaria	6	75:25	
Croatia	15	100:0	7½-15 per cent of declared income
Romania	14	50:50	7 per cent of declared income
Albania	3.4	50:50	7 per cent of statutory minimum wage
Bosnia-Herzegovina <sup>1</sup>	17/15	24:76/0:100	15 per cent of cadastre revenue
Macedonia	9.2	100:0	9.2 per cent of declared income
Montenegro	15	50:50	13.5 per cent of main wage
Serbia	15.9	50:50	14.4 per cent of net wage (farmers 4 per cent of property tax)

<sup>1</sup> The first entry refers to Federation of Bosnia and Herzegovina; the second to Republika Srpska.  
Sources: Bredenkamp and Gragnolati (2007); Dixon *et al.* (2004); Preker *et al.* (2002).

back the old arrears *vis-à-vis* health-care suppliers (World Bank, 2004). Usually, the authorities wait until payment arrears and debt accumulate to a point where they threaten to bring about a collapse of a part of the health-care system, and then take some ad hoc measure to solve the problem temporarily.

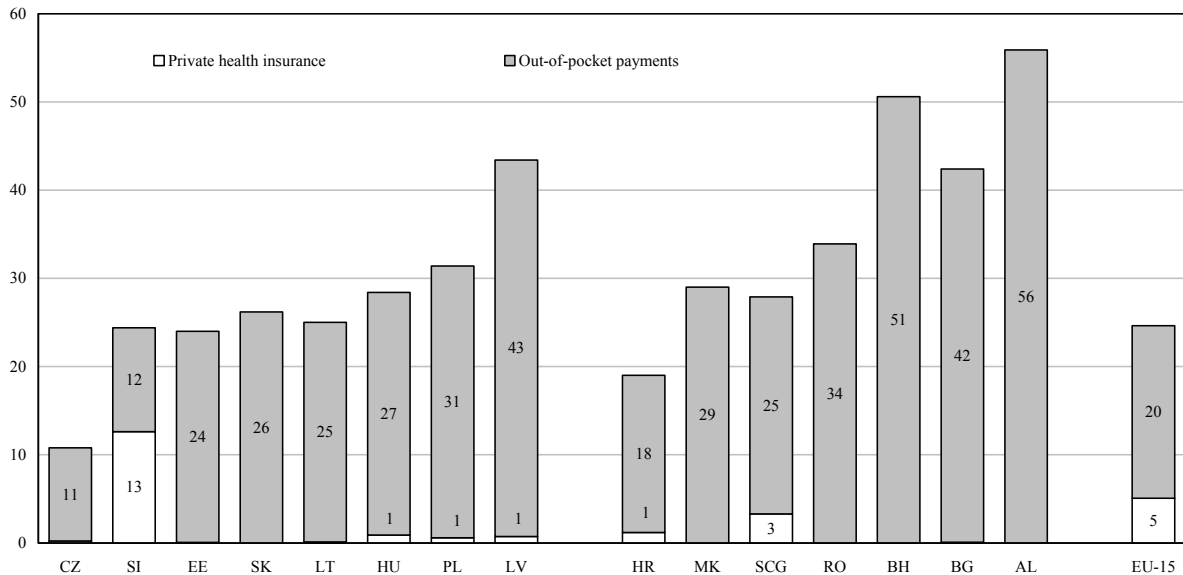
### 3.2.2 Private expenditure

*Private expenditure* on health care accounted on average for 28 per cent of total health-care expenditure in Central Europe and 37 per cent in South-eastern Europe (vs. 25 per cent in EU-15) (Figure 5 and Appendix, Table 7). Countries that rely to a considerable extent (*i.e.*, 30-60 per cent of the total) on private financing of health care include Albania, Bosnia and Herzegovina, Bulgaria, Latvia, Poland and Romania. Croatia and the Czech Republic had the lowest shares of private expenditure on health care (19 and 11 per cent, respectively).

Almost the entire amount of private health-care expenditure – 84 per cent in Central Europe and 76 per cent in South-eastern Europe in 2004 – was in the form of out-of-pocket payments. Out-of-pocket payments were also higher on average during 1998-2004 (28 per cent of total health-care expenditure in CEE compared with 18 per cent in EU-15; Table 3). Private health

Figure 5

**Private Expenditure on Health Care, 2004**  
(percent of total health-care expenditure)



Source: WHO, 2006 World Health Report.

insurance is developed only in Slovenia, where it accounted for 52 per cent of private expenditure on health care in 2004 (Figure 5).<sup>9</sup>

