PAWEL BIALYNICKI-BIRULA

Cracow University of Economics, Poland, bialynip@uek.krakow.pl

IMPACT OF GLOBAL FINANCIAL CRISIS ON HEALTHCARE EXPENDITURES IN DEVELOPED COUNTRIES

Abstract:

Current financial crisis, branded as global, has severely affected economies of developed countries. Revenue drops, high deficits and debt forced actions taken in many countries to seek savings and changes of socio-economic structures. This paper concerns the issue of consequences of the downturn for healthcare sector in developed countries. It aims at obtaining answers to questions concerning the course of adjustments with respect to financing health expenditures, and, in particular, scale and rate of their possible reduction in the situations of high-pressure from public finances. In order, the issues of trends in basic economic parameters at the time of crisis, and then the volumes and tendencies for respective categories of healthcare expenditures have been discussed. Determinants of creation of new health care policy instruments on international scale involving implementation of rescue (bailout) programs in countries affected by the crisis have been discussed.

Keywords:

financial crisis, financing healthcare, healthcare systems, health policy

JEL Classification: H51, E60, G01

Financing healthcare in developed countries

Currently, healthcare expenditures in OECD countries account on average for about 10% GDP (Tab.1). Despite numerous reformatory actions taken already since late 1970s for instance to curb spending increase, its systematic expansion has occurred since then. Within the last 30 years the share of healthcare expenditures in GDP in OECD countries has grown by 50% (from the level of 6.6% GDP in 1980 up to 9.9% in 2010)[1]. The USA is the rarity, as in the period of 1980-2010 the share of healthcare expenditures in GDP has almost doubled (from the level of 9.0% to 17.7% GDP). Thus, while on average in the OECD countries every tenth unit of revenue is currently dedicated to satisfy healthcare demands, in the USA it is almost every fifth unit[2].

Table 1. Total (TEH) and public (PEH) healthcare expenditures in relation to GDP (1980-2010)

		1980		1990		2000		2005		2010	
		Share in GDP	% TEH	Share in GDP	% TEH	Share w GDP	% TEH	Share in GDP	% TEH	Share in GDP	% TEH
EU(15)	TEH	6,8	100,0	7,2	100,0	8,1	100,0	9,3	100,0	10,2	100,0
	PEH	5,5	80,9	5,5	76,4	6,1	75,3	7,1	76,3	7,9	77,5
USA	TEH	9,0	100,0	12,2	100,0	13,6	100,0	15,8	100,0	17,7	100,0
	PEH	3,7	41,1	4,8	39,3	5,9	43,4	7,0	44,3	8,4	47,5
OECD	TEH	6,6	100,0	6,9	100,0	7,9	100,0	8,9	100,0	9,9	100,0
	PEH	4,9	74,2	5,0	72,5	5,6	70,9	5,9	66,3	6,0	60,6

Source: OECD Health Data, 2013.

In developed countries health protection represents vital domain of public responsibility, which is expressed in high share of public financing. In OECD group in 2010 average share equalled 60%, which accounted for 6.0% GDP. In the same period in the EU (15) countries public funds represented 78% of total expenditures

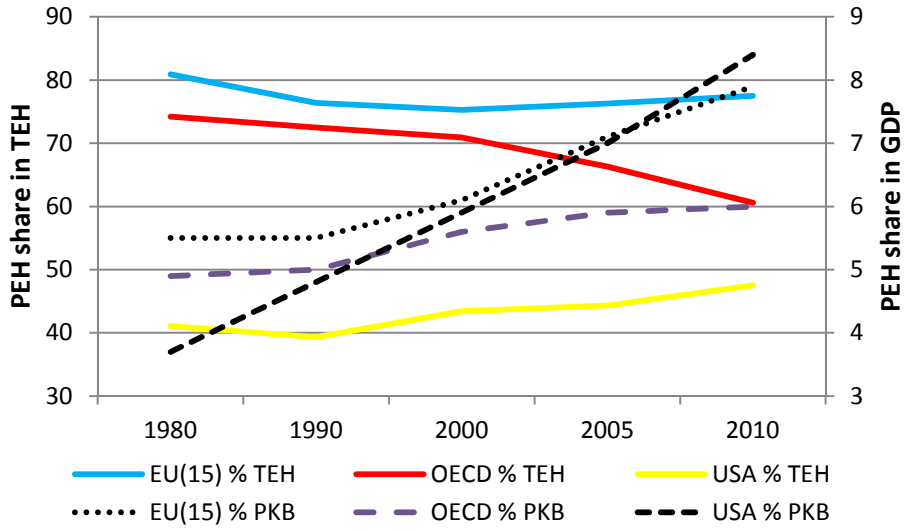
[1] Data concern OECD countries according to list of members in a given period. It should be allowed that countries, which joined after the organization had been founded, were usually characterized by lower level of development as compared with founding states.

[2] Let us note that significant increase in the share of healthcare expenditures in GDP also means that the dynamics that characterized it substantially surpassed the rate of economic growth. After all, the scale of their absolute growth is demonstrated by the fact that in the meantime the level of GDP grew substantially - e.g. in the USA, in the period 1980-2010, GDP increased by 130%.

(7.9% GDP). While it is true that in the USA public expenditures did not exceed 50%, their share in GDP stayed on the level higher than average (8.4% GDP).

