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THE CHALLENGE OF FINANCING HEALTH CARE IN THE CURRENT CRISIS: AN ANALYSIS BASED ON THE OECD DATA

Peter Scherer and Marion Devaux

Peter Scherer is former Head of the OECD Health Division; Marion Devaux is a statistician at the OECD. The views expressed in this paper are the authors' and do not necessarily reflect those of the OECD or its member countries.

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ABSTRACT

The ratio of health expenditure to GDP, which in macroeconomic terms is an indicator which summarises the financing needs of a national health system, is likely to rise in countries for which the GDP falls. Over the past four decades, health expenditure has risen in most countries at a faster rate than GDP, leading to a rise in the expenditure ratio. Fluctuations in this ratio can come about through fluctuations in either of its components. In some cases, notably the USA, GDP variation is the main origin of changes in the ratio, but in the majority of countries health expenditure variation is more important. The experience of countries which did reduce health expenditure after previous recessions suggests that such reductions are short-lived, and demand for health services results over time in a revival of health expenditure growth.

RESUME

La proportion des dépenses de santé par rapport au PIB, qui en termes macro-économiques est un indicateur récapitulant les besoins de financement d'un système de santé national, va probablement monter dans des pays où le PIB chute. Pendant les quatre dernières décennies, les dépenses de santé ont augmenté dans la plupart des pays plus rapidement que le PIB, menant à une hausse de la proportion des dépenses. Des fluctuations dans cette proportion peuvent survenir à la suite de variations dans l'une ou l'autre de ses composantes. Dans quelques cas, notamment aux États-Unis, la variation du PIB est à l'origine même de la différence du ratio, mais dans la majorité des pays, les variations de dépense de santé sont plus importantes. L'expérience des pays qui ont vraiment réduit leurs dépenses de santé après des récessions laisse à penser que de telles réductions sont de courte durée et que la demande de résultats en matière de services de la santé signifie à la longue une reprise de la croissance des dépenses de santé.

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I. INTRODUCTION

1. This paper reviews the likely implications for the health expenditure ratio (that is, the ratio of health expenditure to GDP) of the current recession. This ratio is often used to measure the importance of the health system in national economies, and also to measure the financing challenge which health expenditure represents to the economy as a whole[1].

2. Analysts often contrast public health expenditure, which is defined as expenditure financed collectively through compulsory insurance or by taxation, with expenditure by households or firms, which is defined as private health expenditure. However, while such a dichotomy is important for understanding the public finance issues which arise for health care funding, it is not clear that it is a useful means to investigate differences in rates of growth of health expenditure across countries. This is because many forms of private expenditure are largely determined, positively and negatively, by public expenditure decisions. This is because "private" expenditure has several very different forms:

a. **Copayments or coinsurance with public expenditure**. These can be expected to be positively correlated with the associated public expenditure. They should be included in any overall analysis, since the relationship with overall economic activity will be similar for this form of private expenditure as for the public expenditures to which they are linked.

b. **Supplementary expenditures which substitute for public expenditure.** When public provision of services falls or is rationed in some way, such supplementary expenditure can be expected to increase: that is, to be negatively correlated with public expenditure changes. Again, excluding such forms of expenditure from the analysis would distort the comparison between those countries for which such supplements are important (such as Australia and Ireland) and those for which they are insignificant.

c. **Private provision of services not publicly funded at all.** Some services (health services for working-age adults in the US, pharmaceuticals in Canada in many provinces, dental care in many OECD countries) are not funded publicly at all. However, they are often funded through some form of employer-funded "private social insurance", which has some of the structural characteristics of public insurance – in particular, individuals with coverage are shielded from bearing the full impact of expenditures.

3. All this is to say that while it is of course necessary to analyse private and public components of expenditure separately for individual countries to understand properly trends over time, it is misleading to treat "private" expenditure as somehow fundamentally different from public expenditure for purposes of

[1] The choice of words is important here: often the term "financing burden" rather than "challenge" is used. This is particularly the case when the part of health expenditure financed through obligatory contributions (whether taxes or compulsory insurance contributions) is being discussed. But this is in fact an odd terminology. We do not use the term "burden" to describe expenditure on other goods and services purchased in a market economy, and there is no doubt that health services are desired and valued: if anything, they tend to be higher (as a proportion of GDP) in countries where voluntary financing is a larger component of total health expenditure. In order to remain neutral when comparing countries with different proportions of obligatory financing, this paper therefore avoids the term "burden".

broad cross-country analysis. Nonetheless, some evidence is presented in this paper that countries which rely on private financing for a significant proportion of their funding face particular challenges in addressing health expenditure increases.

4. The paper has four main sections. Section II presents some broad estimates of the implications of the current recession for the relation between health expenditure and GDP. Section III discusses how the two components of this ratio (health expenditure and GDP excluding its health component) have varied over time, and presents some analyses of how they interact in different countries. Section IV discusses the implications of this analysis for trends since 1970 for five selected OECD countries, and is followed by a Box which summarises US evidence on lagged impact of GDP fluctuations on health expenditure. Some concluding remarks make up the final section.

II. THE CURRENT RECESSION AND ITS IMPACT ON THE HEALTH EXPENDITURE RATIO

5. Any discussion of the implications of the current recession also faces an information challenge. The OECD collects and publishes "nowcasts" and short-term projections of aggregate GDP covering up to two years into the future. However, health expenditure, although included in these aggregates, is not independently identified, and to date the only data available on national aggregate health expenditure are the retrospective data supplied with a one-year lag in the annual health accounts and health data collections. This paper includes the most recent of these data, which in most (but not all) countries include the year 2007. This predates by two years the main impact of the current recession, which only started to impact on GDP changes in the second half of 2008 in most countries, and for which the full impact on an annual basis was not felt until 2009.

6. In order to explore the implications of the current recession, Table 1 uses the OECD's projections of GDP for 2009 and 2010 to project the possible impact of the recession on the health expenditure ratio. Since no data for health expenditure are available for 2008, and no separate projections for health expenditure for 2009 and 2010 have been compiled, it is necessary to revert to simplistic assumptions to show the possible impact of the recession.

a. For 2008, it is assumed that health expenditure rose at the same rate over the year as in the previous three years, as there is no reason to believe that health expenditure plans or outcomes were impacted by the recession which suddenly commenced in the third quarter of that year.

b. For 2009 and 2010, two scenarios are presented.

   i. One assumes (unrealistically) that health expenditure ceases to grow and remains at the same rate per capita (in real terms) as it was in 2008. The purpose of this "unrealistic" assumption is to isolate the impact of the recession on the ratio of health expenditure to GDP, even if health expenditure itself ceases to grow.

   ii. The other assumes that growth in 2009 and 2010 is at the same rate as that assumed for 2008 – that is, a continuation of the rate of growth observed over the past three years.

Table 1: Ratio of Health expenditure to GDP: Past Values and Projections to 2010

Country	ACTUAL VALUES				SCENARIO 1 (constant spending)				SCENARIO 2 (same trend)		SCENARIO 1 (constant spending)	SCENARIO 2 (same trend)
	1980	1990	2000	2005	2007	2008	2009	2010	2009	2010	difference 2010-2008	
Australia	6.3	6.9	8.3	8.7	8.8	8.8	8.9	8.9	9.1	9.4	0.1	0.6
Austria	7.4	8.3	9.9	10.4	10.1	10.2	10.6	10.7	10.8	11.0	0.5	0.9
Belgium	6.3	7.2	8.6	10.3	10.2	10.2	10.7	10.8	10.7	10.9	0.6	0.8
Canada	7.0	8.9	8.8	9.9	10.1	10.4	10.8	10.8	11.1	11.4	0.4	1.0
Czech Republic		4.7	6.5	7.1	6.8	6.8	7.1	7.0	7.4	7.6	0.2	0.8
Denmark	8.9	8.3	8.3	9.5	9.8	10.2	10.7	10.7	11.0	11.4	0.5	1.2
Finland	6.3	7.7	7.2	8.5	8.2	8.4	8.9	8.8	9.2	9.4	0.4	1.0
France	7.0	8.4	10.1	11.1	11.0	11.1	11.5	11.5	11.7	11.9	0.4	0.8
Germany	8.4	8.3	10.3	10.7	10.4	10.5	11.2	11.2	11.4	11.6	0.7	1.1
Greece	5.9	6.6	7.9	9.4	9.6	10.0	10.2	10.2	10.9	11.6	0.2	1.6
Hungary			6.9	8.3	7.4	7.4	7.9	8.0	7.9	8.1	0.6	0.7
Iceland	6.3	7.8	9.5	9.4	9.3	9.5	10.3	10.5	10.4	10.7	1.0	1.2
Ireland	8.3	6.1	6.3	7.3	7.6	7.9	8.8	9.1	9.2	9.8	1.2	1.9
Italy		7.7	8.1	8.9	8.7	8.8	9.3	9.3	9.4	9.5	0.5	0.7
Japan	6.5	6.0	7.7	8.2	8.1	8.3	8.9	8.8	9.1	9.2	0.5	0.9
Korea	4.1	4.3	4.9	6.1	6.8	7.4	7.6	7.4	8.5	9.1	0.0	1.7
Luxembourg	5.2	5.4	5.8	7.7	7.2	7.2	7.6	7.7	7.7	7.9	0.5	0.7
Mexico		4.4	5.1	5.8	5.9	6.0	6.6	6.5	6.8	6.9	0.5	0.9
Netherlands	7.4	8.0	8.0	9.8	9.8	9.8	10.3	10.4	10.5	10.8	0.6	1.0
New Zealand	5.9	6.9	7.7	9.1	9.2	9.9	10.3	10.4	10.8	11.3	0.4	1.4
Norway	7.0	7.6	8.4	9.1	8.9	8.8	9.0	9.0	8.9	8.9	0.2	0.1
Poland		4.8	5.5	6.2	6.4	6.5	6.5	6.5	7.0	7.4	0.0	0.9
Portugal	5.3	5.9	8.8	10.2	9.9	10.1	10.6	10.6	10.7	11.0	0.5	0.9
Slovak Republic			5.5	7.0	7.7	8.1	8.5	8.3	9.5	10.2	0.2	2.1
Spain	5.3	6.5	7.2	8.3	8.5	8.5	8.9	9.0	9.2	9.6	0.5	1.1
Sweden	8.9	8.2	8.2	9.2	9.1	9.4	9.9	10.0	10.2	10.4	0.6	1.1
Switzerland	7.3	8.2	10.2	11.2	10.8	10.8	11.2	11.3	11.3	11.5	0.5	0.7
Turkey	2.4	2.7	4.9	5.7	5.5	5.8	6.2	6.1	6.5	6.8	0.4	1.0
UK	5.6	5.9	7.0	8.2	8.4	8.7	9.2	9.2	9.5	9.9	0.5	1.2
USA	9.0	12.2	13.6	15.7	16.0	16.3	16.9	16.9	17.3	17.8	0.6	1.5

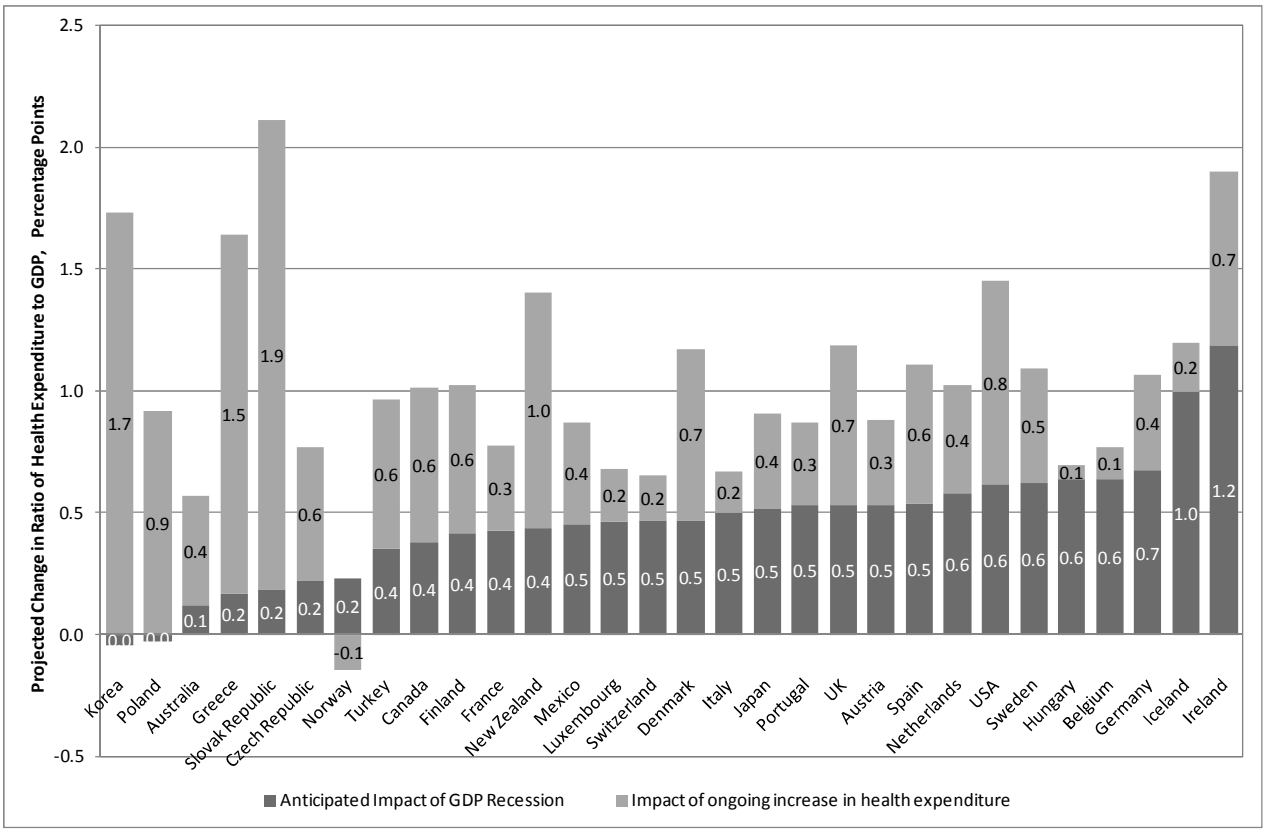
Source: OECD Health Data 2009, June 2009 for "Actual values"; Scenario 1 and 2 are based on estimates using data from Economic Outlook No 85 - June 2009

7. Scenario 1, which assumes constant health spending in per capita terms from 2008 on, is not intended as a plausible projection. Its purpose in this paper is to isolate the impact of the projected declines in per capita GDP on the health expenditure ratio. By construction, it shows almost no impact for those countries (Korea, Poland, Australia) for which little or no decline in per capita GDP was projected, and a large impact (over one percentage point) for the two countries for which the decline in GDP was projected to be the greatest (Iceland and Ireland). The average – and median- impact of the projected GDP decline is an increase of 0.5 percent in the GDP ratio.

8. Scenario 2 is closer to a plausible projection of the impact of the current recession on the GDP ratio. It assumes that real per capita health expenditure will not remain constant during the recession, but

instead will continue to increase at the same rate as for the most recent three years for which data are now available. For one country – Norway – this results in a smaller increase in the health expenditure ratio (0,1 instead of 0,2 percentage points), as real health expenditure per capita declined in that country from 2004 to 2007 (having increased strongly in previous years). But Norway is the only OECD country for which this is the case. For all other countries, real health expenditure per capita increased from 2004 to 2007, and projecting a similar rate of increase augments the projected effect of the recession on the health expenditure ratio. The average – and median – total increase is 1 percentage point.

Figure 1: Projected Increase in Ratio of Health Expenditure to GDP, 2008-2010, Percentage Points



Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

9. For some countries which had a low or zero projected increase in the ratio under Scenario 1, such as Korea and Greece, projecting a continuation of recent high rates of health expenditure growth raises the projected rise in the ratio above 1.5 percentage points (which is slightly above the increase which is projected for the United States). For some countries, such as Ireland, the increase in the ratio projected here will probably not be attained even if GDP falls as far as projected, as steps have been taken to rein back health expenditure. But elsewhere, public health expenditure has not been restrained during the recession: countries have in general treated it as an automatic macroeconomic stabilizer and have not sought to reduce it or even to reduce the rate of growth during the recession.