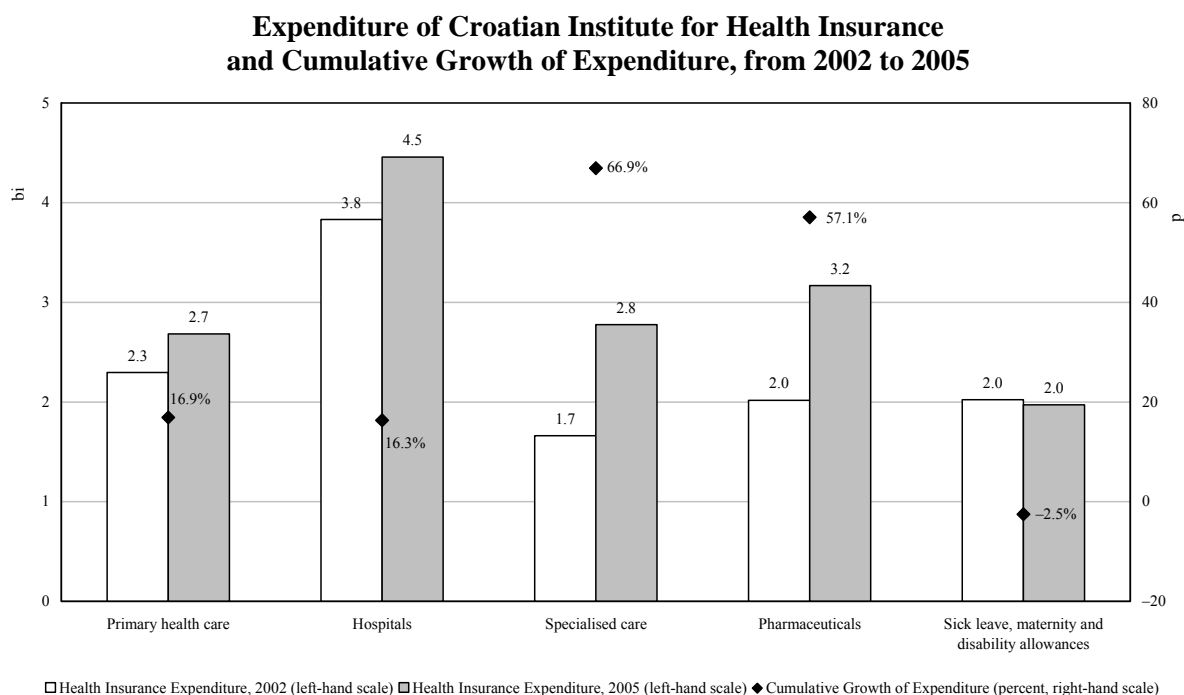
The fact that patients in CEE generally pay a higher proportion of private health-care spending out of their own pockets than patients in EU-15 suggests that an important aspect of health-care financing reforms ought to be shifting a part of health insurance activities from social health insurance funds to private health insurance companies. For instance, in many CEE countries supplementary health insurance policies are provided exclusively by social health insurance funds.

#### 4 Reform experiences

The health-care sectors in CEE have been in a state of more or less permanent change since the early 1990s. While initial reforms focused on the transformation of the system inherited from the period of socialism (Johnston, 2002), reforms in recent years have for the most part focused on various aspects of health-care financing (such as containing spending from public sources by reducing payroll contribution rates, limiting benefits and increasing the share of private costs); and improving efficiency (eg, through reorganisation of the health-care delivery system and devolution of greater responsibilities in primary and secondary care to the local authorities) (Dixon *et al.*, 2004; Dulitzky and Hou, 2007; Jevčak, 2006; Pažitny *et al.*, 2005; Shakarishvili and Davey, 2007).

<sup>9</sup> Private health insurance also began to develop in Croatia (6 per cent of private health-care expenditure, based on WHO estimates), the Czech Republic (2 per cent), Hungary (3 per cent), Poland (2 per cent) and Serbia and Montenegro (12 per cent).

Figure 6



Source: Mihaljek (2007).

One illustration of the latest round of reform attempts comes from *Croatia*. As shown in Figure 6, the fastest rising components of health-care expenditure between 2002 and 2005 were spending on specialised care, which expanded by 67 per cent (*i.e.*, at an average annual rate of 19 per cent) and pharmaceuticals, which increased by 57 per cent (*i.e.*, at an annual rate of 16 per cent). The costs in primary and hospital care were more or less contained, while expenditure on sick leave, maternity leave and disability allowances declined 2.5 per cent.