Within the last 30 years share of public funds in health expenditures in the EU (15) countries has remained on a high level, ranging between 75 and 80% GDP. Also noteworthy is substantial increase of their share in GDP - from 5.5% to 7.9% GDP (more than 40% growth). In the USA, in the same period, the share of public health expenditures related to GDP has doubled (from the level of 3.7% to 8,4% GDP). Against this background the entire OECD group presents a rather modest figure. In the analysed period, public health expenditures grew on average by a mere 1.1 pp. (from 4.9% to 6.0% GDP) and at the same time their share in total expenditures dropped (from 74% to 60%). This phenomenon should be explained not so much by restriction of public financing as by overlapping of two tendencies: the organization's enlargement through the accession of new countries, usually demonstrating lower level of development, and liberalization of healthcare service market associated with expansion of financing base by funds from non-public sources.

Figure 2. Share of public expenditures for health (PEH) in GDP and in total health expenditures (TEH), (1980-2010)



Source: Author's own work based on OECD Health Data 2013.

Significance and scope of public responsibility concerning the issues of healthcare in developed countries is also confirmed by the fact that it represents one of the highest spending categories of contemporary state. In OECD countries about 15% of total government spending is assigned to this purpose, whereas in the USA the amount reaches almost 20% (Table 2). In the years 1990-2010, in the group of studied countries significant growth of the analysed factor may be observed. And so the highest one took place in the USA - by 7 pp. (from 12.9% to 19.9%), whereas in the EU (15) the average growth amounted to 3.5 pp. (from about 12% to slightly over 15%).

Presented data indicate that due to high volume of health expenditures and their significant share in public budgets they may be subject to different types of cuts in the situation of crisis. Although they undoubtedly demonstrate specified degree of rigidness, it is still less than in the series of other categories, as, for instance, in the case of social expenditures. Therefore, their specified reduction should be expected in the situations of the search for savings in the conditions of high financial pressure.

Tabela2. Share of health expenditures in total government spending in selected countries

(1990-2010)

	1990	1995	2000	2005	2010
EU (15)	11,9	12,0	13,5	15,1	15,4
USA	12,9	16,5	17,1	19,3	19,9
OECD	12,0	11,9	13,8	15,5	N/A

Source: OECD Health Data 2013.

Economic consequences of financial crisis

Global financial crisis may be perceived through categories of exogenous economic shock that negatively affects economic processes of countries that it covers [Mladowsky, 2012]. Current one started in 2008 resulting in sudden slowdown of development rate, which quickly turned into recession (Table 3). Actual total year-on-year (YOY) rate of development in the first year of recession in OECD countries accounted for a mere 0.2% GDP, just to drop to -3,6% (YOY) in the following year. In subsequent years, except for the adjustment in 2010, slow process of reconstruction of economic condition has been observed in the form of more or less frail growth of GDP. The average annual rate of actual GDP growth in the period of 2008-13 in

OECD group reached mere 0.68% and -0.15% in the EU (27) countries, respectively[3].

Table 3. Actual GDP growth in OECD group and EU (27), as well as selected countries (2007-13)

	2008		2009		2010		2011		2012		2013*	
	yoy	2007 =100	yoy	2007 =100	yoy	2007 =100	yoy	2007 =100	yoy	2007 =100	yoy	2007 =100
OECD	0,2	100,2	-3,6	95,6	3,0	99,5	1,9	101,3	1,4	102,8	1,2	104,0
EU (27)	0,4	100,4	-4,5	95,9	2,0	97,8	1,7	99,5	-0,4	99,1	-0,1	99,0
USA	-0,3	99,7	-2,8	96,9	2,5	99,3	1,8	101,1	2,8	104,0	1,9	105,9
Japan	-1,0	99,0	-5,5	93,6	4,7	98,0	-0,6	97,4	2,0	99,3	1,4	100,7

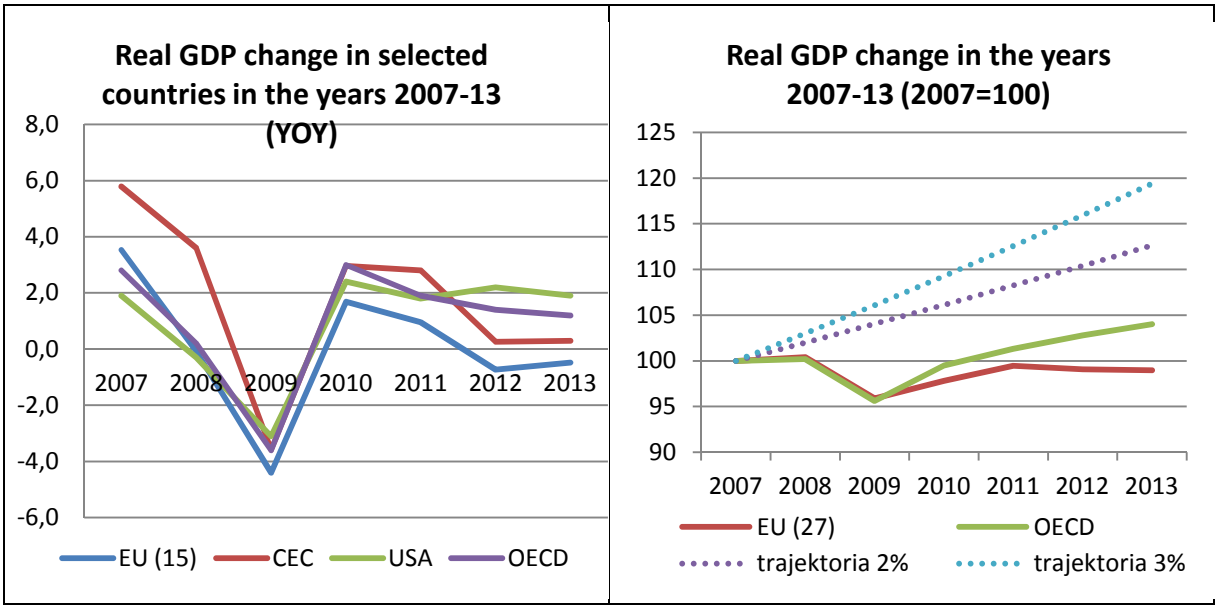
Source: author's own work based on Eurostat Database.