10. As countries emerge from the recession, constraints on public health expenditure growth can be expected as the authorities attempt to get public finances into balance again. But it is likely to be more a matter of getting health expenditure growth into line with (hopefully revived) GDP growth than reducing health expenditure so as to reduce the expenditure ratio to pre-recession values. To take two examples: in the UK, both major parties have undertaken to protect the National Health Service from the major cuts

which are agreed to be necessary in other spheres of public expenditure. And in the US, the health reform legislation which was adopted in March 2010 did is not expected to reduce overall expenditure, even some aspects are intended to limit its future growth.

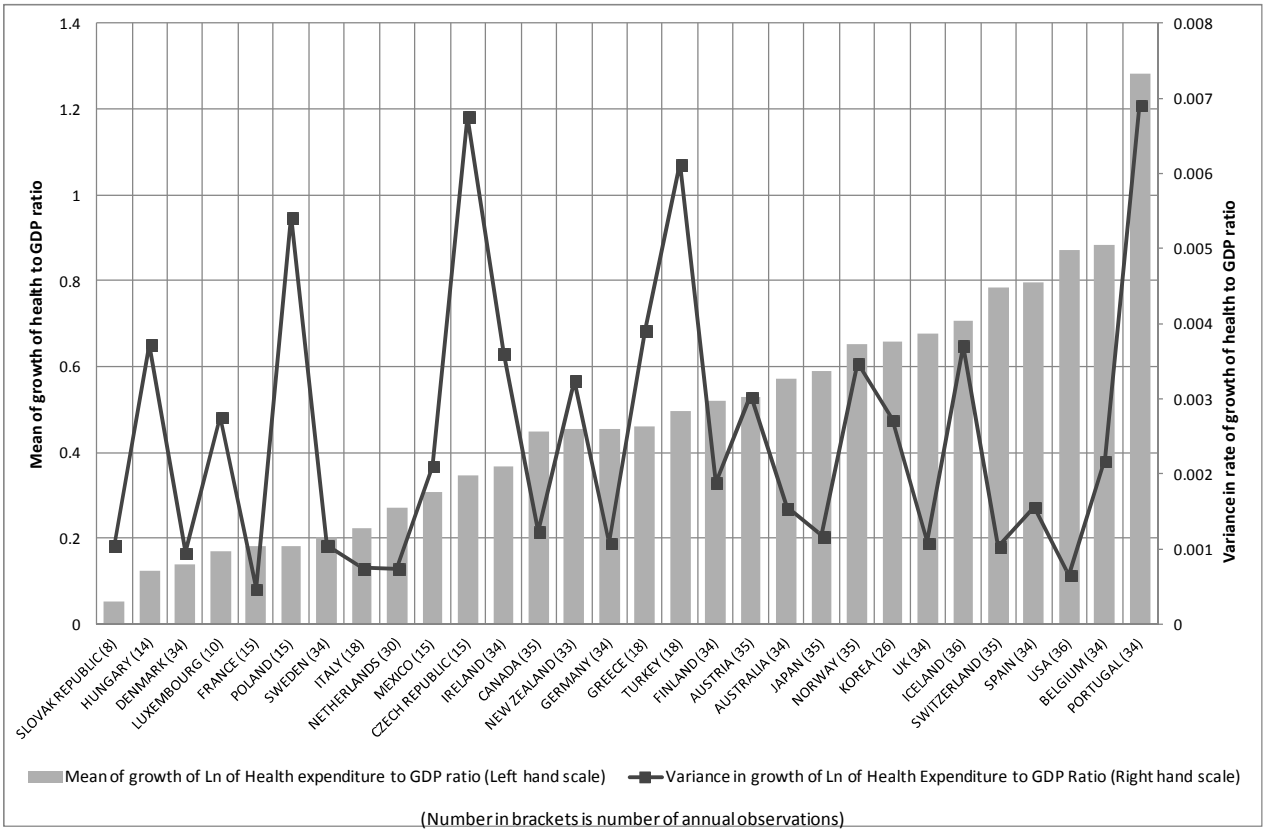
III. VARIATIONS OVER TIME IN THE HEALTH EXPENDITURE RATIO

11. This section addresses the relation between variations in expenditure on health and in GDP as a whole. But health expenditure is a component of GDP, and inclusion of health expenditure in the wider aggregate results in a trivial component of covariance which can confuse the analysis. For example, over the period 1970 to 2006, the estimated coefficient of correlation between the annual rate of growth of health expenditure and that of GDP as a whole for the US is 0.10, but, if health expenditure is excluded from GDP, the estimate falls to 0.02 (The estimate of 0.10 is not statistically significantly different from 0.02, but it is desirable to avoid such bias in correlation estimates in any case). To avoid this false bias in correlation, this section therefore discusses the relation between health expenditure growth and growth in the balance of GDP excluding health expenditure.

12. To use this past record of the variations in health expenditure and in GDP per capita to assess the possible impact of the current recession on the health expenditure ratio, it is necessary to derive summary measures of the relation between the ratio and its two components. The obvious one to start with is the variance of the ratio itself.

13. Before discussing this variance, it is important to observe that this should not be confused with the magnitude of the change in the ratio of health expenditure to GDP. Figure 2 shows countries in order of their average annual rate of increase in the ratio, together with the variance in that increase. It will be seen that there is no relation between the magnitude of the increase and the variance from year to year: the USA, which has the third highest overall increase, has the lowest variance in that increase, while Portugal, which has the highest increase in magnitude, also has the highest variance.

Figure 2: Mean Annual Growth of the Health-GDP ratio and Variance in that growth



Source: OECD Health Data 2009, June 2009

14. The remainder of this Section will concentrate on the variance in the ratio over time. The particular emphasis will be on the importance of fluctuations in GDP in general for the ratio, since the recession produces a large fluctuation in this component. The issue is: what has been the importance of past fluctuations in GDP for the ratio between health expenditure and GDP? For which countries have such fluctuations impacted significantly on the health-GDP expenditure ratio?

15. One important issue is that the quantity of data available since 1970 varies from country to country. For some, 36 annual changes are available. However, for many other countries the number of annual changes available is considerably less, either because they have only recently joined the OECD, because no data are available for earlier years, or because discontinuities in reported health expenditure in particular years mean that some annual changes are unavailable. The number of observations for each country is shown in the legend for each graph.[2]

[2] The first four years of data for Turkey in OECD health data have been omitted. Although no discontinuity is indicated in the data base, including these four observations triples the variance in observations for that country, which is nonetheless one of the highest in the OECD for the remaining years.

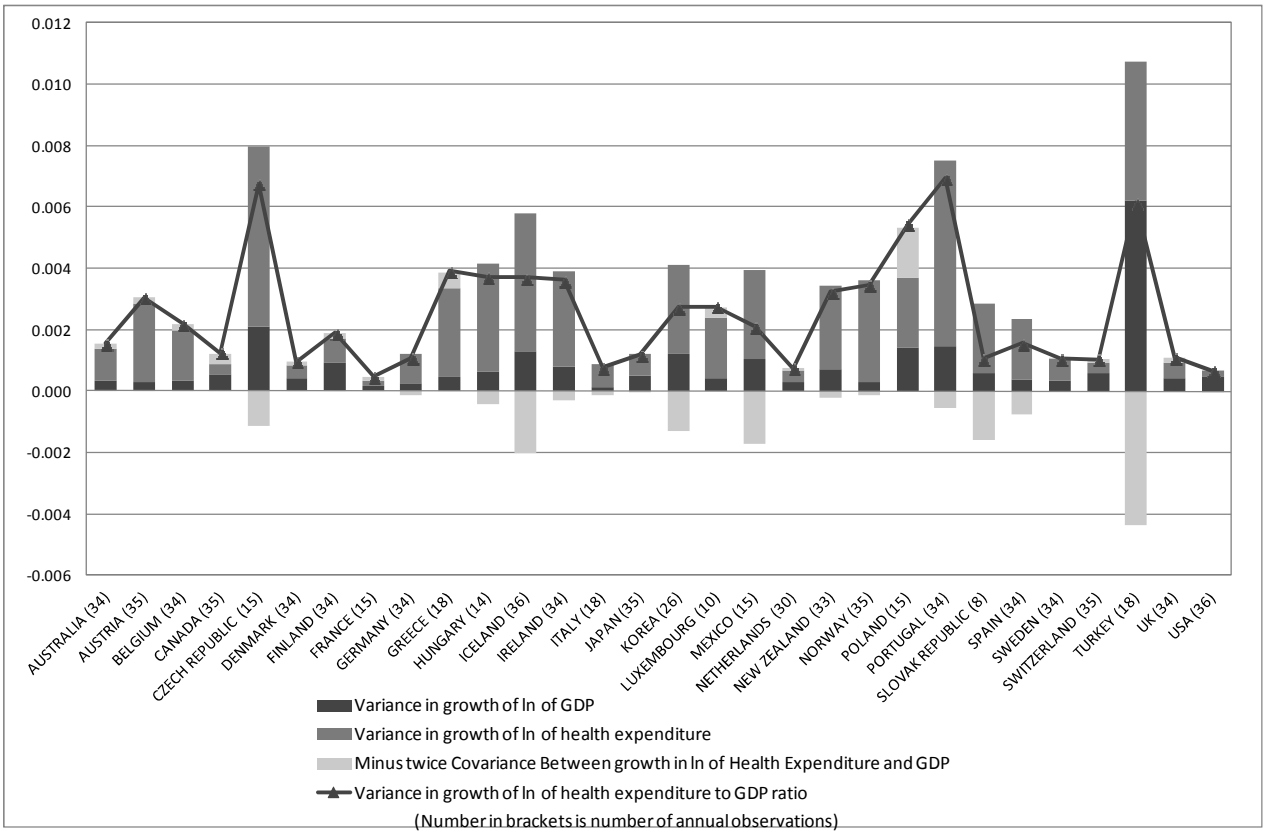
16. By definition,

$$R = H / G \quad \text{.....(1)}$$
$$\therefore \ln R = \ln H - \ln G \quad \text{.....(2)}$$
$$\therefore \Delta \ln R = \Delta \ln H - \Delta \ln G \quad \text{.....(3)}$$
$$\therefore var(\Delta lnR) = var(\Delta lnH) + var(\Delta lnG) - 2cov(\Delta lnH)(\Delta lnG) \quad \text{.....(4)}$$

17. Identity 4 provides a framework for analyzing experience over the past four decades in the variation in the health expenditure ratio. The first point to note is that, in general, the overall variance in changes in the ratio is reduced by correlation between its two components. This can be understood by considering an extreme case for which increases in the two series are perfectly correlated. In this case, the variance of each of the two components would be the same, and their correlation equal to this variance, so that the variance in the growth of the ratio would be zero. The ratio would then increase at a constant rate from year to year, independently of the magnitude of the (parallel) changes in the two components.

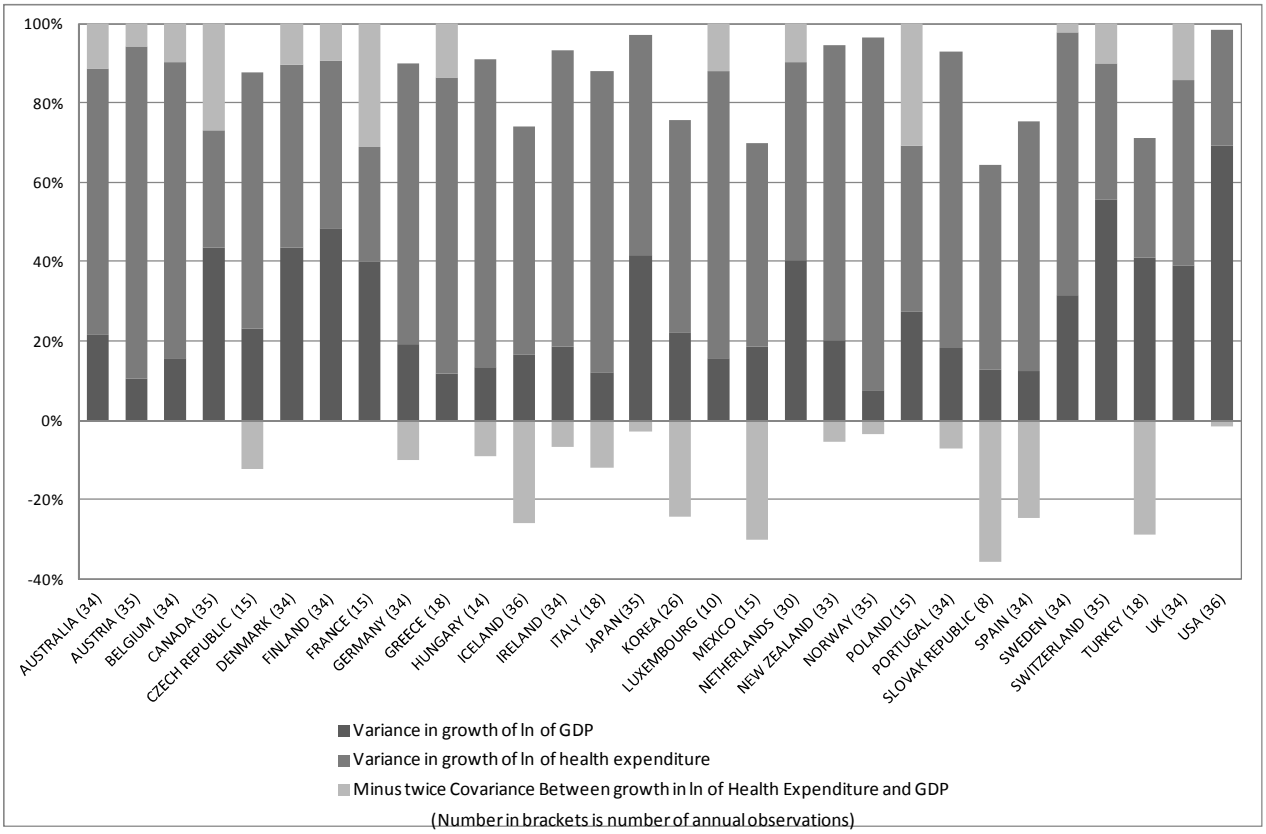
18. In fact, such correlation, while present, does not have a major impact on the observed overall variance in the ratio. Figure 3 shows the relationship between the three components of identity (4) for the data available for each country, while Figure 4 presents the same information normalizing total variance for each country to be equal to 100. For some countries, the correlation as measured is negative, adding to (rather than subtracting from) overall variance in the rate of growth of the ratio.