The key measures aimed at containing the rise in spending on pharmaceuticals in the reform launched in 2006 were the introduction of a more restricted list of medicines that could be obtained without co-payment, and the inclusion of a larger number of generic drugs on this list. According to official estimates, this measure was expected to result in annual savings of about 10 per cent of spending on pharmaceuticals (Croatian Ministry of Health and Social Care, 2006). However, according to media reports pharmaceutical expenditure increased and payment arrears to wholesale providers continued to accumulate. The macroeconomic aspects of health-care financing have not at all been addressed by this reform, nor has much thought been given to eliminating other microeconomic distortions in healthcare financing (with the partial exception of primary care, but without any plan for implementation).

A more successful case so far has been *Hungary*, where a broad range of health-care reforms was introduced in 2006 and 2007 as part of a major fiscal consolidation plan. It included reform of the pharmaceutical market; a restructuring of hospital care; the introduction of a formal, transparent system of waiting lists in hospitals; a considerable increase in co-payments for pharmaceuticals; the

introduction of co-payments for primary care, outpatient care and inpatient care; and a more effective enforcement of the payment of health insurance contributions (OECD, 2008).

The measures made an important contribution to fiscal consolidation: the Health Insurance Fund closed 2007 with a first-ever surplus in 15 years of operation and the overall spending on medical goods was 13 per cent lower in real terms than in the previous year. The total net budgetary savings of the reforms in the health sector amounted to 0.4 per cent of GDP in 2007, of which 72 per cent was accounted for by savings on pharmaceutical expenditure, 14 per cent by the introduction of co-payments for health services, and 14 per cent by the increase of revenues from insurance contributions (OECD, 2008).

Of particular interest has been the introduction of co-payments: a “visit fee” in primary and outpatient care and a “hospital daily fee” in inpatient care were intended as a symbolic end to free-of-charge health care. The system was introduced relatively smoothly. The revenue from visit fees and hospital daily fees, however, provided about 40 per cent less than expected. One reason could have been a wide-ranging system of exemptions and compensation, covering around 40 per cent of the population. But even with these deficiencies, Hungary’s new system of co-payments would have marked a major step in health-care reforms in CEE. Unfortunately, it has fallen victim to political antagonisms, as the main opposition party initiated and in spring 2008 won a referendum to repeal co-payments.

A fundamental shortcoming of recent reform efforts has been failure to raise the issue of the healthcare costs of the ageing population. Research for European countries indicates that demands on health insurance resources in order to finance expenditure related to ageing population and *long-term care* for the elderly will increase massively. OECD (2006) projections suggest that, in the absence of policy action, public spending on health care and long-term care in the major industrial countries could surge from an average 7 per cent of GDP in 2005 to 13 per cent in 2050. In Central Europe, projected changes in age-related public expenditure between 2004 and 2050 (under the baseline scenario) range from 1 per cent of GDP in the Baltic states and Hungary, to 2 per cent of GDP in the Czech Republic and Slovakia (European Commission, 2006). The current “fire-fighting” problems of the authorities in CEE pale in comparison with the challenges that these long-term developments will pose. One can also expect that distributive issues will increasingly arise if public health-care systems are unable to provide sufficient and efficient progress to meet the health-care and long-term care issues.

## 5 Concluding remarks

One fairly clear recommendation for health-care reform in CEE that can be derived from the preceding analysis is the need to increase the share of general tax revenues in the financing of healthcare expenditure. With few exceptions, CEE countries rely disproportionately on payroll taxes to finance health-care expenditure, with negative consequences for the cost of labour and labour markets in general. Increasing the share of general tax revenues is feasible both with and without offsetting changes in budgetary expenditure other than health care: EU candidates and potential candidates from South-eastern Europe will anyway have to reduce spending on items such as economic subsidies as part of the EU accession process, while the new member states can receive substantial funding from the EU structural funds for the modernisation of the health-care infrastructure.

The main requirement for changing the mix of macroeconomic sources of health-care financing would be to determine what proportion of healthcare costs for the large populations who



are not employed would be covered from central and local government budgets, and what proportion would be covered from health insurance contributions. Many citizens who do not pay contributions – in particular the elderly – are heavy users of health-care services and already contribute to the tax revenue through the value-added tax and excises (and, in some cases, personal income taxes). Therefore, from both equity and efficiency perspectives it makes sense to use more of the tax revenue to finance their health care. Hungary, for instance, introduced in 2006 a regulation on contribution payment by the central government on behalf of around 5.9 million pensioners and persons receiving different social allowances, thus increasing substantially the revenue of the health insurance fund.