The scale of crisis can be best assessed through referring GDP levels achieved during it to trends from before recession. And so: actual GDP forecast for the end of 2013 in the OECD group will on average reach 104% of the level from 2007, whereas in the EU (27) - only 99% (table 3). Meanwhile, when considering the rate of growth from before the crisis – applying modest calculation of 3% per year – GDP at 2013 end should amount to about 120% of the level from the base year (2007). The loss of potential revenue, though, is much higher than the simple comparison of actual result with the hypothetic one at the end of the period would imply. Its amount in the entire recession period matches cumulated GDP loss in respective years, approximately accounting for a total of annual deviations of produced revenue from its potentially expected values[4]. Thus calculated total loss of revenue at the end of 2013 in the OECD group will reach about 60% of global annual GDP of the base year (2007), whereas in the case of EU (27) respective loss of 75% GDP should be reckoned with. These figures mean that average annual GDP loss in the period since the beginning of the crisis in the developed countries ranges between 10 and 12% GDP.

[3] To compare, in the period of 1996-2003 in USA and EU (15) the annual rate of average actual GDP growth amounted to 3.4%.

[4] Given amounts of lost revenue were calculated by totalling yearly deviations of actual revenue from hypothetical trajectory of 2 and 3% growth characteristic of the period before the crisis. Would the similar rate of economic growth be assumed for the period 2008-2013, then the actual GDP level in 2013 alone should represent around 120% of 2007 level.

Fig. 2. Dynamics of real GDP change in selected countries (2007-2012; 2007=100)



Source: author's own work based on Eurostat Database.

Revenue stream remains in particularly close relationship with two other parameters, crucial for public finances, namely: deficit and public debt (table 4). In the studied period, significant deterioration of these two parameters should be noted. In 2007, in OECD countries deficit reached 1.3% GDP, in the USA it was 2.9% and in the UE (15) a surplus of 0.1% GDP was reported. Then its quick growth took place to reach: 8.2% in the OECD group, 11.9% in the USA and 6.7% in EU (15), respectively, in the second year of the crisis (2009). In the following years, first came some stabilization and then progressive drop. Nevertheless, in the end of 2013 forecast deficit will stay on substantially higher level than the one from before the crisis: 4.3% GDP in OECD, 5.4% in the USA and 3.6% in the EU (15). Its average annual value in the period 2008-2013 will thus amount to: 6.0% GDP in OECD, 4.7% in the EU (15) and as much as 9.0% in the USA.

Table 4. Development of deficit and public debt in selected countries (2007-13)

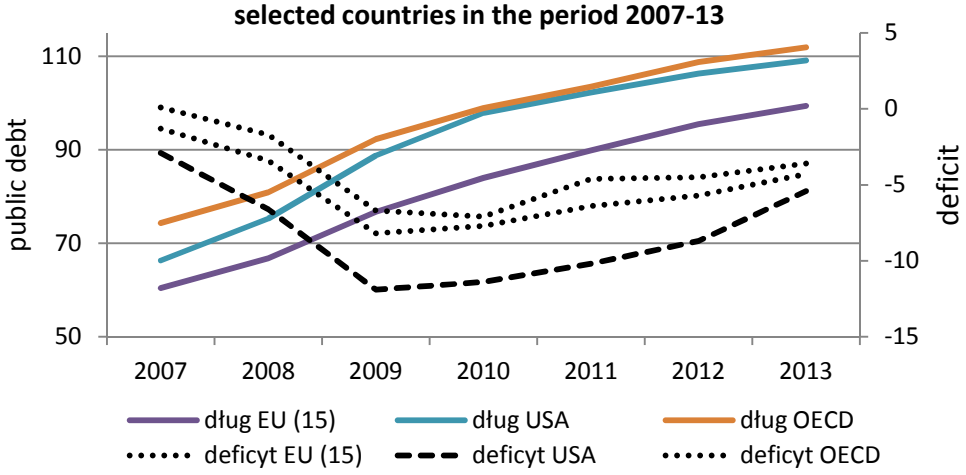
	2007		2008		2009		2010		2011		2012		2013*	
	surplus	Public sector debt	surplus	Public sector debt	Surplus	Public sector debt	Surplus	Public sector debt	Surplus	Public sector debt	surplus	Public sector debt	Surplus	Public sector debt

EU (15)	0,1	60,4	-1,7	66,8	-6,7	76,7	-7,1	84,0	-4,6	89,9	-4,5	95,5	-3,6	99,4
USA	-2,9	66,3	-6,6	75,3	-11,9	88,8	-11,4	97,9	-10,2	102,3	-8,7	106,3	-5,4	109,1
OECD	-1,3	74,3	-3,4	80,9	-8,2	92,3	-7,7	98,9	-6,4	103,5	-5,7	108,8	-4,3	111,9

Source: author's own work based on OECD.Stat 2013.

Direct consequence of high deficits is growth of public debt. Forecast debt for the end of 2013 is to reach the average of 111.9% GDP in OECD countries, 109% GDP in the USA, and 99.4% GDP in the countries of the *old* EU. In 2007, on the other hand, it looked as follows: 74.3% in OECD countries, 66.3% in the USA and 60.4% in the EU (15). These values mean the increment of debt by 37.6 pp. in OECD group, 42.8 pp. in USA and 39 pp. in the EU (15), respectively. Only in a couple of crisis years, average debt level grew by more than 50%. When comparing these data with the value of GDP loss evaluated above, the assumption should be made that the current crisis was to a large extent cushioned by public sector through increase of debt. Nevertheless, in substantial part it must have involved public cuts, and, what is more, undoubtedly led to significant narrowing of the room for manoeuvre for economic policy due to the increase of debt servicing cost.