Figure 3: Components of overall variance in changes in the Health GDP Ratio



Source: OECD Health Data 2009, June 2009

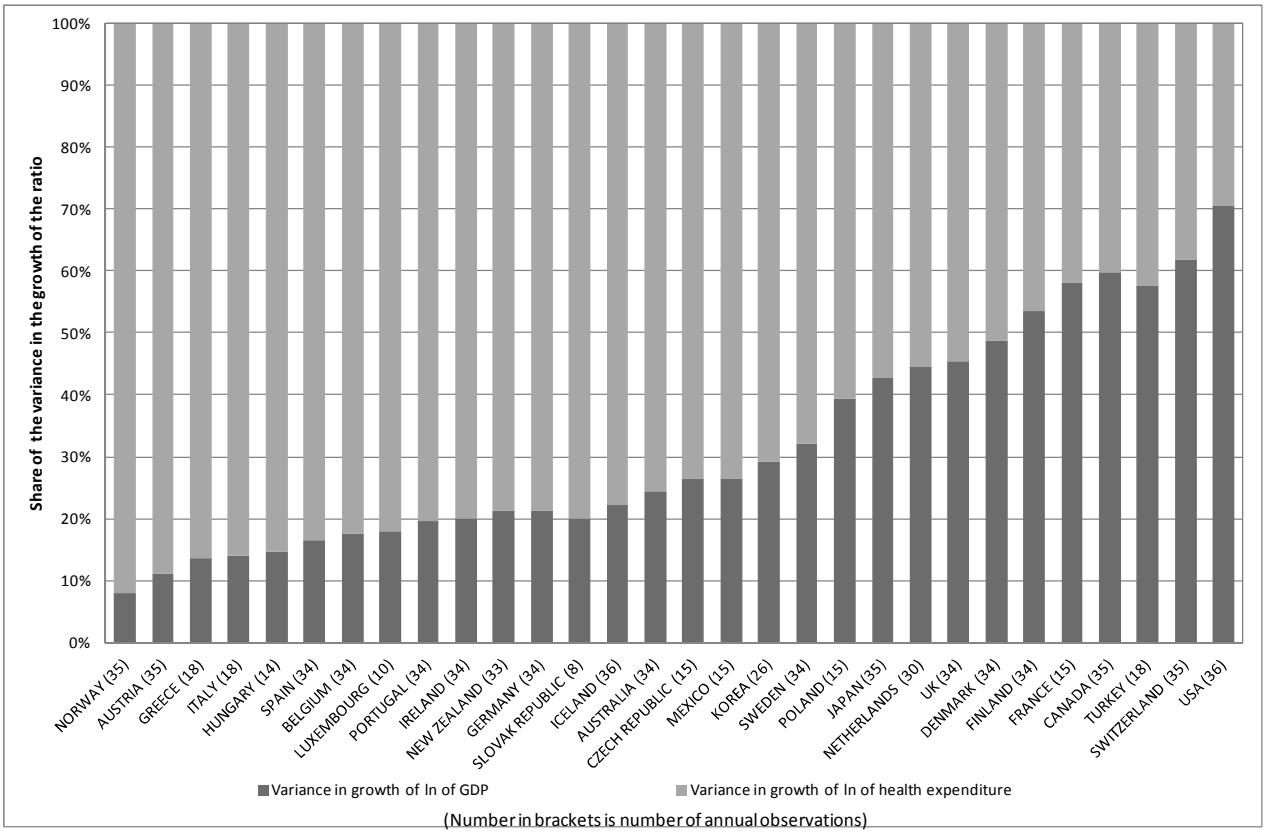
Figure 4: Components of variance in changes in Health-GDP ratio (total=100)



Source: OECD Health Data 2009, June 2009

19. Figure 5 is derived from Figure 4 but omits the correlation term (which is formally the same as adding the correlation term to overall variance in the ratio). It shows the respective contributions of variance in health expenditure and of variance in GDP to the ratio between the two. The other difference is that the order in which countries are presented is changed: countries are ranked from left to right in order of the impact of changes in GDP on changes in the ratio, from lowest to highest.

Figure 5: Variance in Growth of per capita Health Expenditure and in growth of per capita expenditure for non-Health GDP (total=100)

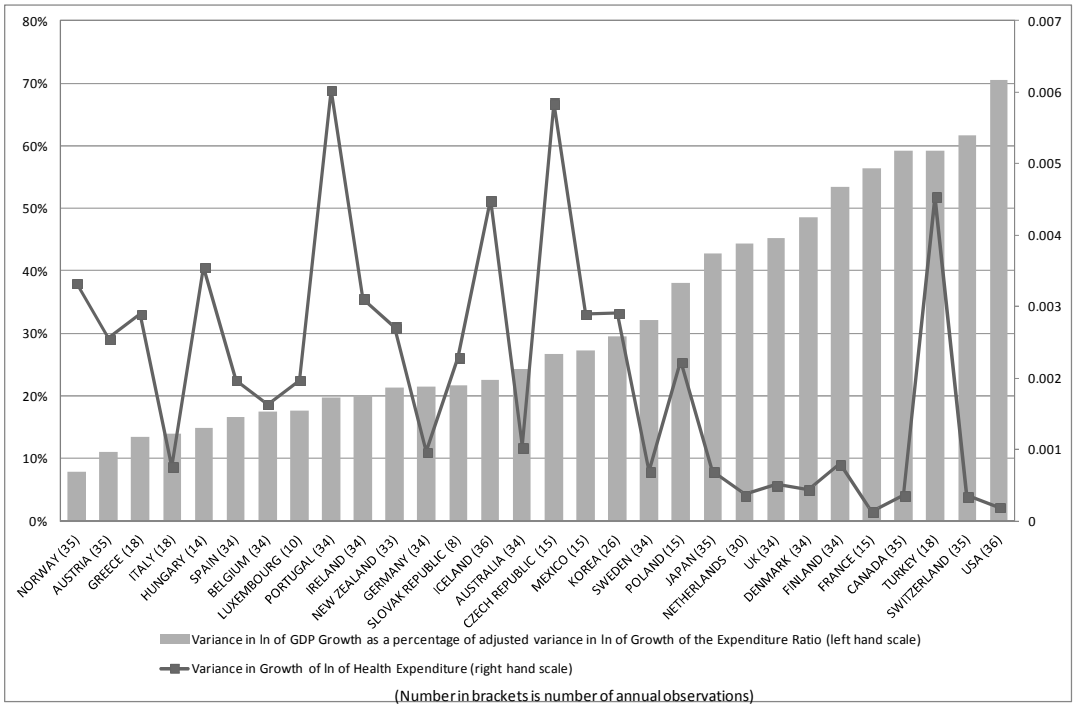


Source: OECD Health Data 2009, June 2009

20. The United States stands out as being a country for which increases in the health expenditure ratio have been largely associated with pauses or declines in GDP growth: 70% of the variance in the health expenditure ratio can be ascribed to this affect. For four other countries, variance in GDP contributes to 50% or more of overall variance: Switzerland, Turkey, Canada and Finland. For all other countries, GDP variations accounted for less than half the variance in the overall expenditure ratio, with a minimum of 8% for Norway.

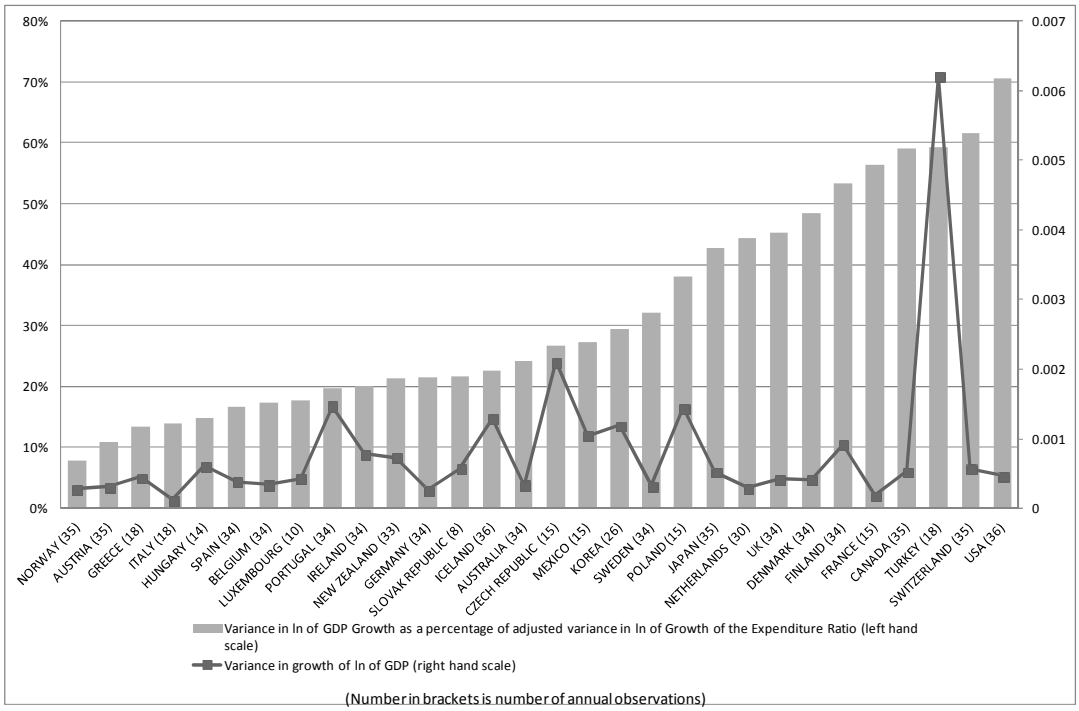
21. Figure 6 suggests that high contributions of GDP fluctuations to changes in the expenditure ratio are associated with low variance in health expenditure growth: except for Turkey, health expenditure growth varies less for countries for which GDP growth is important than in countries in which it is less important. Figure 7 shows that no such association is apparent for variance in GDP growth which is (except for Turkey) similar for both categories of countries.

Figure 6: Contribution of variance in GDP growth to overall variance in Health GDP ratio compared with variance in growth of health expenditure



Source: OECD Health Data 2009, June 2009

Figure 7: Contribution of variance in GDP growth to overall variance in Health GDP ratio compared with variance in growth of GDP



Source: OECD Health Data 2009, June 2009

IV. THE HEALTH EXPENDITURE RATIO SINCE 1970: EXPERIENCE IN SELECTED COUNTRIES

22. Section II of this paper showed that the current recession can be expected to result in an increase of (on average) one percentage point in the ratio of health expenditure to GDP. Section III has shown that in several countries changes in the ratio of health expenditure to GDP has been dominated by GDP fluctuations, This Section discusses briefly the developments over time in five OECD countries: the United States, Norway, Switzerland, Finland and Canada, In two of these (the United States and Switzerland) private expenditure accounts for a large proportion of overall health expenditure. In two others (Finland and Canada) previous recessions have been followed by a devolution of financial responsibility for health expenditure to regional authorities, which in turn led to a (temporary) fall in real health expenditure and a stabilization or fall in the health expenditure ratio. Norway exhibits trends which are the opposite of the other four: in this case, health expenditure growth has had a high variance, and this variance has dominated changes over time in the health expenditure ratio. .

23. Figures illustrating developments over time for all other OECD countries are in the Annex to this paper.

United States

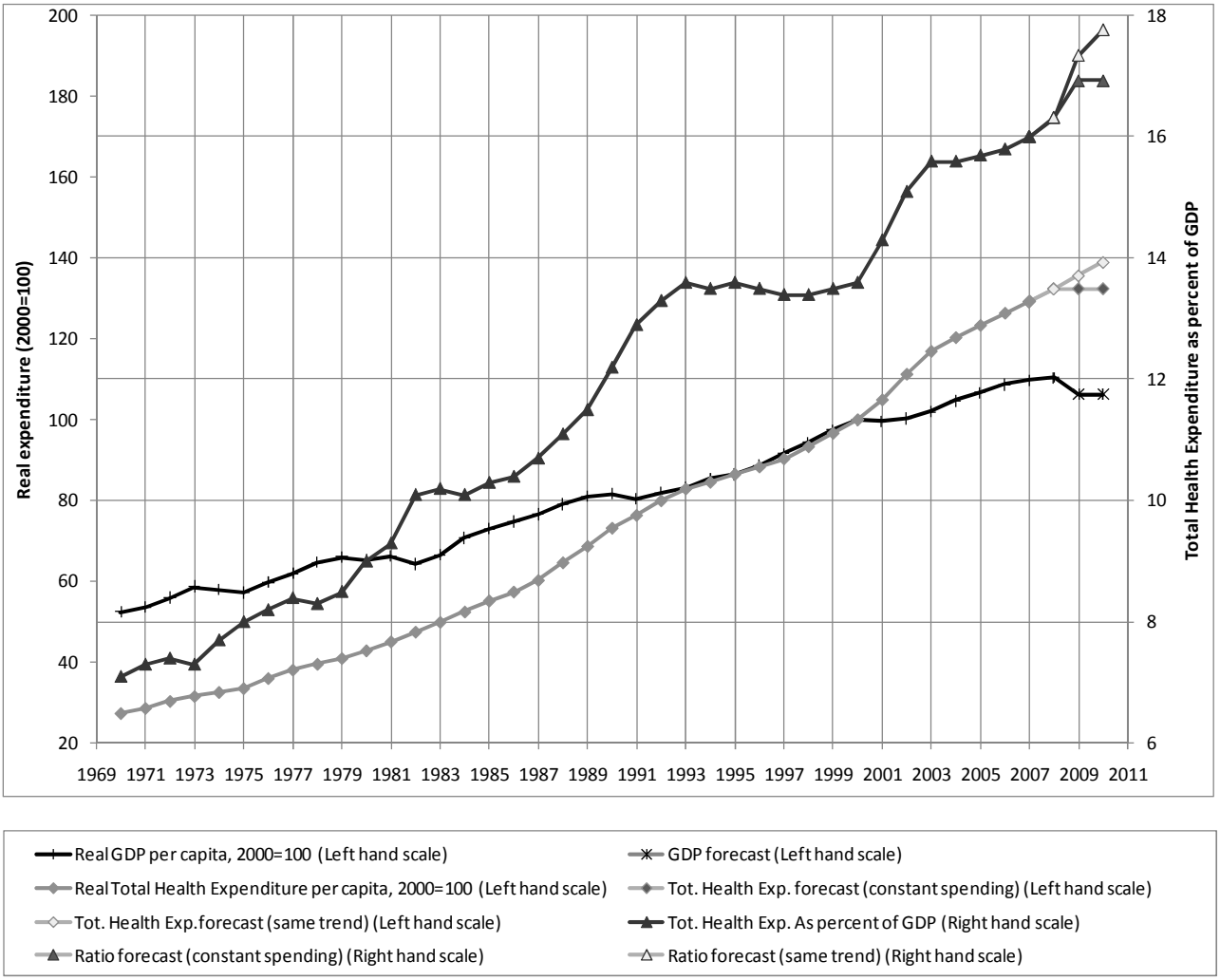
24. The USA has experienced steady and strong growth in health expenditure over the past four decades: health expenditure has grown in real terms (on average) faster than in virtually any other OECD country: the only two exceptions are Belgium and Portugal (see Figure 2 above). This growth in US health expenditure has been very steady: its variance is lower than in any other OECD country, which means that relative variance of growth is even lower. The ratio of health expenditure to GDP has also increased, but not as steadily: during periods of strong economic growth, the ratio has been stable and even fallen in some years, due to GDP growth outpacing health expenditure growth.

25. The stability of growth of health expenditure is quite extraordinary, given the strong role that private financing plays in the US[3], and the growth in the number of uninsured and underinsured as health costs rise. An initial expectation would be that health expenditure would be more sensitive to fluctuations in overall economic growth where a large part is funded through employers and other private agents, and would impact the capacity of uninsured individuals to access care. But in fact health expenditure grows more steadily in the US than in any other country.

26. The current recession will inevitably lead to a further increase in the expenditure ratio: it is already higher than any other OECD country at 16% of GDP. Even if health expenditure had ceased to grow in 2009 and 2010, the projected fall in GDP would increase the ratio to 17%. There is no reason to expect that health expenditure growth will now slow down: if anything, the administration's commitment to extend coverage to the large number of uninsured will accelerate growth in health expenditure, at least in the short term. So the ratio will could well reach 18% in 2010.

[3] In 2007, non public expenditure accounted for 55% of total health expenditure in the United States: the only OECD country for which the ratio was higher was Mexico, where it was also 55%.