Regarding microeconomic aspects of health-care financing, the escalation of costs of pharmaceuticals and specialised care in many CEE countries can be traced to inappropriate incentives provided to primary health care under the system of flat fees per patient. What seems needed instead is a system of payments under which primary-care providers would have an incentive to act as true “gatekeepers” of the healthcare system. One possibility could be to replace the flat-fee payments with fee-for-service payments based on the points system, with appropriate monitoring and auditing of bills submitted by primary care providers. This system is widely used in continental European countries and would probably be more effective in checking the rise in expenditure on pharmaceuticals and specialised care than the series of piecemeal cost-containment measures introduced over the years.

In addition, the functions of monitoring and auditing financial operations of healthcare institutions are apparently neglected and would need to be significantly strengthened (Dulitzky and Hou, 2007). The authorities worldwide are working harder at getting better value for the money they provide to hospitals and specialised care institutions (Saltman, 2002). Healthcare expenditure is rising not just because of new technologies and rising demand, but also because the healthcare sector is dominated by powerful providers – pharmaceutical and medical technology companies, hospitals and influential doctors – who find it easy to pass on the costs from new medical technologies to the state (Hsiao, 2000). The overriding goal of recent healthcare reforms in developed market economies is therefore to ensure more effective use of public funds. One approach could be to introduce more competition into healthcare markets, for instance, by allowing hospitals to keep financial surpluses and reinvest them in services they provide.

A complementary approach would be to encourage – rather than discourage with various burdensome regulations – the private sector to provide more healthcare services. Private health insurance companies should also be able to fund a larger portion of private health-care costs if the quasi-monopoly of social health insurance funds was relaxed. One should keep in mind, however, that institutional and regulatory requirements for greater role of the private sector in health-care provision, and of health insurance companies in health-care financing, can be quite demanding (see OECD, 2004b; and WHO, 2006).

Another major area that has seen little progress in CEE over the years is reform of the co-payments system. Co-payments generally contribute little to overall health budgets; they are difficult to administer because of many exemptions; and are disliked by the public. Yet having people participate in bearing the costs of health care is a key step of health-care reform. Health is not a free resource and the society does not benefit from unused medicines and unnecessary visits to the doctor. If people understand that each time they visit a doctor someone – including themselves – has to pay to cover the costs, such waste can be reduced. Co-payments should thus be understood as user fees – the cost of accessing the system of health care, similar to road tolls as the cost of accessing the system of highways. For their part, the authorities should contribute to this

understanding by making much more serious, frequent and visible efforts targeted at the prevention of major health risks related to unhealthy lifestyles.

Finally, it seems worth emphasising that a key factor for the success of healthcare reforms is the authorities' ability to manage political economy aspects of the reform. Unlike the effects of pension reform, which are delayed and are felt by only one segment of the population at a time, the effects of health-care reform are felt immediately by the entire population. The authorities therefore need to manage expectations of different stakeholders in health-care reform much more carefully and actively. The authorities need in particular to elaborate a clear vision of health-care reform at centre of which stands good health for all citizens, rather than narrow interests of selected stakeholders. Progress in this direction depends critically on political consensus, which unfortunately seems elusive at the moment given that most countries in the CEE region are governed by relatively weak and unstable coalitions.

Finally, one should emphasise that the technical complexity of healthcare policy and reform should not be underestimated. Economists and healthcare experts in CEE should therefore make a more substantive contribution to health-care reform than has been the case so far.

APPENDIX

Table 5

Mortality Indicators

Country	Life Expectancy at Birth <sup>a</sup> (years)		Healthy Life Expectancy (HALE) at Birth <sup>b</sup> (years)		Probability of Dying per 1,000 Population Between 15 and 60 years <sup>a</sup> (Adult Mortality Rate)		Infant Mortality Rate <sup>c</sup> (per 1,000 live births)	Age-standardized Mortality Rate by Cause <sup>d,e</sup> (per 100,000 population)				Years of Life Lost by Broader Causes <sup>d,f</sup> (percent)		
	Males 2004	Females 2004	Males 2002	Females 2002	Males 2004	Females 2004	Both sexes 2004	Non-communicable Diseases	Cardio-vascular Diseases	Cancer	Injuries	Communicable Diseases <sup>g</sup>	Non-communicable Diseases	Injuries
								2002	2002	2002	2002	2002	2002	2002
Albania	69	74	59	63	171	96	16	814	537	154	64	17	63	20
Bosnia and Herzegovina	70	77	62	66	188	88	13	699	492	121	43	7	81	13
Bulgaria	69	76	63	67	217	92	12	756	554	125	42	5	87	9
Croatia	72	79	64	69	160	66	6	613	356	167	48	5	84	11
Czech Republic	73	79	66	71	161	69	4	568	315	177	50	3	83	13
Hungary	69	77	62	68	249	108	7	695	364	201	67	3	85	12
Macedonia	69	76	62	65	198	84	13	745	504	145	74	8	72	20
Poland	71	79	63	68	198	79	7	593	324	180	53	4	81	15
Romania	68	76	61	65	232	100	17	728	479	141	56	11	77	12
Serbia and Montenegro	70	75	63	65	191	98	13	767	508	149	36	7	85	8
Slovakia	70	78	63	69	203	76	7	636	371	170	50	4	81	14
Slovenia	73	81	67	72	158	67	4	503	228	160	59	4	80	17
EU-15 <sup>h</sup>	76	82	69	73	113	58	4	429	185	138	37	6	81	13
CE-8 <sup>i</sup>	69	78	62	69	234	91	7	630	364	169	87	5	77	19
SEE <sup>j</sup>	70	76	62	66	194	89	13	732	490	143	52	8	78	13