Figure 3. Public debt and public sector deficit as GDP % in selected countries in the period 2007-13



Source: author's own work based on OECD.Stat 2013.

Closer analysis shows that the current crisis to various degrees affected OECD countries (table 5). From the perspective of actual GDP change in the period of 2007-2012, they may be grouped into following categories: 1) states, in which actual GDP level did not fall below the level of 2007 in neither of the years (Poland, Slovakia); 2) countries, where the GDP drop had a sudden character but relatively short-term course, and real GDP already clearly surpasses the level of 2007 (Turkey, Sweden, USA, Germany, Czech Rep.); 3) countries, in which crisis is characterized by long-term duration and real GDP has not reached the level from before the crisis yet (14 countries of OECD)[5]; 4) group of states, where crisis has particularly severe course (Iceland, Hungary, Spain, Ireland, Portugal, Italy and Greece)[6].

Table 5. Actual GDP growth/drop in selected OECD countries (2007-20013*; 2007=100)

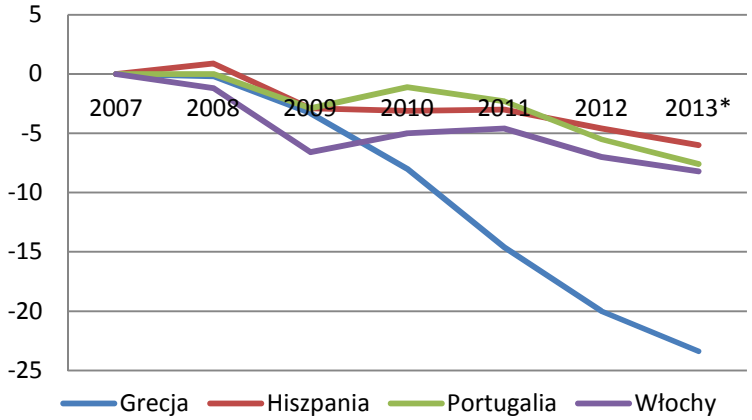
	2008	2009	2010	2011	2012	2013*
Turkey	100,7	95,9	104,5	113,7	116,2	119,9
Poland	105,1	106,8	110,9	115,9	118,1	119,4
Slovakia	105,8	100,6	105,0	108,4	110,6	111,7
Sweden	99,4	94,4	100,7	103,6	104,6	106,2
USA	99,7	96,9	99,3	101,1	104,0	105,9
Germany	101,1	95,9	99,8	103,1	103,8	104,2
Iceland	101,2	94,5	90,6	93,1	94,4	96,1
Latvia	97,2	80,0	79,0	83,1	92,6	96,1
Hungary	100,9	94,0	95,1	96,6	95,0	95,1
Spain	100,9	97,1	96,9	97,0	95,4	94,0
Ireland	97,8	91,5	90,5	92,5	92,7	93,7
Portugal	100,0	97,1	98,9	97,7	94,5	92,4
Italy	98,8	93,4	95,0	95,4	93,0	91,8
Greece	99,8	96,7	92,0	85,4	80,0	76,6
EU (27)	100,4	95,9	97,8	99,5	99,1	99,0

Source: author's own work based on OECD.Stat 2013.

[5] Australia, Austria, Belgium, Canada, Denmark, Finland, France, Japan, Korea, Luxemburg, Mexico, Holland, Norway, Switzerland, Great Britain.
[6] Add Latvia with forecast rate of 96% for end of 2014.

For the end of 2013 the lowest GDP level in relation to 2007 is forecast for Greece (76.6%), Italy (91.8%) and Portugal (92.4%). Revenue loss in these countries definitely surpasses values estimated for the OECD group. When applying the above-described method of revenue loss estimation, in the case of, for instance, Greece the total loss amounting to 130% GDP (of the 2007 level) should be taken into account, whereas in Italy it is about 100%. These figures mean that in Greece, in the period of 2007-13, average estimated potential revenue loss amounted to approximately 23% GDP per year (when related to the level of 2007), whereas in Italy it was 16%, respectively.

Figure 4. GDP change in selected countries (2007-2013, 2007=100)



Source: author's own work based on OECD.Stat 2013.

Health expenditures at the time of crisis

Detailed analysis of crisis impact on the area of health protection can be conveniently run from a wider perspective, considering the shape of health expenditures in longer perspective. Taking into account the decade of 2002-2011, distinct periods may be differentiated (table 6). For instance, until 2003 in the OECD (30) group gradual growth of healthcare spending took place according to long-term tendencies. In the years 2003-2007, stabilization of health expenditures share in GDP on the level of about 8.9% should be noted. On the other hand, in the period starting from the beginning of the crisis (2008-9) their surge to the level of 10% GDP (by 1.1 pp.) occurred. Similar surge happened both in the USA and in the EU (15). In the following years stabilization took place, with slightly marked downward trend starting from 2010 (e.g. 0.2 pp. in the OECD group).