Figure 8: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, USA



Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

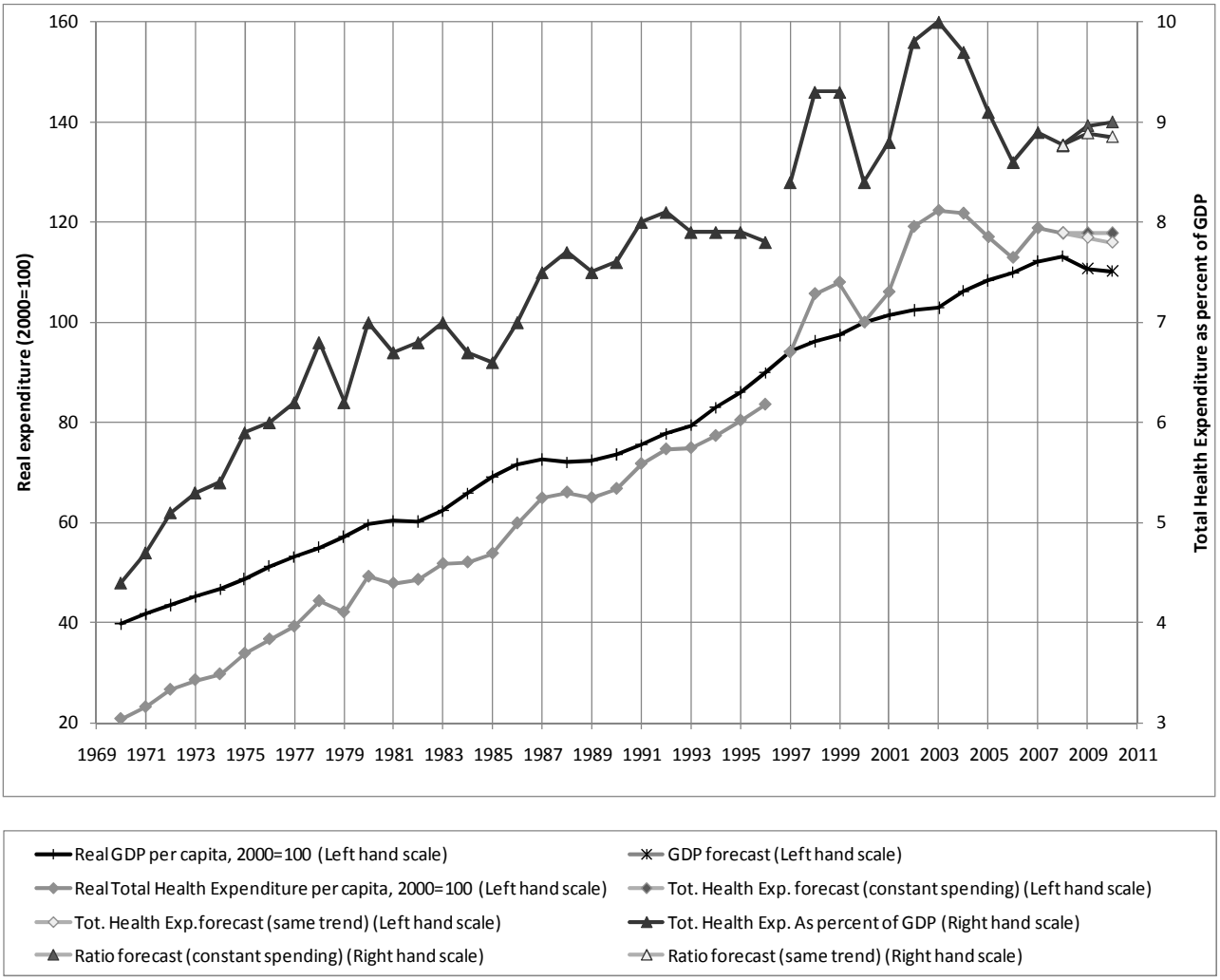
Norway

27. In terms of the relationship between health expenditure and GDP change, Norway represents the opposite pattern to the US. In this case, GDP growth has been relatively steady, while health expenditure which is overwhelmingly publicly financed [4]has fluctuated markedly from year to year, with notably a strong decline from 2003. Changes in the health expenditure ratio have been dominated by those fluctuations in health expenditure.

28. As for the impact of the recession, this is expected to be relatively mild, and since health expenditure has been increasing relatively moderately as well, no spike in the expenditure ratio is anticipated.

[4] Private financing accounts for only 16 percent of total health expenditure in Norway : only three other countries (Denmark, the Czech Republic and Luxembourg) report a lower figure.

Figure 9: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, Norway



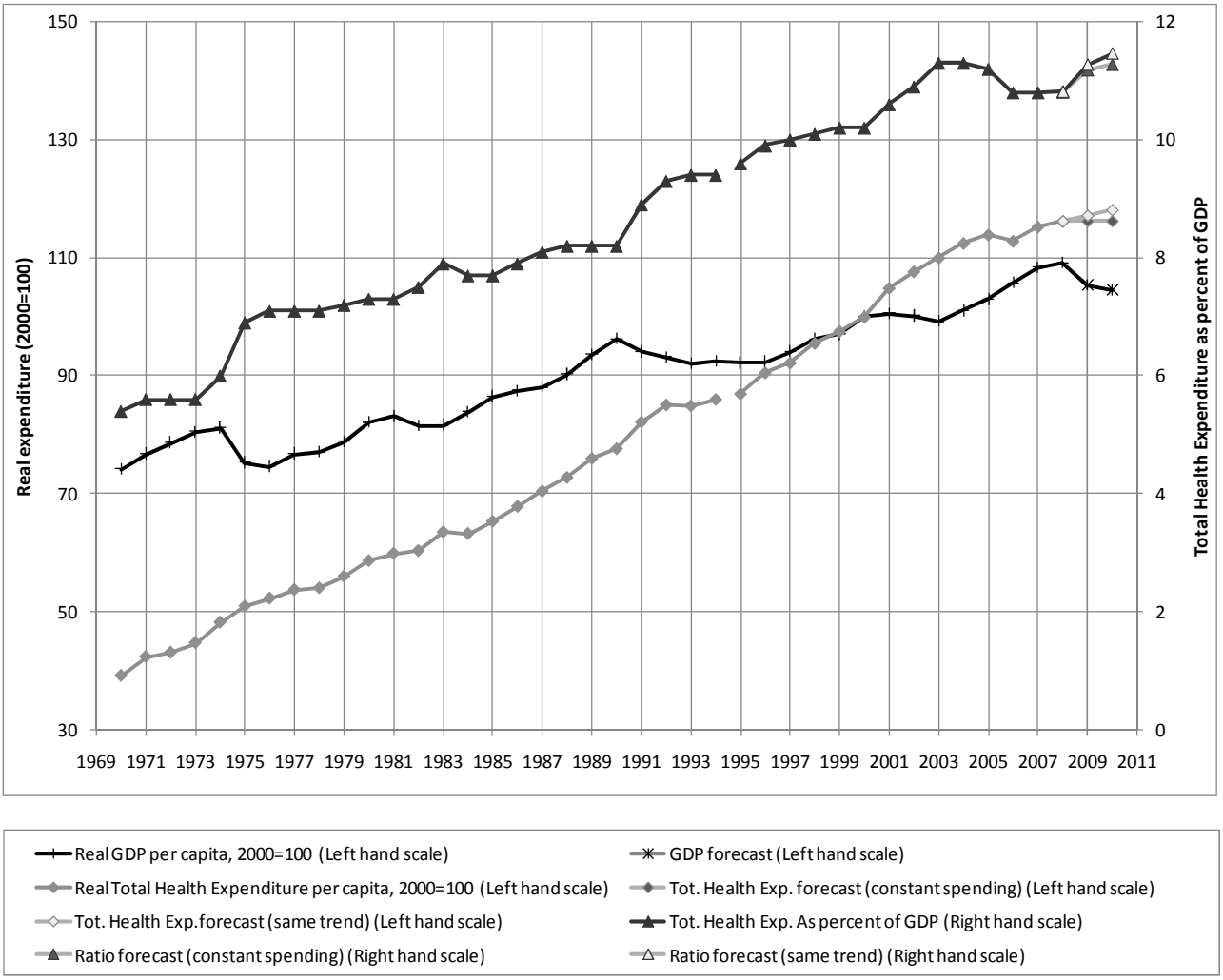
Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

Switzerland

29. Switzerland is another country for which a significant proportion of health expenditure (40%) is privately financed. In this case as well, health expenditure growth has been steady, although not as rapid as for the United States. Again, this low responsiveness to economic growth is surprising, particularly when the greater importance of out-of-pocket payments in health expenditure (31% of the total) than in the US (13%) is taken into account.

30. Although economic growth has been less rapid than in the United States, once again it is fluctuations in GDP growth, and not in health expenditure growth, which have been the main source of fluctuations in the ratio of health expenditure to GDP. However, in the current recession the impact of the expected slowdown on the expenditure ratio can be expected to be less than for the US. This is because health expenditure growth slowed from 2006 (in contrast to the steady growth in the previous two decades) and has been moderate over the past three years.

Figure 10: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, Switzerland



Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

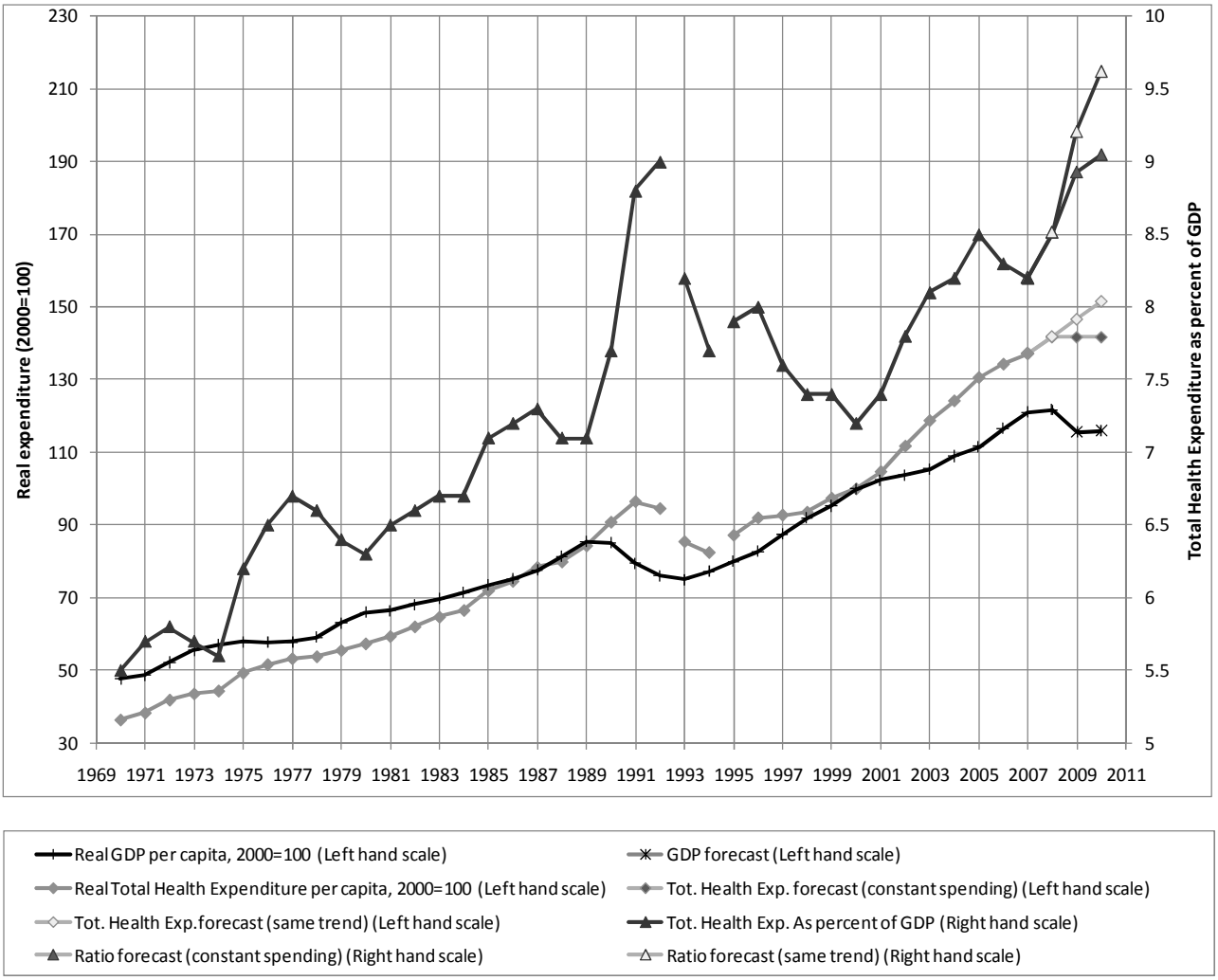
Finland

31. From 1990 to 1993, Finland experienced a recession which was much more severe than the worst forecasts for the current recession: by 1993, GDP per capita was 12.3% less than its level in 1989. Initially, health expenditure continued to rise at its previous rate, leading to a sharp rise in the health expenditure ratio: it reached 9% of GDP in 1992. But health expenditure then fell for a number of years, and then rose at a lower rate than GDP until 2000. As a result, the health expenditure ratio fell steadily until 2000. It has since risen, but is still below its 1991 peak, though the current recession could drive it above that level again if health expenditure growth does not decelerate.

32. The decline in health expenditure occurred at the same time as the devolution of responsibility for most public health financing to municipalities. This long-planned reform coincided with the recession, and the lowered tax capacity of the municipalities as a result of the recession meant that health expenditure

was under particular pressure. Many staff were laid off (unemployment for nurses was high) and waiting lists and other forms of rationing characterised public provision until recently.

Figure 11: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, Finland



Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

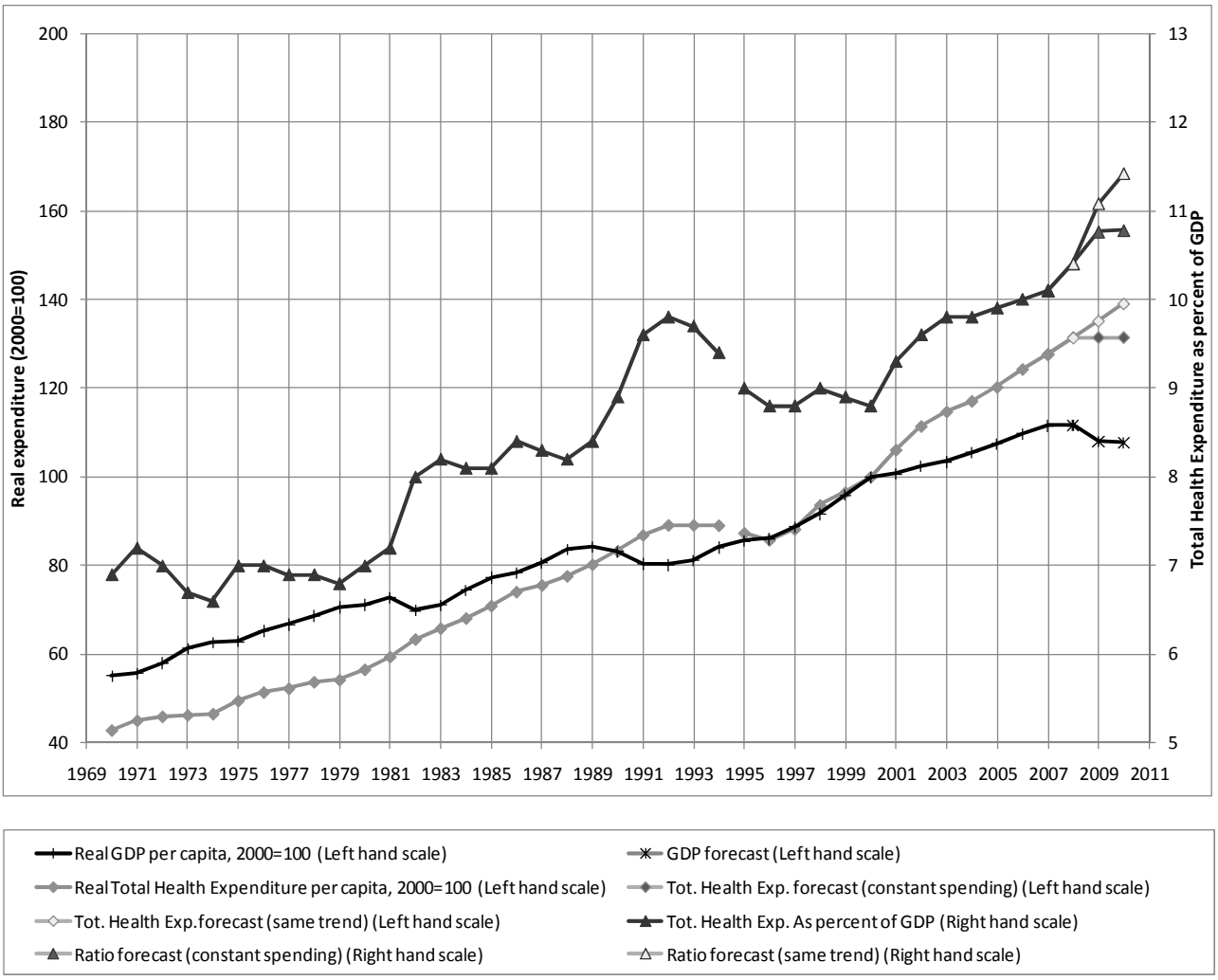
Canada

33. The recession of the early 1990's was milder in Canada than in Finland: GDP fell by 4.8% in 1992 compared with 1989. However, this recession occurred after a long period during which the Canada had run a fiscal deficit and experienced a growth in the national debt. In response, the federal government reduced sharply the transfers to the provinces under the Canada Health Act, which in turn led to the provinces reducing health expenditure over a period of four years. The health expenditure ratio, which had peaked at near to 10% of GDP at the depth of the recession in 1992, fell for a number of years.