Notes and sources:

<sup>a</sup> World Health Organization (2006), *The World Health Report 2006: Working Together for Health*, Geneva. (<http://www.who.int/whr/2006/annex/en>).

<sup>b</sup> World Health Organization (2004), *The World Health Report 2004: Changing History*, Geneva. (<http://www.who.int/whr/2004/en/index.html>).

<sup>c, e</sup> WHO Mortality Database. World Health Organization. (<http://www.who.int/healthinfo/morttables/en/index.html>); (ii) UNICEF. State of the World's Children 2006.

<sup>d</sup> World Health Organization (2004), *Mortality and Burden of Disease Estimates for WHO Member States in 2002*, December. (<http://www.who.int/entity/healthinfo/statistics/bodgbdddeathdalyestimates.xls>)

<sup>e</sup> Rates are age-standardized to the WHO world standard population. Source: [http://www3.who.int/whosis/discussion\\_papers](http://www3.who.int/whosis/discussion_papers)

<sup>f</sup> Sum of individual proportions may not add up to 100 per cent due to rounding.

<sup>g</sup> Communicable diseases include maternal causes, conditions arising in the perinatal period and nutritional deficiencies.

<sup>h</sup> Average for 15 "old" members of the EU.

<sup>i</sup> Average for the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia.

<sup>j</sup> Average for Bosnia and Herzegovina, Bulgaria, Croatia, Macedonia, Romania, Serbia and Montenegro.

Table 6

## Selected Health Risk Indicators

Country	Percentage of Underweight Newborns at Birth <sup>a</sup> (both sexes)	Adults (≥15) Who Are Obese <sup>b</sup> (percent)			Regular Daily Smokers <sup>c</sup> (percent)					Alcohol Consumption (per capita per year, in litres) <sup>f</sup>
		Males	Females	Year	Adolescents (13-15) <sup>d</sup> (both sexes)		Males	Adults (≥15) <sup>e</sup>		
					Year	Year		Males	Females	
Albania	3	...	...	...	13	2004	60	18	2000	2.3
Bosnia and Herzegovina	4	16.5	25.2	2002	...	...	49	30	2002	10.1
Bulgaria	10	...	...	...	34	2002	44	23	2001	5.9
Croatia	6	21.6	22.7	2003	19	2003	34	22	2003	12.3
Czech Republic	7	13.7	16.3	2002	35	2002	31	20	2003	16.2
Hungary	9	19.6	18.0	2003	28	2003	37	25	2004	13.8
Macedonia	5	14.3	36.3	1999	9	2003	40	32	1999	5.7
Poland	6	15.7	19.9	2001	20	2003	37	23	2006	8.2
Romania	9	7.7	9.5	2000	18	2004	33	10	2006	8.9
Serbia	...	14.4	20.0	2000	...	...	31	23	2006	...
Slovakia	7	13.5	15.0	2002	27	2003	41	15	1998	11.6
Slovenia	6	16.5	13.8	2001	24	2003	24	22	2005	10.3
EU-15 <sup>g</sup>	7	13.1	13.2	2002	16	2005	37	25	2003	11.2
CE-8 <sup>h</sup>	6	14.9	16.7	2002	29	2003	38	19	...	12.1
SEE <sup>i</sup>	6	14.9	22.7	2001	19	2003	42	23	...	7.5

Notes and sources:

... Data not available or not applicable.

<sup>a</sup> 2000-2002. Low Birth Weight: country, regional and global estimates. United Nations Children's Fund and World Health Organization, New York (2004). ([http://www.who.int/reproductive-health/publications/low\\_birthweight/low\\_birthweight\\_estimates.pdf](http://www.who.int/reproductive-health/publications/low_birthweight/low_birthweight_estimates.pdf)).