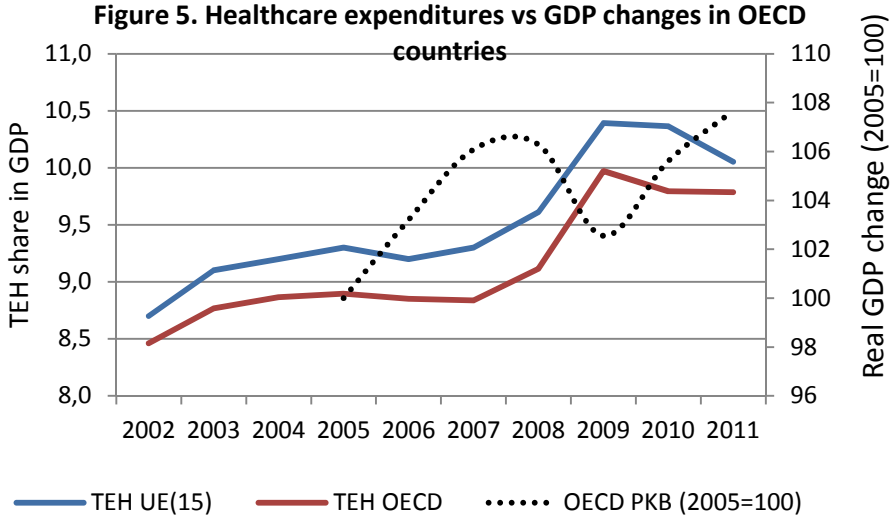
Table 6. Share of total health expenditures in GDP in selected countries (2002-2011)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
UE(15)	8,7	9,1	9,2	9,3	9,2	9,3	9,6	10,4	10,4	10,1
OECD(30)	8,5	8,8	8,9	8,9	8,9	8,8	9,1	10,0	9,8	9,8
USA	15,1	15,6	15,6	15,8	15,9	16,2	16,6	17,7	17,7	17,7

Source: OECD Health Data, 2013

Basically, besides indicated single growth by 1 pp., healthcare spending share in GDP remained relatively stable as opposed to the revenue, the volume of which, as we established, suddenly decreased in the same period. The increase of healthcare spending share in GDP in the period of significant drop of revenue proves its rigid character. It reflects strife for ensuring citizens the access to health services in the period of economic slump. Nevertheless, in the discussed period, a stoppage of long-term trend of healthcare spending growth occurred. Their share in GDP in 2011 was slightly lower as compared with 2009, which *de facto* means their freezing on the level from before the crisis.

Figure 5. Healthcare expenditures vs GDP changes in OECD countries



Source: author's work based on OECD Health Data, 2013 and OECD.Stat 2013.

Considering substantially different economic situation of respective countries during the crisis, its impact on the condition (financing) of concrete healthcare systems should be subject to closer analysis. Table 6 presents data concerning the shape of total expenditures for healthcare (TEH) and, included by them, public expenditures (PEH) in relation to GDP level from before the crisis (2007). The list covers groups of states on the opposite poles as concerns the effects of the crisis: 1) countries, which either felt the downturn to a small extent or the recession lasted

relatively shortly there (where after a sudden drop the growth trend has returned) and 2) countries severely affected by the crisis (deep and long-lasting revenue drops).

As concerns the first group, in the whole period after 2008 the constant process of growth of healthcare expenditures share in GDP, both total and public alone, has taken place. In Poland, for instance, total healthcare expenditures in 2011 related to the level of 2007 amounted to 108%, and public expenditures to 105.6%, of GDP level of 2007, respectively. At the same time, the share of both spending categories in GDP was by 27% (1.7 and 1,2 pp. respectively) higher than in 2007, when TEH equalled 6.3% GDP, and PEH 4.4% GDP. In the same period, GDP grew by 15.9%, which means that healthcare expenditures grew faster than GDP (almost by 12 pp.). Similar relationships might be observed in the remaining countries of this group, in which expenditures of both categories everywhere grew faster than the GDP growth rate. The fact that in the mentioned countries the growth of healthcare expenditures was faster than that of GDP seems to be in line with long-term regularities, and the crisis itself did not affect their level. What draws attention is that in two countries: Slovakia and USA PEH grew clearly faster than TEH, which shows that as a result of crisis a reduction of private consumption of health services took place, while maintaining the level of public expenditures. It should be presumed that the increase of share of public health expenditures occurred as a result of social programs implemented during the recession and changes in healthcare trends.

Table 6. Actual growth/drop of GDP in selected OECD countries (2007-20013*; 2007=100)

Year / State	category	2007	2008	2009	2010	2011		
		according to GDP level of 2007					*Health exp. 2007=100*	*GDP 2007=100*
Poland	TEH	6,3	7,3	7,7	7,8	8,0	127,0	115,9
	PEH	4,4	5,2	5,5	5,5	5,6	127,3	
Slovakia	TEH	7,8	8,5	9,3	9,5	8,6	110,3	108,4
	PEH	5,2	5,7	6,1	6,1	6,1	117,3	
Sweden	TEH	8,9	9,1	9,3	9,6	9,8	110,1	103,6
	PEH	7,2	7,5	7,6	7,8	8,0	111,1	
USA	TEH	16,2	16,6	17,2	17,6	17,9	110,5	101,1
	PEH	7,3	7,6	8,1	8,4	8,6	117,8	
Germany	TEH	10,5	10,8	11,3	11,5	11,7	111,4	103,1
	PEH	8,0	8,3	8,7	8,8	8,9	111,3	

Czech Rep.	TEH	6,5	7,0	7,9	7,5	7,7	118,5	102,5
	PEH	5,5	5,8	6,6	6,2	6,5	118,2	
Iceland	TEH	9,1	9,2	9,1	8,4	8,4	92,3	93,1
	PEH	7,5	7,6	7,4	6,8	6,7	89,3	
Hungary	TEH	7,7	7,6	7,2	7,6	7,6	98,7	96,6
	PEH	5,2	5,1	4,8	4,9	5,0	96,2	
Spain	TEH	8,5	9,0	9,3	9,3	9,0	105,9	97,0
	PEH	6,1	6,6	7,0	6,9	6,6	108,2	
Ireland	TEH	7,9	8,9	9,2	8,4	8,2	103,8	92,5
	PEH	6,0	6,7	6,6	5,9	5,5	91,7	
Portugal	TEH	10,0	10,2	10,5	10,7	10,0	100,0	98,9
	PEH	6,7	6,7	7,0	7,0	6,5	97,0	
Italy	TEH	8,5	8,8	8,8	8,9	8,8	103,5	95,4
	PEH	6,7	6,9	6,9	7,0	6,8	101,5	
Greece	TEH	9,8	10,1	9,9	8,7	7,8	79,6	85,4
	PEH	5,9	6,0	6,7	5,8	5,1	86,4	