34. The cutbacks in health expenditure had a strong impact on the accessibility of health services (private provision of ambulatory and hospital services is minimal, as to date there has been an effective

prohibition on private insurance for these components of health care). Waiting lists and times increased, and public satisfaction with Canadian health care fell. Since 2000, Canada has responded to the public dissatisfaction by increasing expenditure faster than GDP, and the health expenditure ratio has again increased. The current recession could well result in another percentage point increase, to around 11%.

Figure 12: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, Canada



Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

Box 1. Lagged Effects

35. An established literature shows that fluctuations in health expenditure in the United States are highly dependent on GDP changes over the previous five years (Getzen, 2000). The Office of the Actuary in the Centers for Medicare & Medicaid Services (CMS) finds current real per capita disposal personal income to be a highly influential variable through its lagged effect 4 years earlier. The long period before a change in GDP has an effect on spending is said to be related to several characteristics of the market for health services, including:

a) The role of the third-party payers because health spending is insulated from contemporaneous changes in household income since private insurers or public payers account for the spending.

b) The decision to consume medical goods is not immediately affected in the short term by changes in income as users generally do not pay at the point of purchase. Employers have to renegotiate health insurance contracts or introduce new insurance options in response to employee preferences, and this takes some time.

c) Changes in the growth of public spending, in particular, are influenced by the underlying health sector variables that drive the cost of services and by changes to the regulations that affect the price and volume of these services. Examples include the incentive effects of the prospective changes in the Medicare physicians fee schedule, Federal and state-level regulation influencing the nature of insurance coverage (e.g. diverse forms of "patient protection" legislation), or changes in costs associated with medical malpractice liability. Changes in such policies lag changes in GDP as lawmakers respond to perceived problems in the financial status of the programs within the limits of what taxpayers are willing to pay for them.

36. Cooper *et al* (2003) also analyse the interrelationships between levels of economic development and the size and characteristics of the physician workforce in the United States. They show that economic expansion has a significant lagged relationship with changes in physician supply and that longitudinal correlations were associated with temporal lags of 5 years for health employment and 10 years for changes in physician supply. This suggests a causal relationship from acceleration (or deceleration) of economic growth through an expansion (or deceleration) of physician supply, leading to capacity related-fluctuations in real health expenditure.

37. This strong influence of lagged GDP fluctuations on health expenditure changes reinforces the observation (in Section IV of this paper) that fluctuations in health expenditure play a relatively minor role in the (low) variance of the health expenditure ratio in the United States. Up to half the (low) contribution of health expenditure variation in the US is itself a response to past GDP changes, reducing still further any autonomous contribution of health expenditure as such. This is a crucial issue for public policy, as the high and invariant rate of growth of health expenditure in the US is now a crucial challenge for macroeconomic management as well as for the public finances. This is more true now that the US has legislated to broaden health insurance coverage[5].

[5] Many of these causes of a lagged effect of changes in GDP affecting spending are found relevant in other countries, too. Preliminary analysis by the OECD Secretariat suggests significant lagged relationships between health expenditure growth and GDP growth in some OECD countries. However, assessing these effects is complicated by the possible presence of statistical cointegration relationships between the GDP and health expenditure (Hansen and King 1998 ; Gerdtham U. and Lothgren M., 2000 ; MacDonald and Hopkins, 2002 ; Moscone and Tosetti, 2009). Such interaction can lead to spurious regressions between the two series under the OLS (Engle and Granger, 1987). Hence further work is necessary to establish whether the expected lagged effects of GDP remain significant in the estimation of the long-run economic relationship between GDP and health expenditure.

V. CONCLUSION

38. Countries vary greatly in the way health expenditure and non-health components of GDP vary over time, and this in turn leads to important differences in the way these two components interact to generate changes in the ratio of health expenditure to GDP. Continuous growth in health expenditure is characteristic of some countries with high reliance on private funding: economic fluctuations seem to have little immediate impact on health expenditure trends for such systems.

39. The current debate on reducing health expenditure growth in the US shows how important these issues are for overall public policy. If public policy cannot or does not reduce health expenditure growth in the face of economic slowdowns, such slowdowns will produce an increase in the health expenditure ration even if there is no acceleration in health expenditure growth In some countries where social insurance or tax funding accounts for a higher proportion of overall health expenditure, health expenditure growth has at times paused or even reversed.. Usually this has resulted in unpopular restrictions on access, which over time has resulted in a re-acceleration of expenditure growth. However, where the pause or reversal was prolonged, the health expenditure ratio has remained fallen or ceased to grow for several years

40. During the current downturn, most countries seem to be using health expenditure as an "automatic stabiliser", which counters the fall in demand elsewhere in the private sector. This means that the health expenditure ratio is generally being allowed to increase. However, this is by no means universal: for example, US states, which mostly operate under constitutional mandates precluding ongoing deficits, are having to reduce Medicaid expenditure -- which has generally meant further restricting access to this means-tested programme.

41. Where health expenditure is continuing to rise, the cost burden on that part of health expenditure which is funded by private employers continues to grow: this is a significant impediment to recovery in some countries, notably the US but also other countries where employers fund complementary and supplementary insurance, such as Canada and France. In the longer term, the need to recover fiscal balance will mean that public funded systems will either have to impose the same sorts of reductions as were experienced in Finland and Canada in the 1990's, or will need to raise tax and social insurance rates.

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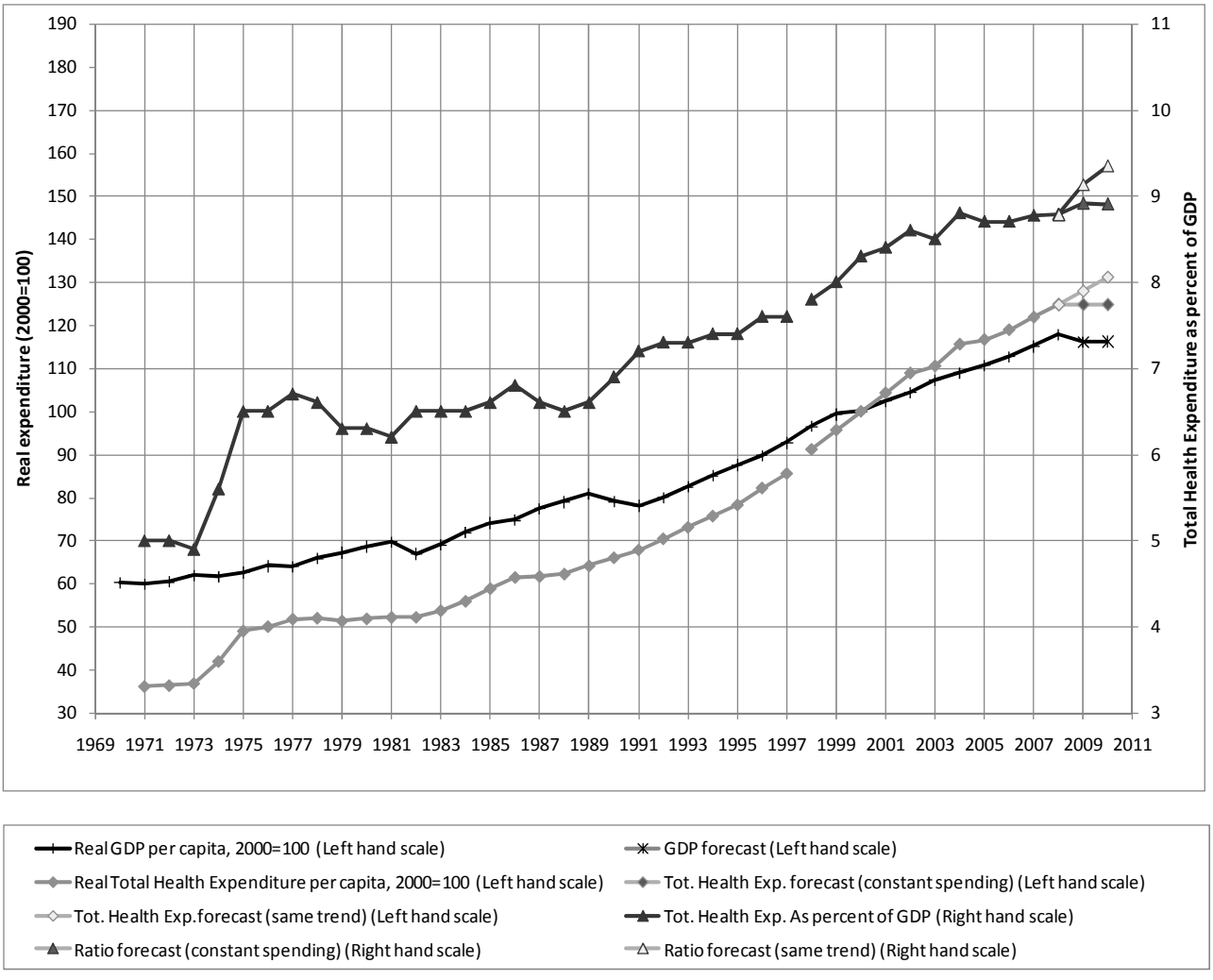
ANNEXES

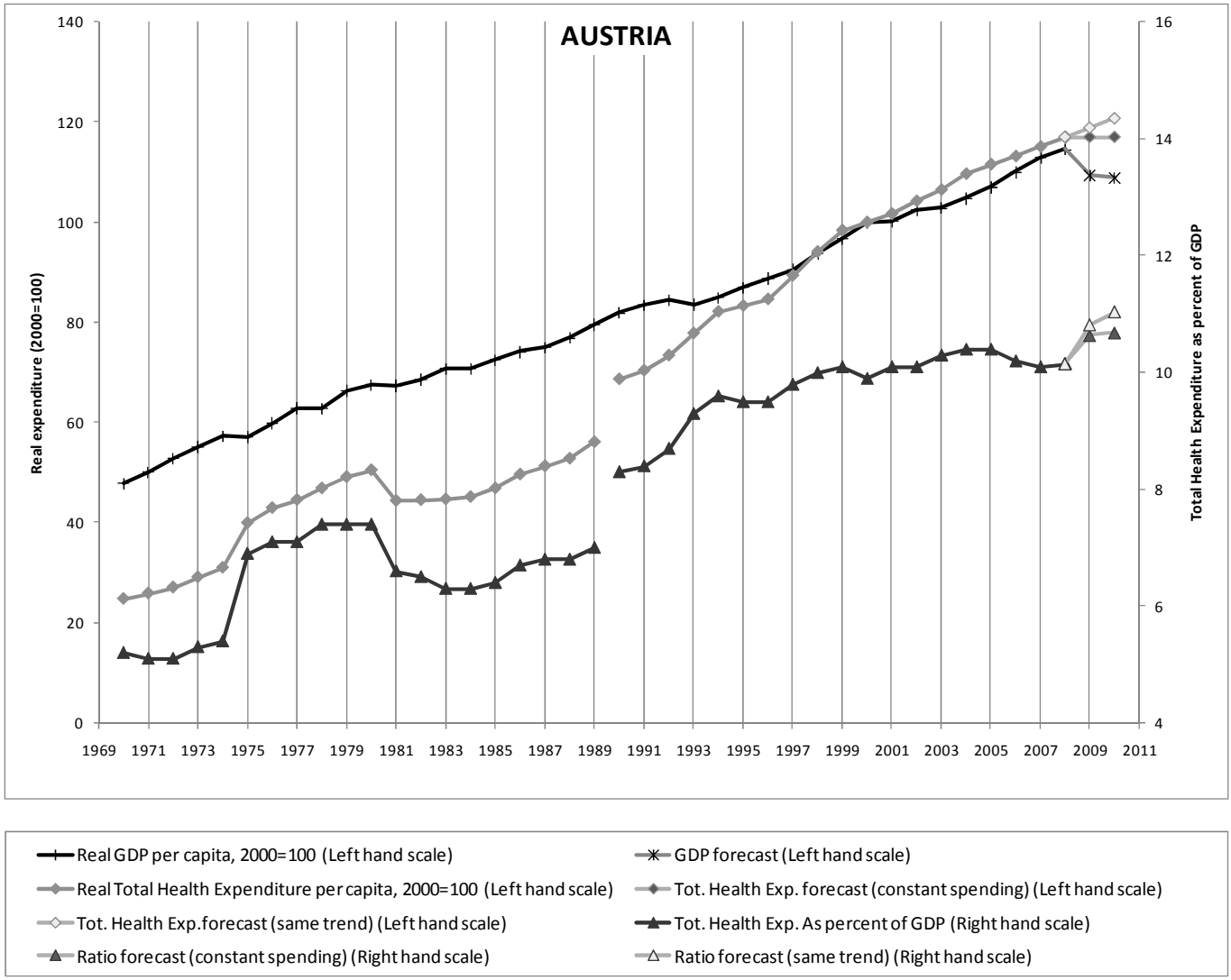
PAST TRENDS AND FORECASTS FOR GDP, HEALTH EXPENDITURE AND THE RATIO OF HEALTH EXPENDITURE TO GDP, 1970-2010, ALL OTHER OECD COUNTRIES