<sup>b</sup> World Health Organization, *WHO Global Database on Body Mass Index (BMI)*. (<http://www.who.int/bmi>). Comparisons between countries may be limited due to differences in definitions, sample characteristics, or survey years.

<sup>c</sup> In adolescents, data relate to daily or occasional tobacco use, while in adults they relate to daily or occasional tobacco smoking. Comparisons between countries may be limited due to differences in definitions, sample characteristics, or survey years.

<sup>d</sup> World Health Organization, *Global NCD InfoBase/Online Tool*. ([http://www.who.int/ncd\\_surveillance/infobase/en](http://www.who.int/ncd_surveillance/infobase/en)).

<sup>e, i</sup> World Health Organization, *Global NCD InfoBase/Online Tool*. ([http://www.who.int/ncd\\_surveillance/infobase/en](http://www.who.int/ncd_surveillance/infobase/en)); (ii) Results from the World Health Survey. World Health Organization. (<http://www.who.int/healthinfo/survey/en>).

<sup>f</sup> Total recorded and unrecorded consumption per adult (15 years and older), in litres of pure alcohol, 2003.

<sup>g</sup> Average for 15 "old" members of the EU.

<sup>h</sup> Average for the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia.

<sup>i</sup> Average for Bosnia and Herzegovina, Bulgaria, Croatia, Macedonia, Romania and Serbia.