Source: work based on OECD Health Data 2013 and Eurostat Database

http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tec00115

While in the first group of countries share of healthcare expenditures in GDP in each subsequent year was higher than in the period before the crisis, in the second one, substantially different tendencies dominate. Except for Spain and Italy, in all remaining countries drop in the share of healthcare expenditures in GDP took place as compared with 2007, at least in the case of one of the spending categories. The biggest drop occurred in Greece, where in 2011 alone the share in GDP of total expenditures (TEH) (7.8%) was actually by 2.0 pp., and of public expenditures (PEH) by 0.8 pp., lower as compared with 2007. (Thus, the share of TEH in GDP was by 20.4%, and PEH by 13.6% lower as compared with the base year). Due to the fact that in the same year GDP in Greece was lower by 14.6% in relation to the base year (2007), the given figures indicate that reduction of health expenditures was characterized by higher dynamics than concurrent drop of GDP. The difference in the drop rate amounted to 5.8 pp. to the disadvantage of total expenditures for healthcare and only 1.0 pp. in the case of public expenditures for health. Therefore,

reported reduction of healthcare expenditures first of all concerned private means. Thus, the crisis resulted in two types of processes in Greece: curbing the rate of public expenditures growth, basically in line with the rate of GDP fall, and significant restriction of private spending. As a consequence, the share of public expenditures in total healthcare expenditures grew from the low level of 60.3% (2007) to 65% in 2011.

In the remaining countries of the group, processes of healthcare spending reduction were not so spectacular. In Iceland and Hungary a drop in the share of healthcare expenditures in GDP for both categories was slightly faster than the GDP decrease. Significant reduction of public financing of healthcare took place in Ireland (drop in GDP share by 8.3% as compared with 2007) and in Portugal (3.0% respectively). While in majority of the countries drops of healthcare spending share in GDP occurred with some delay (in second or third year of the crisis), in Hungary it already happened in 2008. Taking into account share of healthcare expenditures in GDP decreasing with time, which happened around 2009 in majority of the countries of this group, it may be noted that the crisis effects began to be felt essentially with some delay (two to three years). It should be presumed that they would last beyond the analysed period of 2007-11.

Table 7. The shape of total expenditures for healthcare (TEH) and GDP in the period of 2008-2012 in selected countries (2007=100, real GDP, CPI 2005)

	2008		2009		2010		2011		2012	
	TEH	GDP	TEH	GDP	TEH	GDP	TEH	GDP	TEH	GDP
Greece	103,6	99,8	102,1	96,7	87,6	92,0	76,2	85,4	N/A	80,0
Spain	104,5	100,9	108,7	97,1	106,7	96,9	101,4	97,0	N/A	95,4
Ireland	104,4	97,8	108,9	91,5	99,2	90,5	94,0	92,5	N/A	92,7
Iceland	100,9	101,2	96,1	94,5	90,2	90,6	89,5	93,1	88,1	94,4
Portugal	101,2	100,0	105,9	97,1	106,9	98,9	96,8	97,7	N/A	94,5
Hungary	97,4	100,9	93,5	94,0	96,1	95,1	95,2	96,6	90,6	95,0
Italy	102,6	98,8	103,8	93,4	104,5	95,0	101,4	95,4	97,0	93,0

Source: author's work based on OECD Health Data 2013 and Eurostat Database

Table 7 lists indices concerning the shape of total expenditures for health (according to the prices of 2005) and GDP related as a whole to the base year (2007). The comparison suggests that in the countries severely affected by the crisis, except for Italy and Spain, the dynamics of drop in real healthcare expenditures was higher than the analogous one concerning GDP. The most unfavourable trend occurred in

Greece, where healthcare expenditures in 2011 represented a mere 76.2% of the base year level, whereas GDP rate amounted to 85.4%. Similar, though on a smaller scale, tendencies were reported in Iceland (TEH 89.5%, GDP 93.1%), Portugal (TEH 96.2%, GDP 97.7%) and Hungary (TEH 95.2%, GDP 96.6%). These data demonstrate a reversal, in the crisis period, of previously dominating trend of the dynamics of healthcare expenditures growth surpassing GDP growth. High dynamics of drops in healthcare spending at the time of recession is to confirm that they were subject to significant reduction.

Table 8. Health expenditures *per capita* in selected countries (2007-2011)