Figure Annex 1: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, Australia



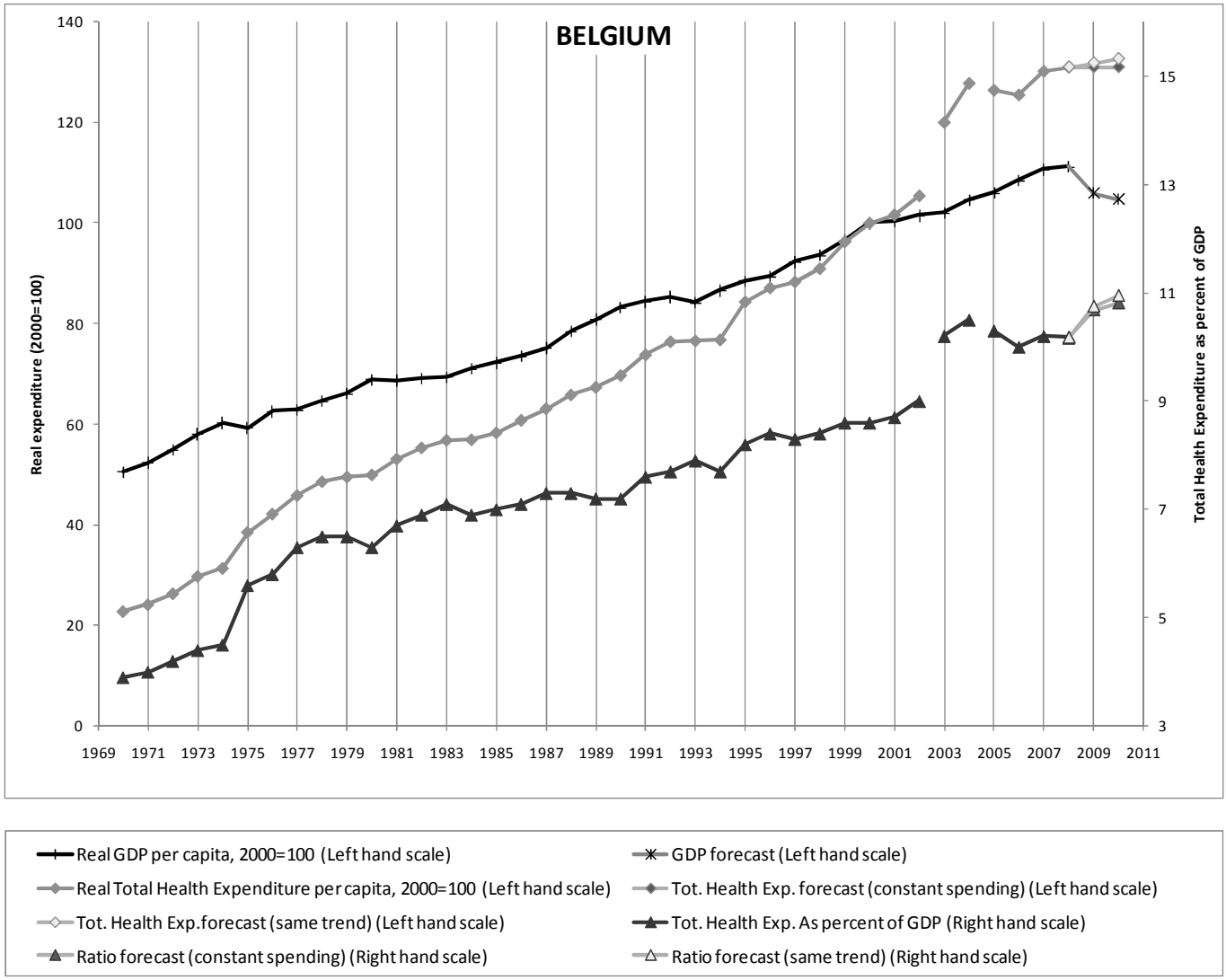
Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

Figure Annex 2: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, Austria



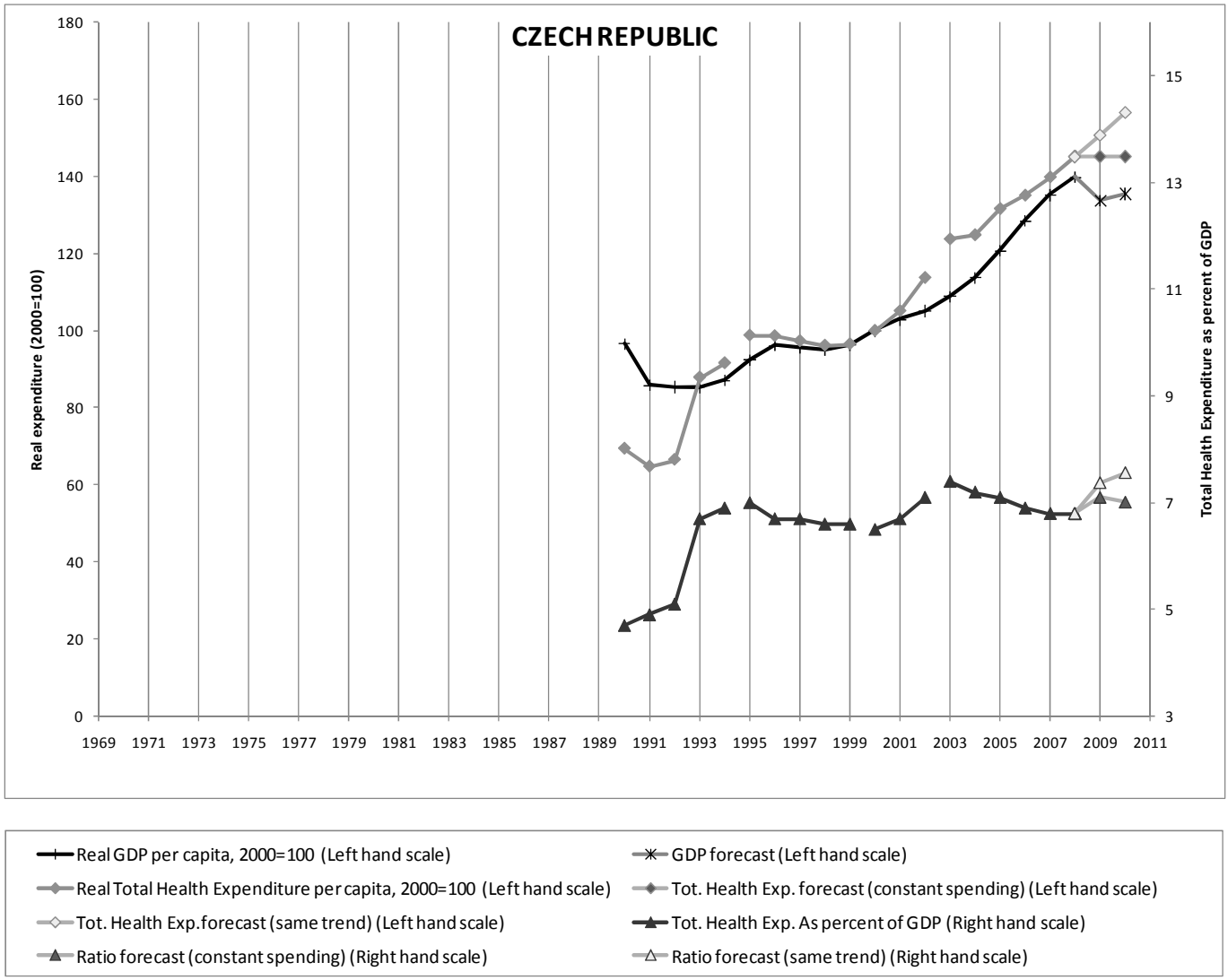
Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

Figure Annex 3: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, Belgium



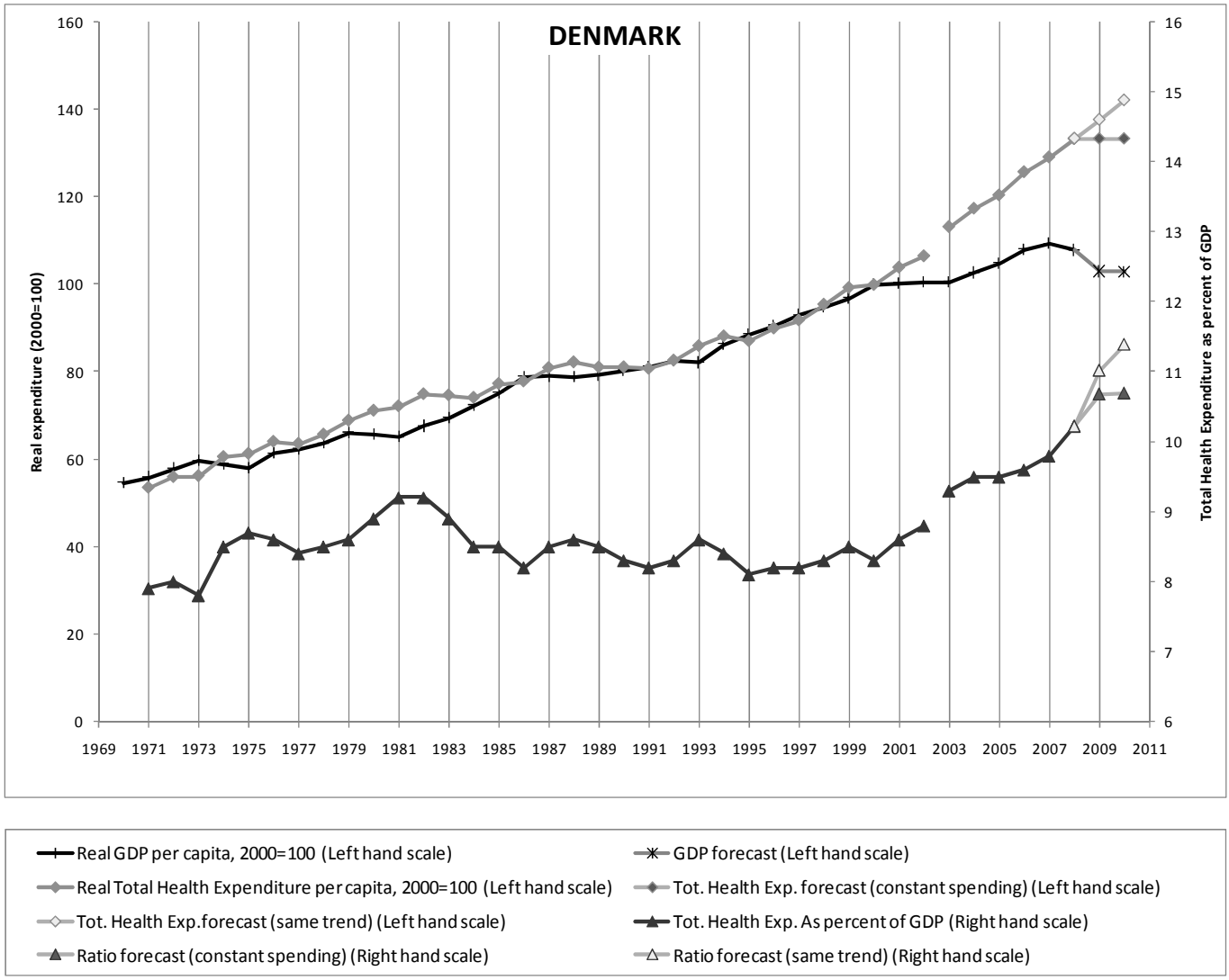
Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

Figure Annex 4: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, Czech Republic



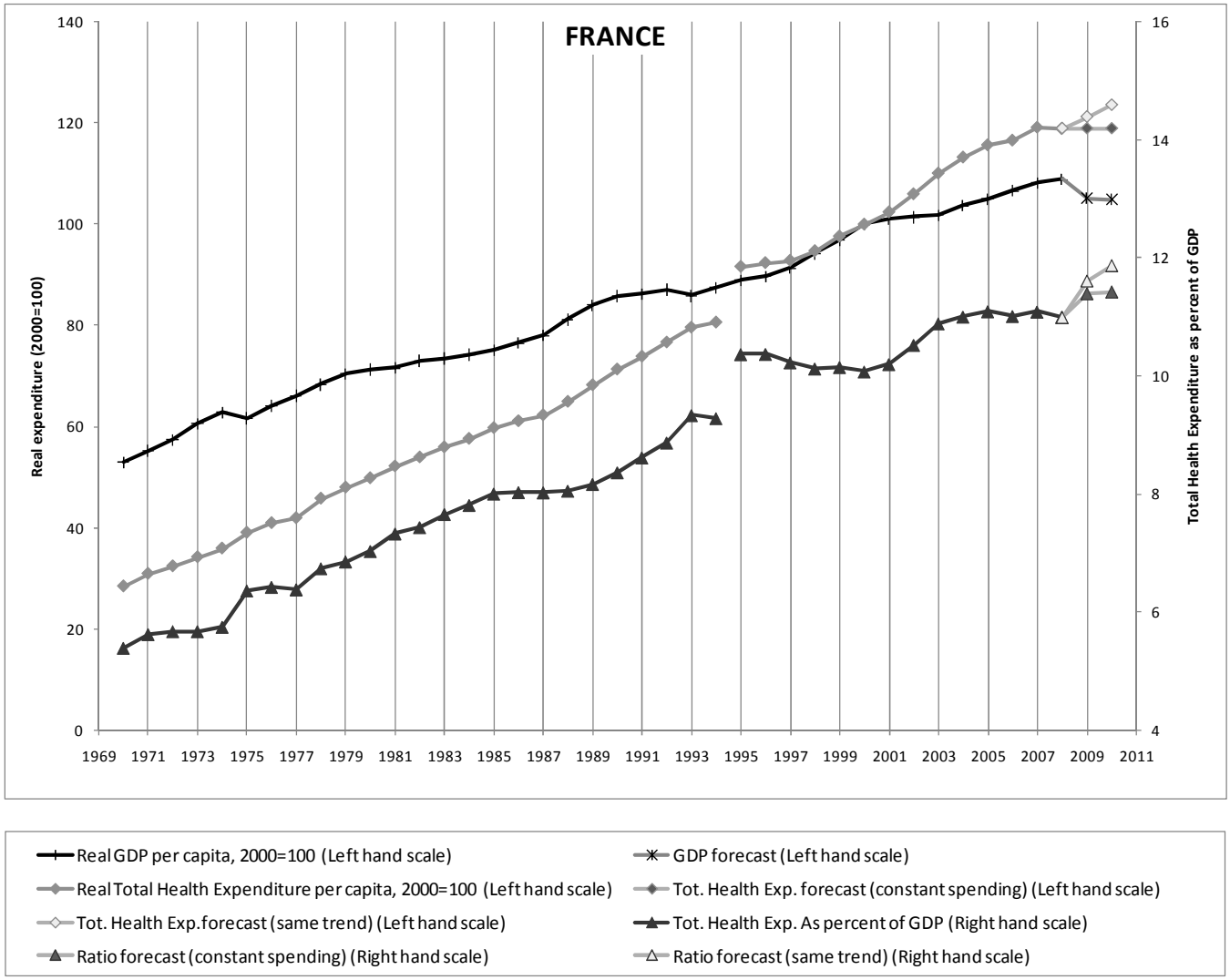
Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

Figure Annex 5: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, Denmark



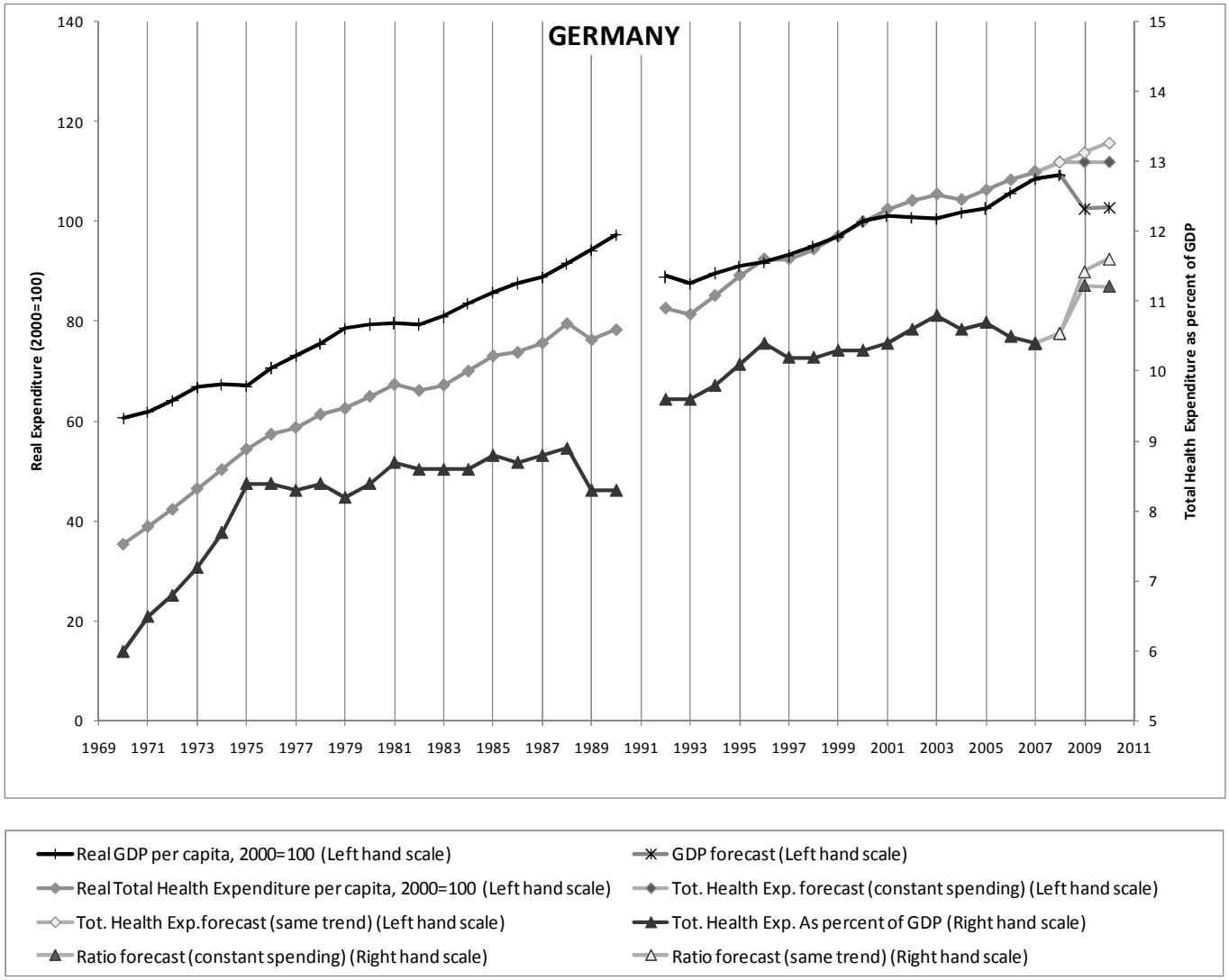
Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