Table 7

Health-care Expenditure<sup>a</sup>

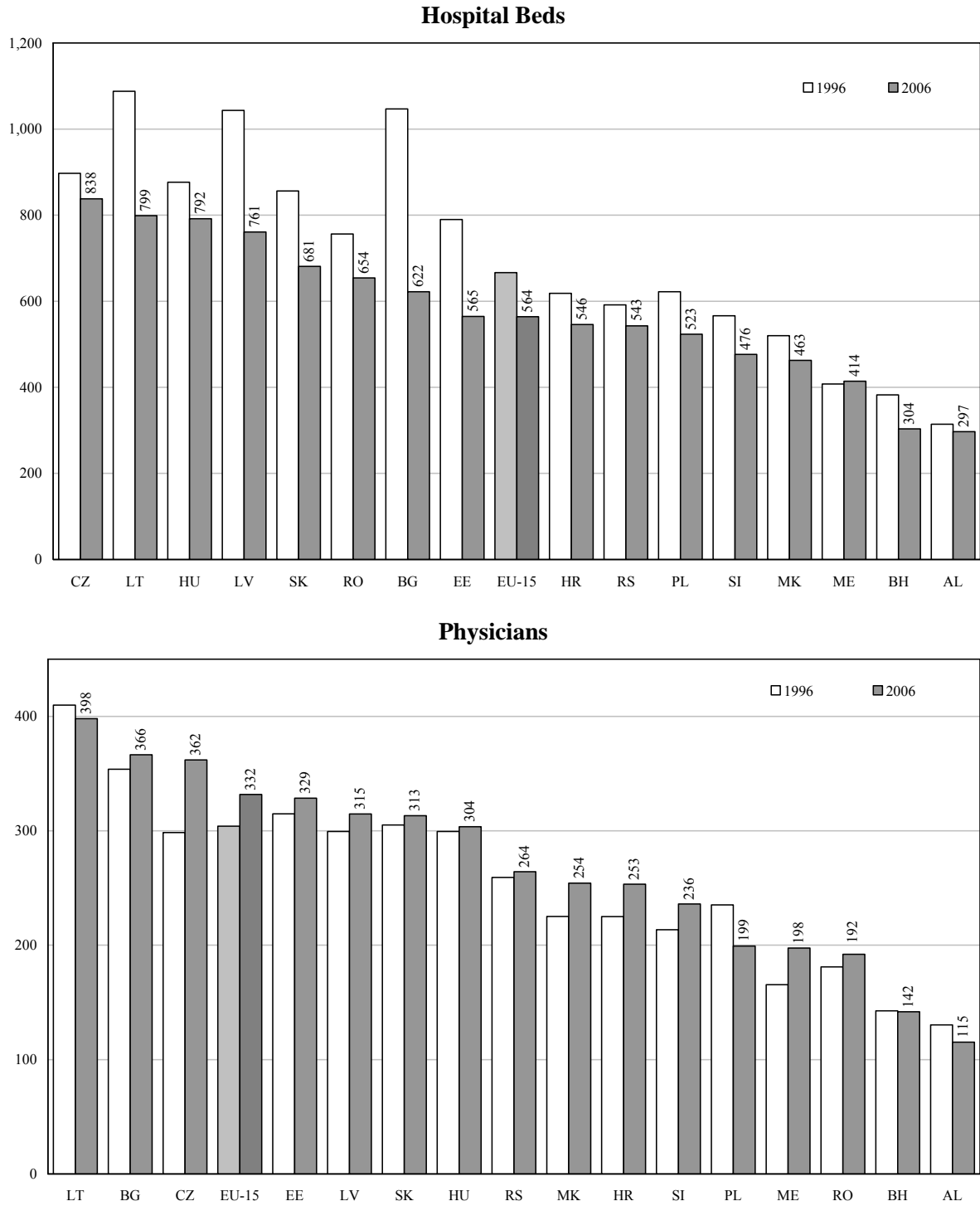
Country	Total Expenditure on Health Care	General Government Expenditure on Health Care	Private Expenditure on Health Care	General Government Expenditure on Health Care	Social Health Insurance Expenditure	Out-of-pocket Expenditure	Private Health Insurance Plans	Per capita Total Health-care Expenditure	
	(percent GDP) <sup>a</sup>	(percent of total health-care expenditure)		(percent of general government expenditure)	(percent of general government expenditure on health care)	(percent of private expenditure on health care)		(at average exchange rates USD)	(at PPP exchange rates USD)
	2004	2004	2004	2004	2004	2004	2004	2004	2004
Albania	6.7	44.1	55.9	10.0	24.8	99.8	0.0	157	339
Bosnia and Herzegovina	8.3	49.4	50.6	9.8	95.4	100.0	...	198	603
Bulgaria	8.0	57.6	42.4	11.6	49.6	98.0	0.2	251	671
Croatia	7.7	81.0	19.0	14.1	97.9	93.8	6.2	609	917
Czech Republic	7.3	89.2	10.8	14.6	89.2	95.5	2.1	771	1,412
Estonia	5.3	76.0	24.0	11.5	86.5	88.8	0.3	463	752
Hungary	7.9	71.6	28.4	11.6	85.3	88.0	3.2	800	1,308
Latvia	7.1	56.6	43.4	11.1	78.3	98.3	1.7	418	852
Lithuania	6.5	75.0	25.0	15.8	83.3	96.8	0.5	424	843
Macedonia	8.0	71.0	29.0	17.1	97.5	100.0	...	212	471
Poland	6.2	68.6	31.4	10.0	82.4	89.6	1.9	411	814
Romania	5.1	66.1	33.9	11.1	83.4	93.4	0.0	178	433
Serbia-Montenegro	10.1	72.1	27.9	14.0	81.7	88.2	11.8	219	436
Slovakia	7.2	73.8	26.2	13.7	86.3	73.1	0.0	565	1,061
Slovenia	8.7	75.6	24.4	13.8	90.3	39.5	51.7	1,438	1,815
EU-15	8.8	75.4	24.6	14.3	39.9	71.3	20.6	2,942	2,663
CE-8 <sup>b</sup>	7.0	73.3	26.7	12.8	85.2	83.7	7.7	661	1,107
SEE <sup>b</sup>	7.7	63.0	37.0	12.5	75.8	96.2	3.6	261	553

<sup>a</sup> World Health Organization (2006), *The World Health Report 2006: Working Together for Health*, Geneva. (<http://www.who.int/whr/2006/annex/en>).

<sup>b</sup> Simple average (author's calculations).