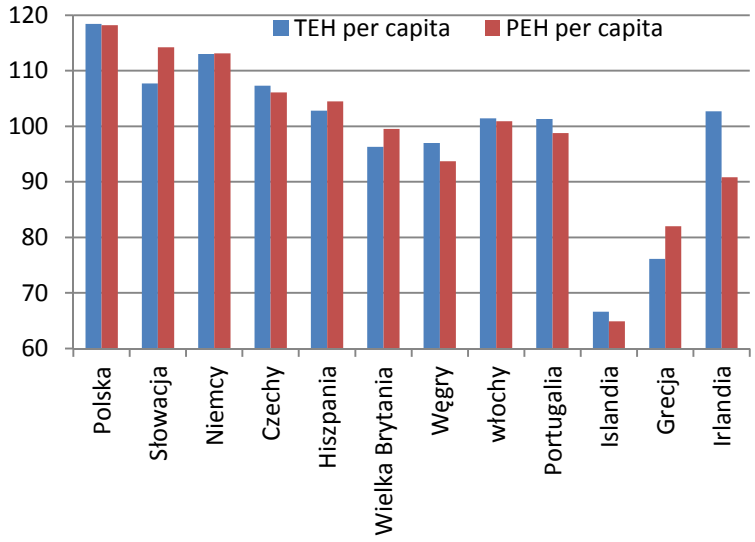
	2007		2011		2007-2011 (2007=100) real HICP		Real change of GDP 2007-2011 (2007=100)
	TEH USD *per capita*	PEH USD *per capita*	TEH USD *per capita*	PEH USD *per capita*	TEH USD *per capita*	PEH USD *per capita*	
Poland	1 061	747	1 452	1 021	118,4	118,2	115,9
Slovakia	1 618	1 082	1 915	1 358	107,7	114,2	108,4
Germany	3 723	2 844	4 495	3 436	113,0	113,1	103,1
Czech Rep.	1 658	1 412	1 966	1 655	107,3	106,1	102,5
Spain	2 735	1 965	3 072	2 244	102,8	104,5	97,0
Hungary	1 452	977	1 689	1 098	97,0	93,7	96,6
Italy	2 724	2 131	3 012	2 345	101,4	100,9	95,4
Portugal	2 417	1 612	2 619	1 703	101,3	98,8	97,7
Iceland	3 378	2 787	3 305	2 656	66,6	64,9	93,1
Greece	2 722	1 643	2 361	1 536	76,1	82,0	85,4
Ireland	3 571	2 703	3 700	2 477	102,7	90,8	92,5

Source: work based on OECD Health Data, 2013

Evaluation of crisis effects in health sector would not be complete without the analysis of *per capita* expenditures (Table 8). As per the findings made so far, their trends correlated with changes in real GDP. The biggest growth occurred in Poland, where the expenditures of both categories (TEH and PEH) viewed *per capita* in 2011 were by over 18% higher as compared with 2007, with GDP growth at 16%.

Significant growth was also reported in Germany – by 13% with real GDP growth by 3.1%. On the other hand, in the second group of countries, only in Spain and Italy expenditures *per capita* of both categories (both total and public alone) slightly surpassed the level from 2007. It occurred with concurrent drops of GDP in these countries in relation to the base year (by 3% and 4.6% respectively). The biggest real drop in health expenditures *per capita* took place in Iceland (by 33.3% in the case of TEH and 35.1% for PEH) and Greece (23.9% TEH and 18.0% PEH). In both of these countries decrease of health expenditures *per capita* was indeed deeper than declines of real GDP (6.9% and 14.6% respectively). In the remaining countries of this group, health units per capita demonstrated similar relationship to the change in the GDP level[7].

Figure 6. Real change of health expenditures, total and public, *per capita* in selected countries (2007-2011, HICP deflator, 2007=100)



Source: author's work based on OECD Health Data 2013 and Eurostat Database.

Consequences of rescue (bailout) programs for financing healthcare

Financial crisis brought about serious economic perturbations in majority of developed countries. In some cases, joint impact of high debt and deficits resulted in

[7] To compare, average annual growth of health expenditures *per capita* estimated for the EU (27) totalled the annual 4.6% in the period of 2000-09, to drop to the level of 0.6% in 2010 [Quaglio et. Alt., 2013].

big drops in international ratings of creditworthiness. As a consequence, radical growth of costs of borrowing financial means and debt service took place, threatening with losing liquidity and solvency. In reaction to such difficult situation the actions were taken on international scale in order to coordinate help on one hand, while stimulating stabilization process and structural reforms on the other[8].

Specificity of the current crisis lies in significant international involvement in providing large-scale help as part of so called *bailout programs* for countries having problems with liquidity. These programs are agreed between the authorities of beneficiary country and so-called "Troika", i.e. International Monetary Fund (IMF), European Central Bank (ECB) and European Commission. Multilateral agreements concluded in the form of so-called *memoranda of understanding* that express a wish to collaborate in actions aimed at fiscal stability represent formal ground for preparation of rescue program. These documents contain detailed commitments of beneficiary countries in the scope of necessary economic reforms.

In the case of two countries: Greece and Portugal memoranda agreed with "Troika" contain very extensive and detailed catalogues of actions as to the shape of structural reforms in health sector and financing sphere. In reference to these conditions, Greece took up market reforms in healthcare sector, which can be classified into three main directions of actions [Kondilis et alt., 2013]: 1) implementation of savings measures, 2) introduction of restriction in the access to services and privatization of health institutions, 3) deregulation of healthcare market. As a consequence of them, within a short period of time, reduction of public expenditures for health was envisaged down to the level of 6% GDP in 2013 from the level of 9.8% in 2010.[9] Less drastic actions were taken in Portugal, with the focus, in particular, on streamlining the system of fees taken from patients. As concerns this issue, the following actions were assumed: increasing the level of fees, re-profiling their structure in order to encourage the use of basic healthcare, reviewing the principles and those entitled to exemptions [Barros, 2012]. Eventually, reduction of public expenditures in the amount of 0.8% GDP was assumed comprised, among other elements, of reduction of transfers from budget to public healthcare from the level of 17.2% of total governmental expenditures in 2010 to 16.1% in 2012.

Box 1. Commitments of reforms aimed at financing health sectors in bailout programs for Greece and Portugal

Greece – two rescue packages were launched, first in 2010 amounting to €110bn and another in 2012 for €164.5bn. They aimed at restoration of creditworthiness, stabilization and

[8] For the purpose of help coordination the following institutions have been called into being: *European Stability Mechanism* – ESM) and *European Financial Stability Facility* - EFSF) aimed at maintaining financial stability in the Euro zone and EU countries.