Figure Annex 6: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, France



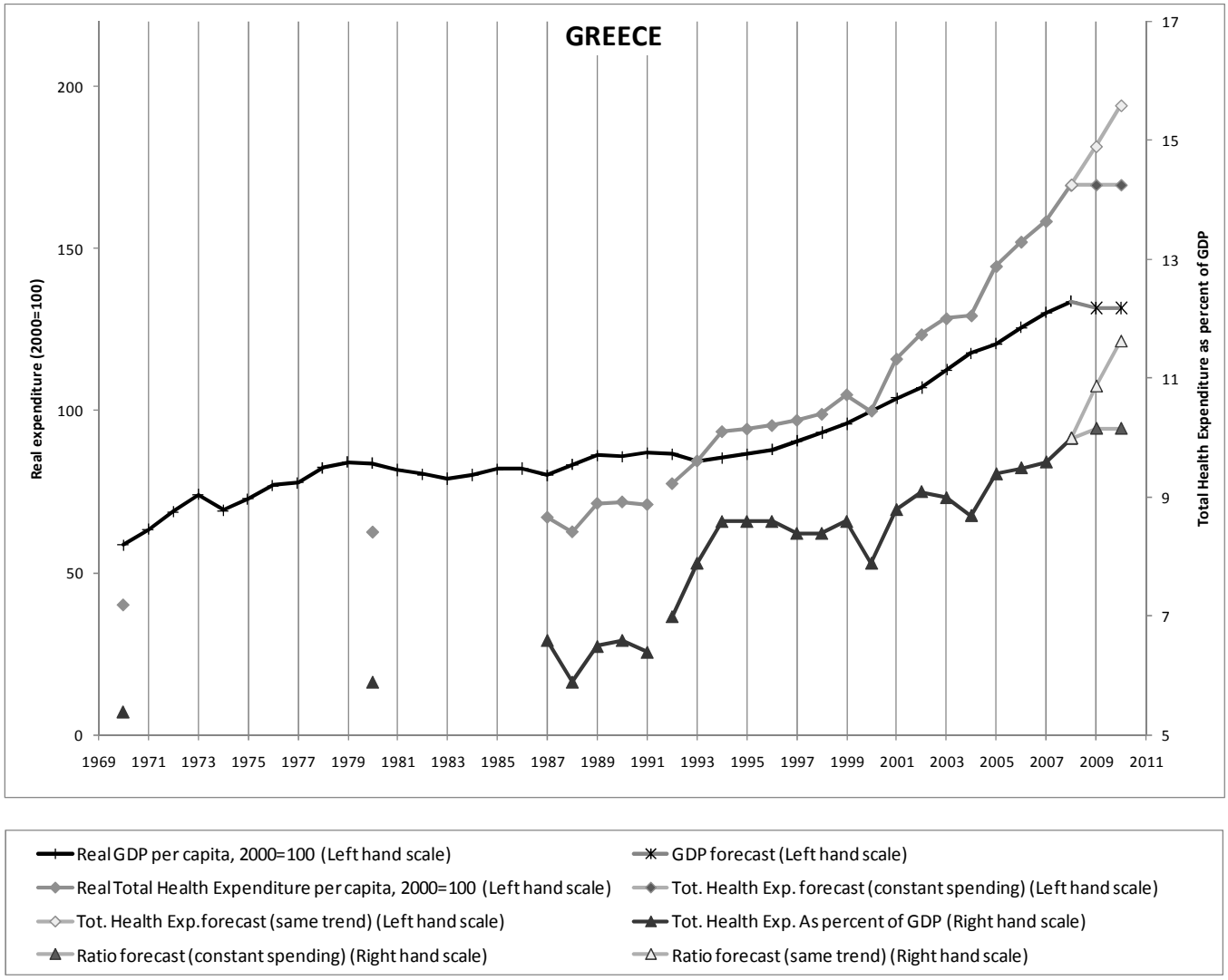
Source: OECD Health Data 2009, June 2009, OECD figures interpolated using series for consumption of medical goods and services (Eco-santé France); Economic Outlook No 85 - June 2009

Figure Annex 7: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, Germany



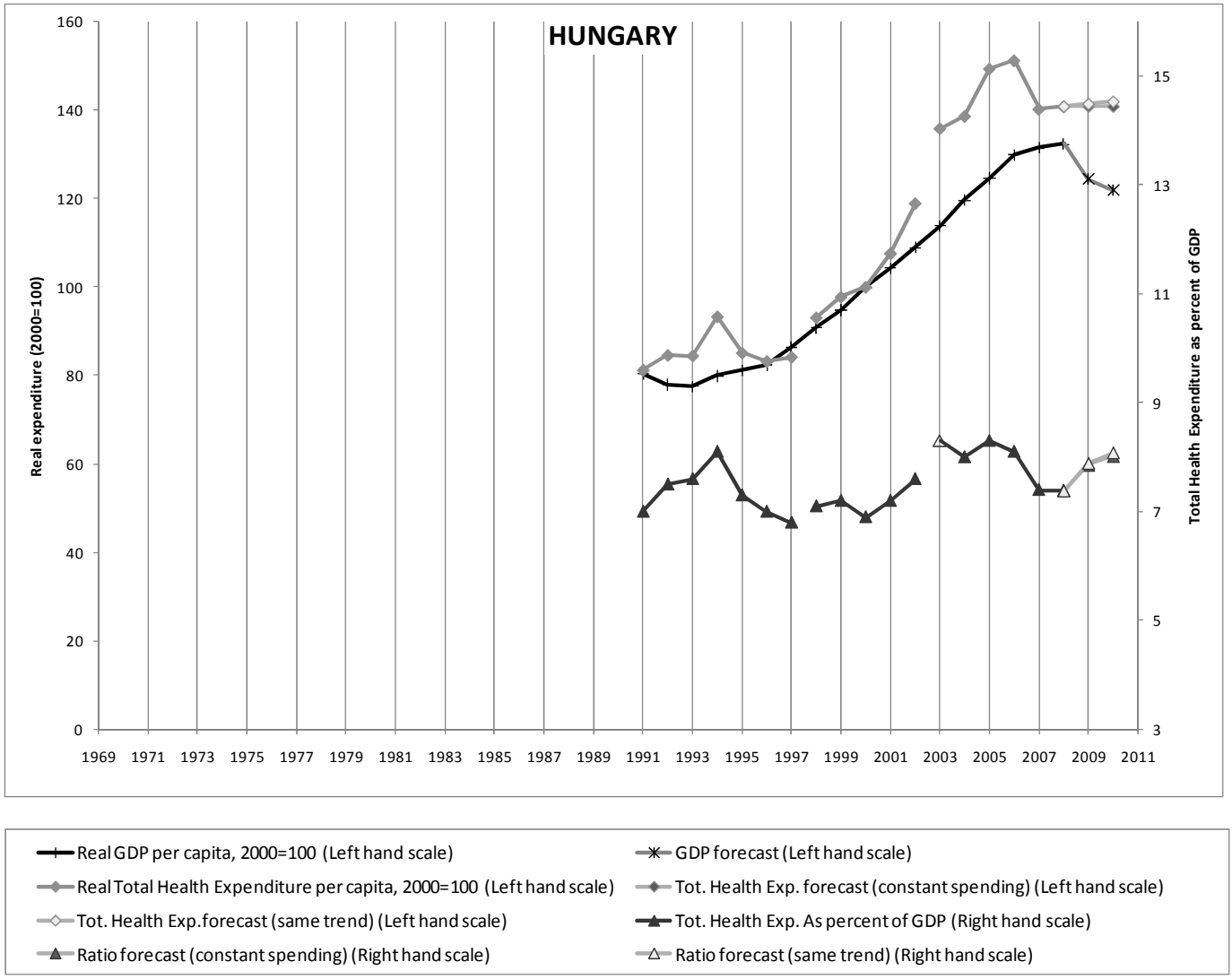
Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

Figure Annex 8: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, Greece



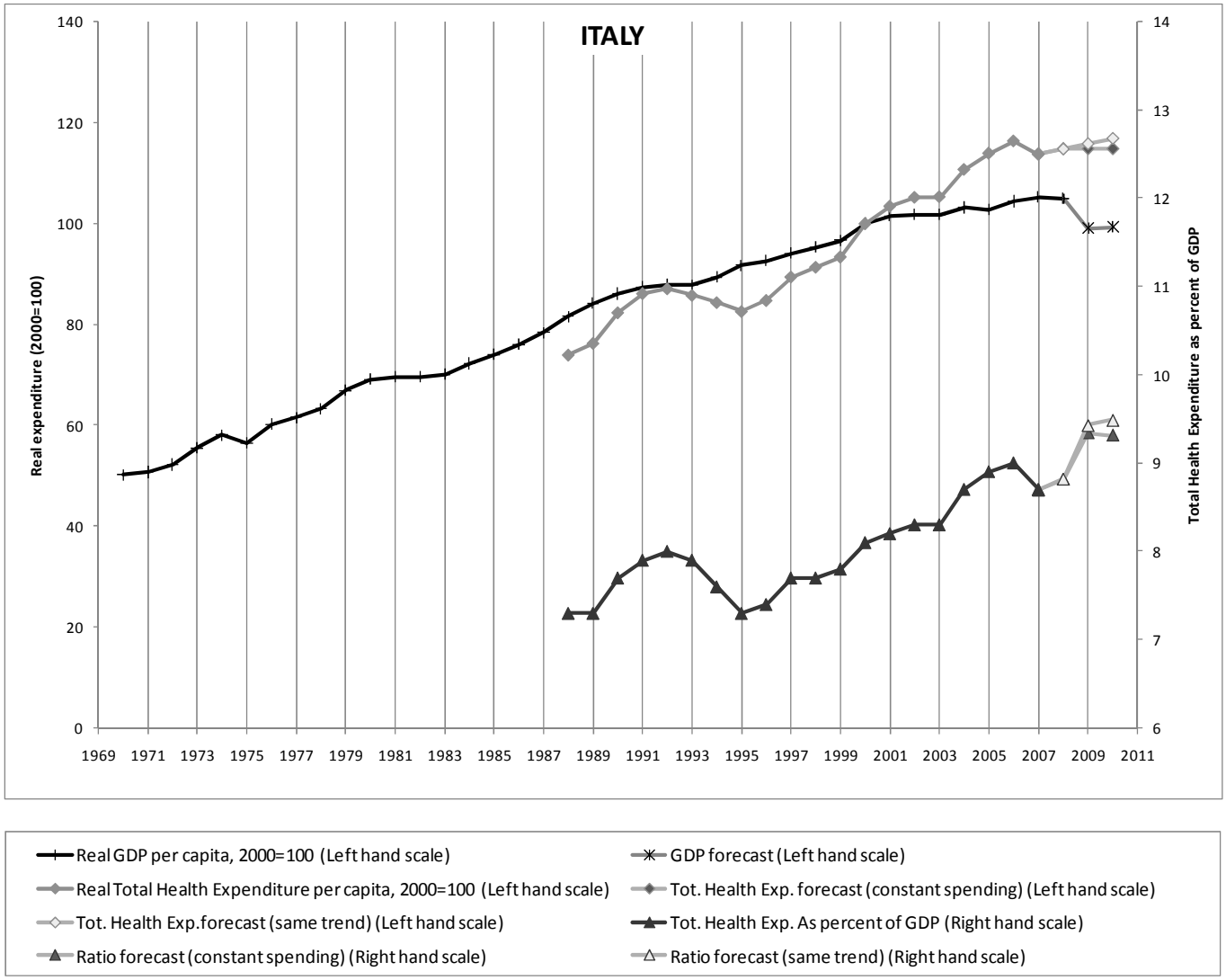
Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

Figure Annex 9: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, Hungary



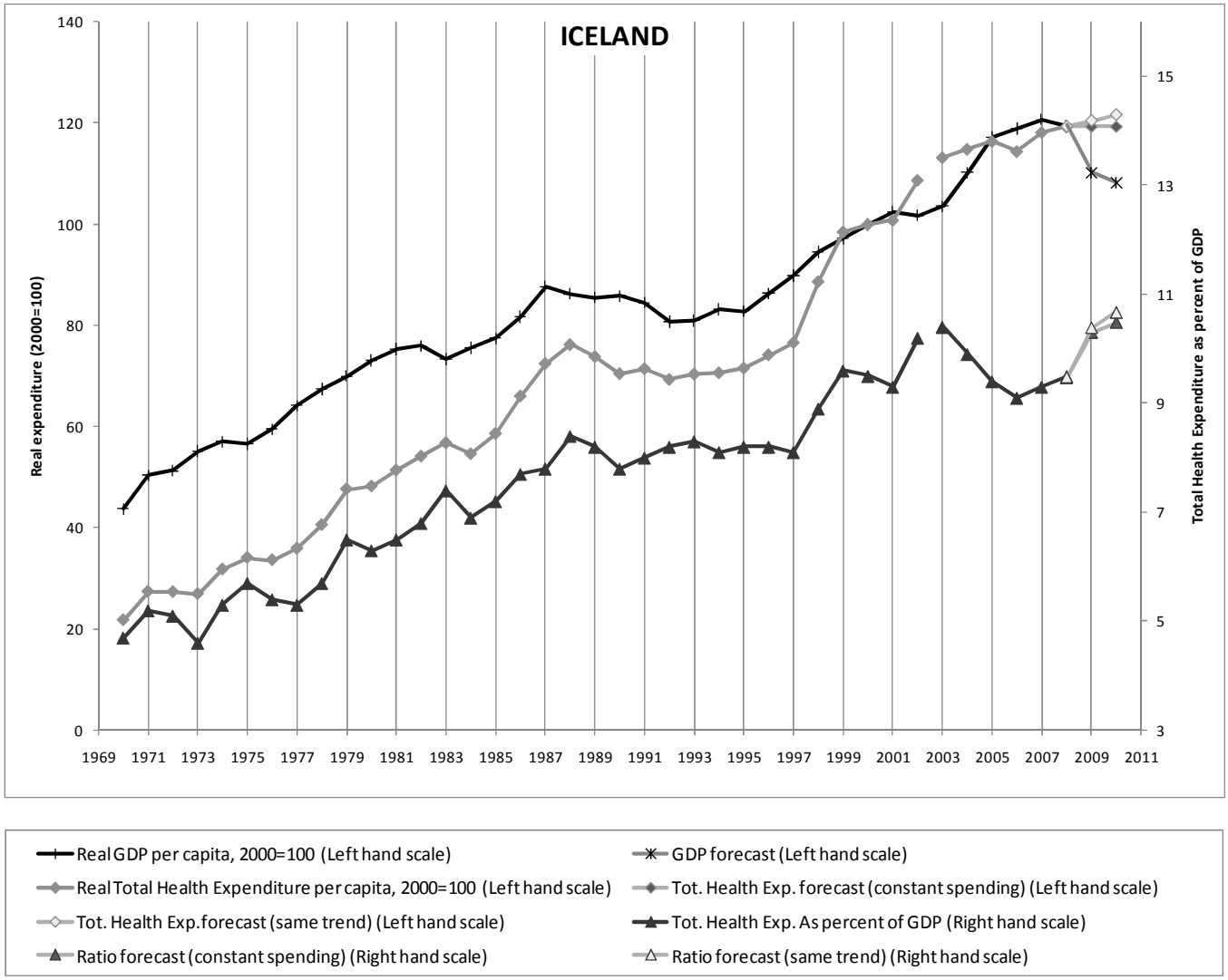
Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