**Figure 7**

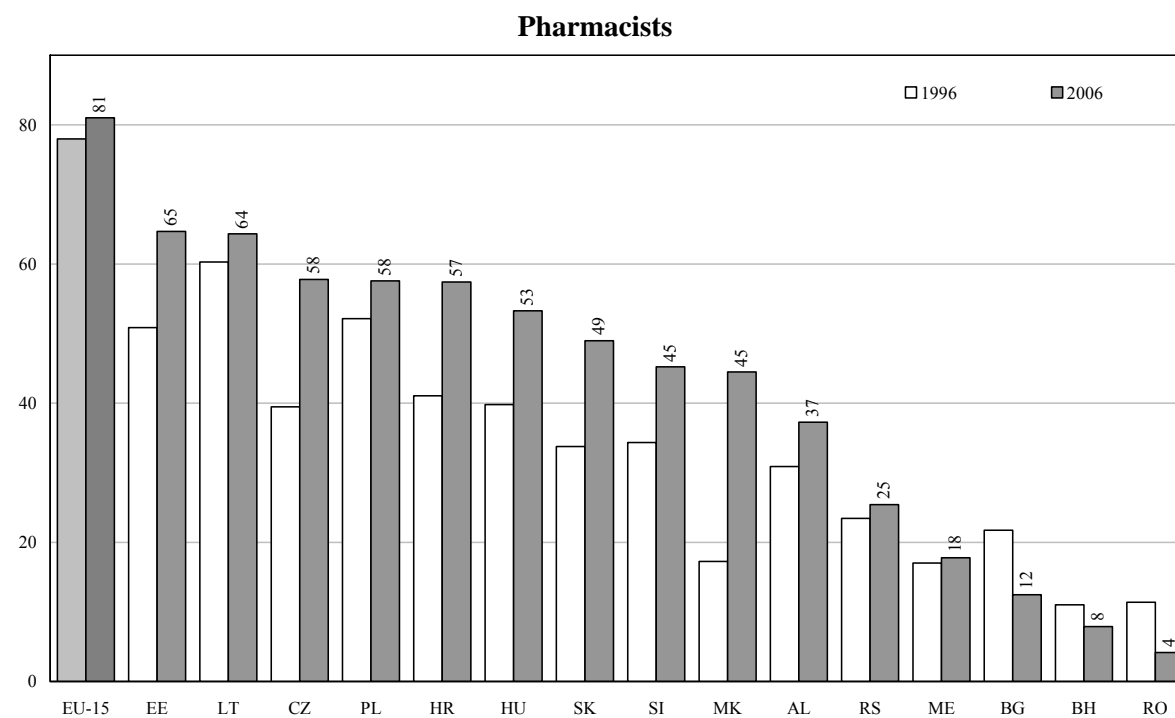
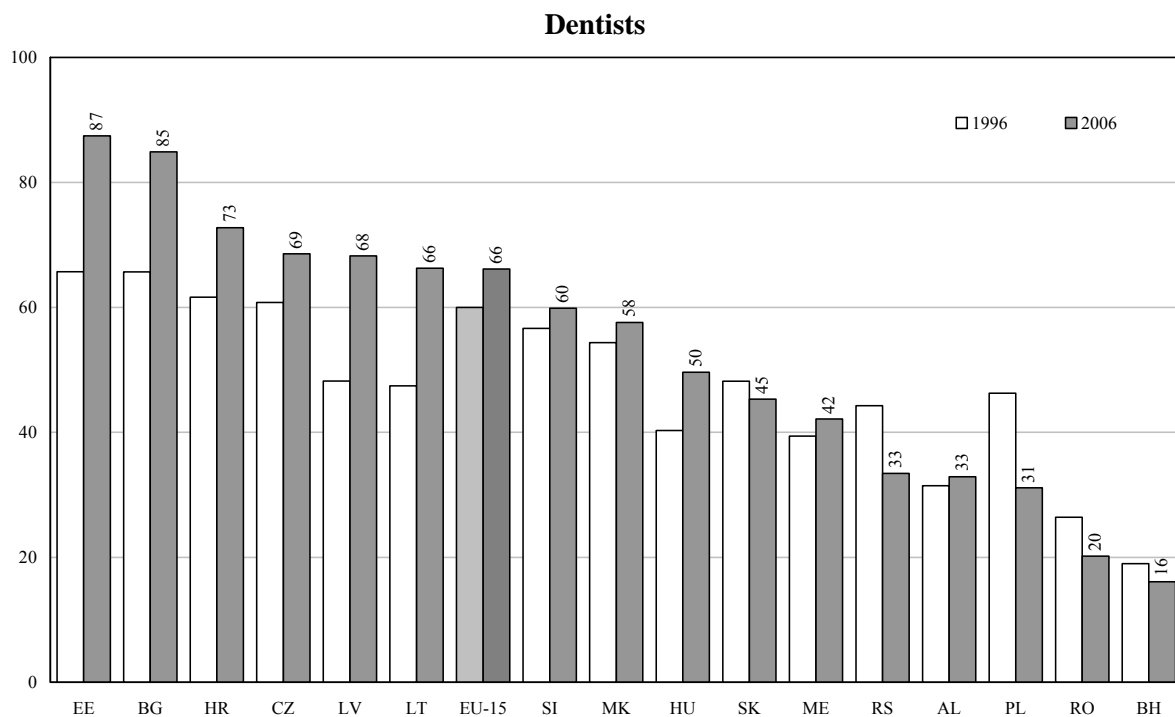
**Resources in the Health-care Sector**  
(per 100,000 inhabitants)



Source: WHO, 2006 World Health Report.

Figure 7 (continued)

**Resources in the Health-care Sector**  
(per 100,000 inhabitants)



Source: WHO, 2006 World Health Report.

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