[9] It should also be noted that real GDP level estimated in Greece for the end of 2013 is to be by almost 10 pp. lower than in 2010.

financial consolidation and running structural reforms. In the scope of healthcare the actions were focused on reduction of excessive expenditures through reforms covering management, financing and accounting. The government was, for instance, obliged to implement: standards of accounting in hospitals, mechanisms of pricing of services and calculation of costs, separation of health funds' administration from pension scheme, consolidation of health actions within the framework of single ministry. Eventually, the actions are to bring about reduction of public expenditures for health to the level not exceeding 6% GDP, while ensuring common access to services.

Portugal – in May 2011 three-year program of actions with a rescue package covering €78bn was agreed. Primary objective was to reduce budget deficit from the level of 9.8% in 2010 to the following values in subsequent years: 5.9% GDP in 2011, 4.5% in 2012 and 3.0% in 2013, as well as initiating reduction of debt relation to GDP. Regarding public health expenditures, their reduction in the amount of about €1.4bn in the period of 2012-13 was assumed, which accounted for about 0.8% GDP (with the level of expenditures equal to 6.5% GDP). Furthermore, significant additional savings were predicted through limiting expenditures on medicines (reduction to the level of 1% GDP in 2013).

Source: the author's own work based on memorandum on the bailout program for Portugal and second adjustment program for Greece

Specification of structural reforms and methods to verify their implementation resemble mechanisms of addressing help to developing countries [Fahy, 2012]. From the perspective of health sectors, bailout programs might be perceived not only as a form of economic impact, but even as outright shaping of health policy in the countries affected by the crisis. On the EU forum healthcare has been treated so far as the issue reserved for the exclusive competence of member states and only soft-coordinated by the Community [Białynicki-Birula, 2011]. Yet, through supervision of national budgets healthcare systems became a subject of direct international impact. The conclusion may be drawn that the current crisis results in overcoming formal monopoly of states in healthcare issues through creation of specific, economic instrument of intervention.

Conclusion

Current crisis has severely affected economies of developed countries. Viewed across the board by OECD, it taken down real economic growth to the values close to zero, while bringing about significant loss of potential income. It led to impoverishment of societies, reducing economic potential of countries and their citizens. At the same time, it affected respective countries to a various degree. Countries with particularly severe course of it include: Greece, Iceland, Hungary, Spain, Ireland, Portugal, and Italy. GDP in these countries, forecast for the end of 2013, will be by few to over twenty p.p. higher as compared with 2007. Inglorious leader in this ranking is Greece, where, according to the method adopted in the

paper, estimated total loss of revenue in the entire period from the start of the recession already amounts to 130% GDP according to the level of 2007. It corresponds with average, annual loss of revenue of ¼ GDP against the reference year. It must be added that in the above-specified countries the recession period is not approaching its end and further episodes of it are to be expected.

Falls of macroeconomic aggregates demonstrate essential deterioration of economic conditions, even when taking into account the fact that in part they were levelled by price adjustments. As a consequence, the crisis significantly limited the room for manoeuvre for economic policy, as well as brought a threat to possibility of financing these fields, which to a substantial degree depend on the condition of public sector. Undoubtedly, the area of healthcare is among them, in dominant part financed by public funds.

Direct effect of the recession was breaking the long-term trend of healthcare expenditures growth previously characterizing developed countries. Starting from 2009, their share in GDP on average was subject to stabilization in the OECD countries, with a tendency to mild decrease in subsequent years. In majority of the analysed countries, the level of healthcare expenditures in GDP was maintained, which proves their preferential treatment. In the group of severely affected countries, though, their reductions took place, whereas they had non-uniform character. However, in some of the countries the share of healthcare expenditures in GDP was maintained, which means that their limitation proceeded in line with the rate of drop in revenue. Therefore, it must be presumed that in the case of Italy, Hungary or Spain reductions were to a large extent cushioned by price adjustments. In the remaining countries, reductions of healthcare expenditures exceeded drops in revenue, which proves that radical cuts were implemented. The most unfavourable tendencies occurred in Greece, where total expenditures for health in 2011 represented a mere 76.2% of the base year level, while the respective GDP drop index amounted then to 85.4%. Real fall of health expenditures *per capita* illustrates the drama of the situation. In 2013 in Iceland they were by 1/3, and in Greece by almost ¼ lower as compared with 2007.

These figures prove that as a result of the crisis in some of the countries unprecedented reduction of health expenditures took place, i.e. in the area, which is particularly sensitive from the perspective of social life. The character of the cuts is the issue that requires further analyses. Arbitrary reductions, threatening stable functioning of healthcare system as well as resulting in future perturbations through triggering long-term, negative health effects, may have particularly dangerous outcomes. On the other hand, it should be indicated that the restriction in spending might represent incentive to take actions to improve effectiveness of healthcare sector and streamlining costs. As a consequence, the outcomes of the reduction may be mitigated by micro-economic adjustments on the part of service providers. Therefore, the crisis may be associated with a chance to run deep restructuring of healthcare sector. Thus, a therapy in the circumstances of shock creates conditions for unpopular and long-postponed reforms.

It seems that the reforms being run in Greece and Portugal should be judged from this perspective. They stem from accepted and agreed commitments as part of international help in the form of so-called *bailout programs*. Structural reforms, taken on their basis, aim at improvement of effectiveness of health sectors. While declared goals seem to be justified, the issue of assumed deep reduction of public financing of healthcare looks questionable. Although it is too early for a complex assessment of economic effects of the mentioned reforms, they undoubtedly led to a concrete effect of creating new instrument of influence on health policy of beneficiary countries. It seems to represent effective, coordinated from outside, form of shaping health policy in the countries affected by the crisis.

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