Figure Annex 10: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, Italy



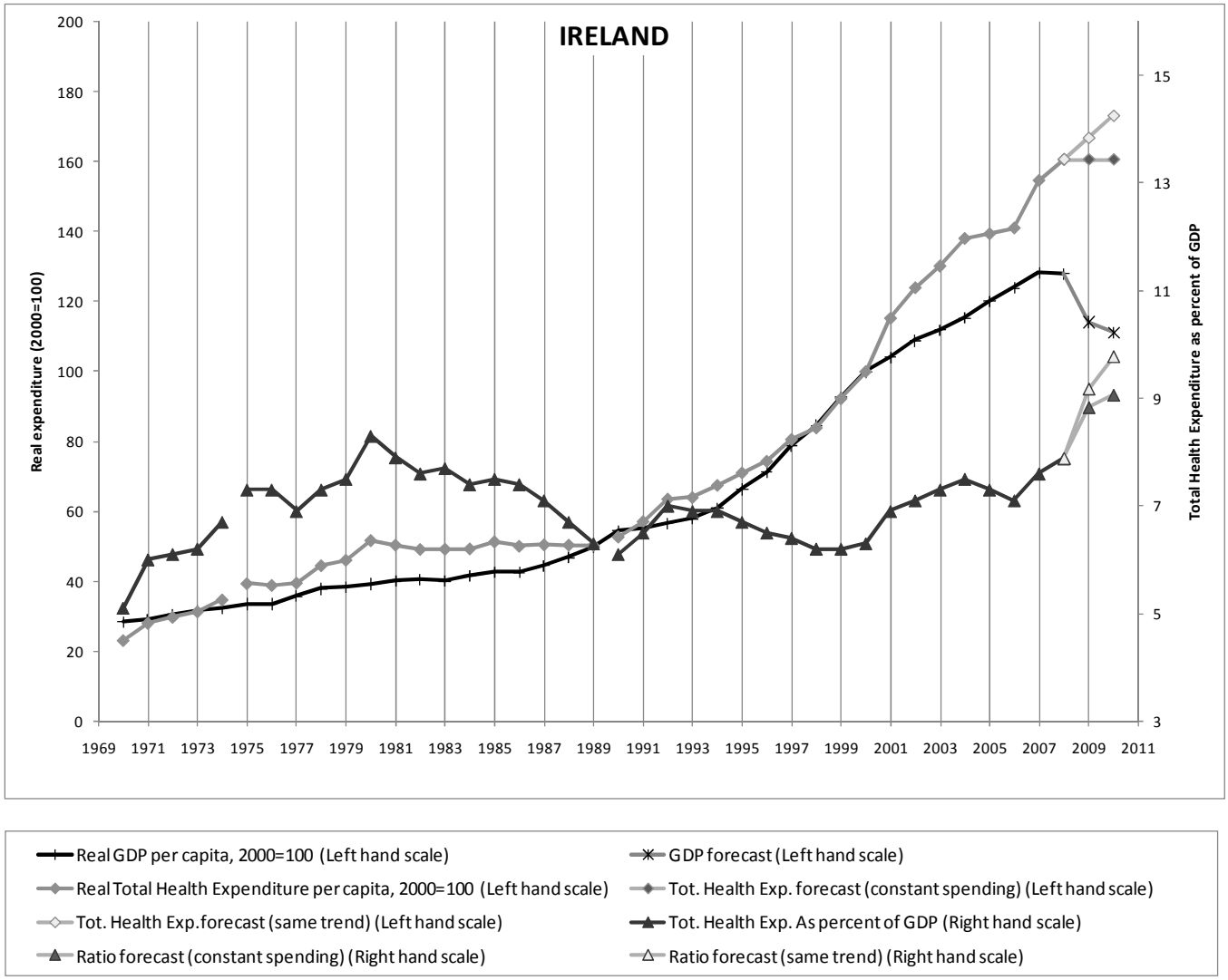
Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

Figure Annex 11: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, Iceland



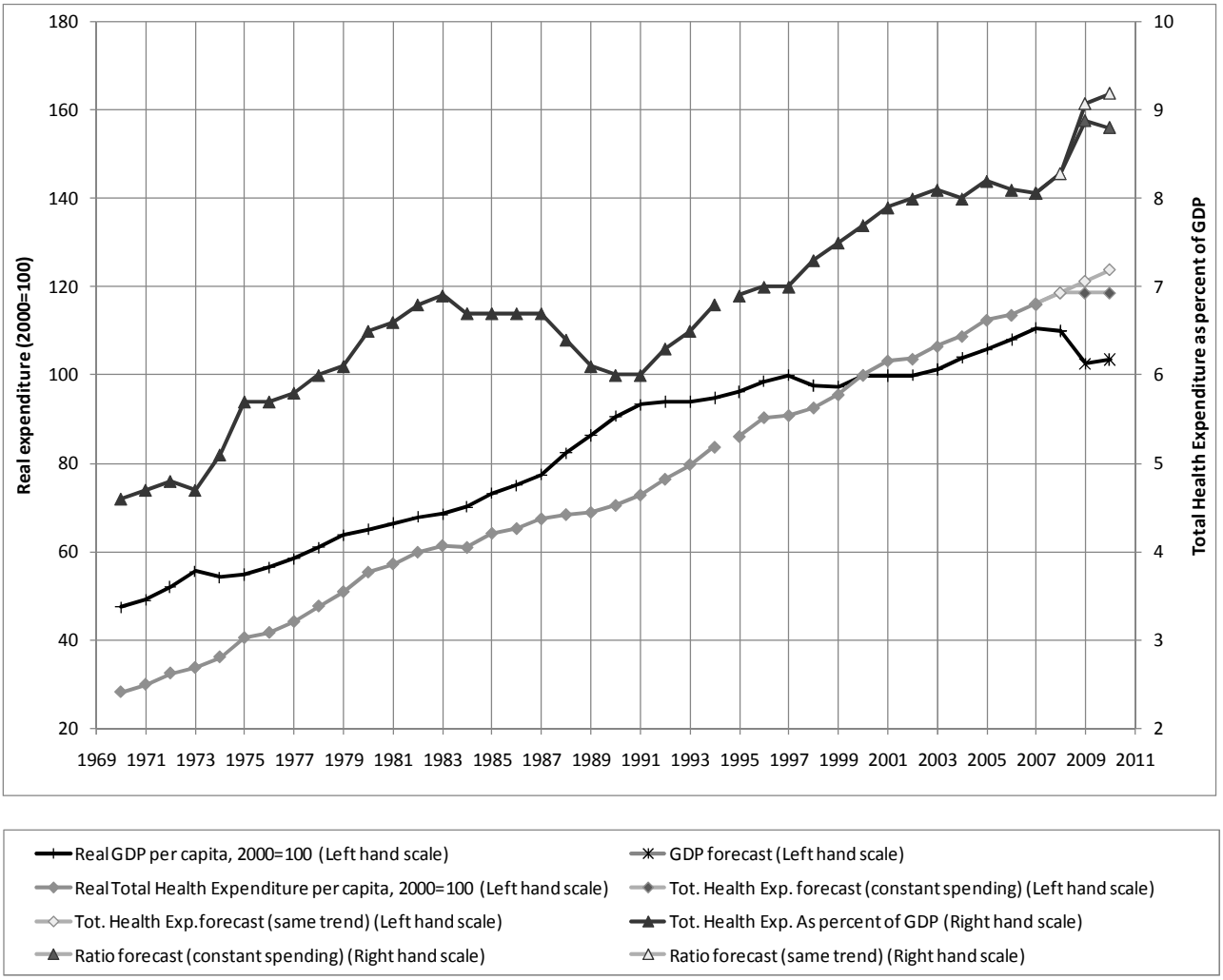
Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

Figure Annex 12: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, Ireland



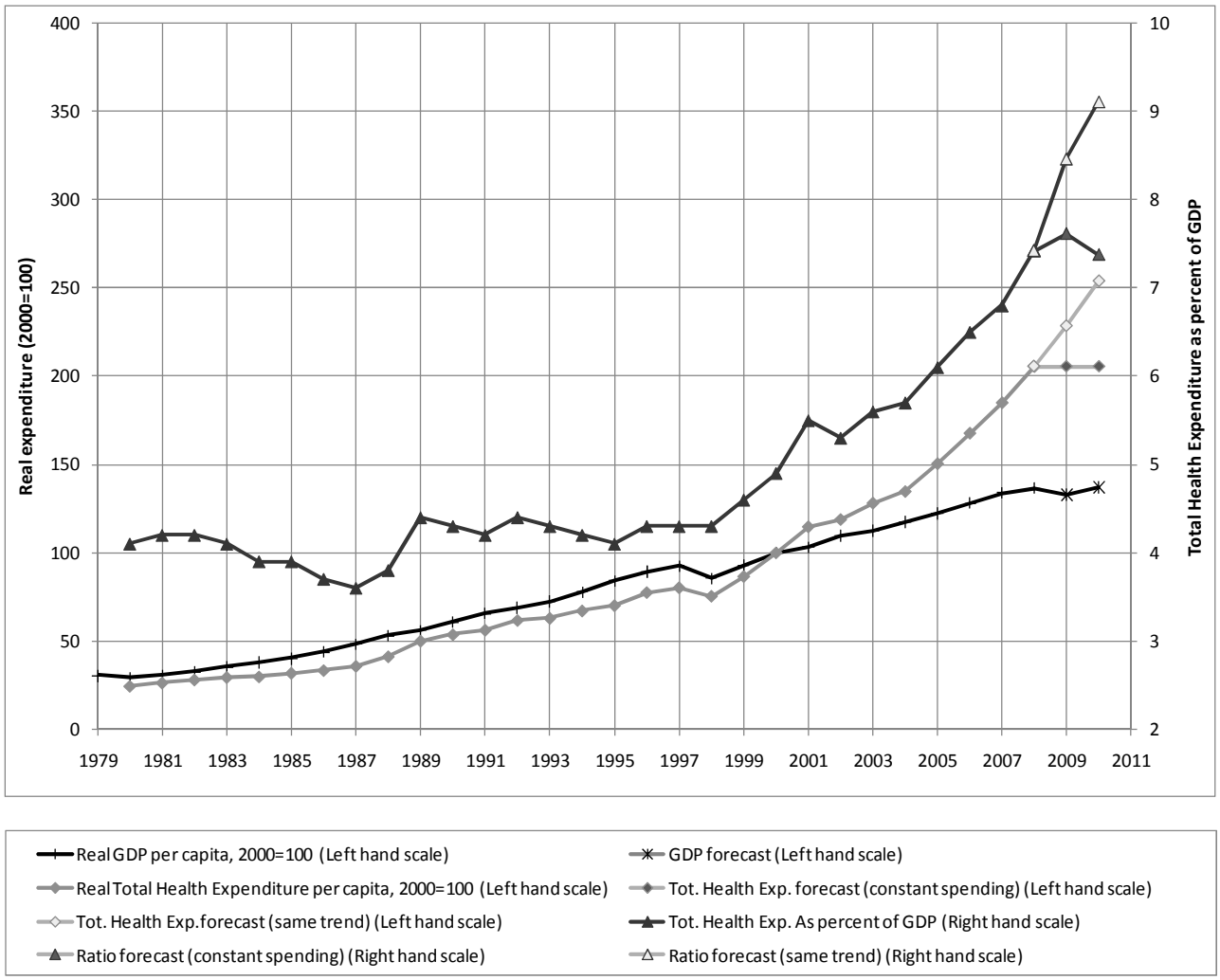
Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

Figure Annex 13: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, Japan



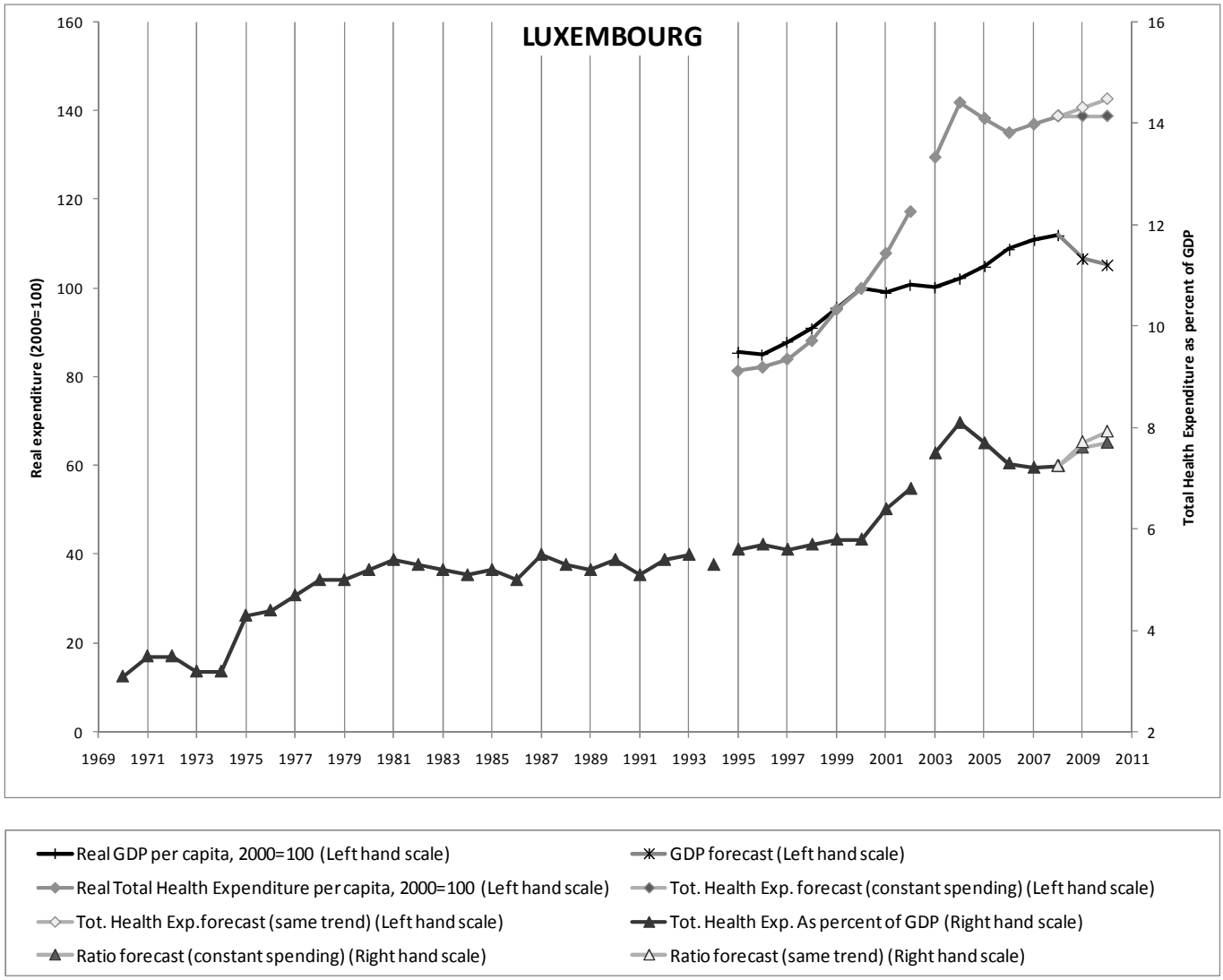
Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

Figure Annex 14: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, Korea



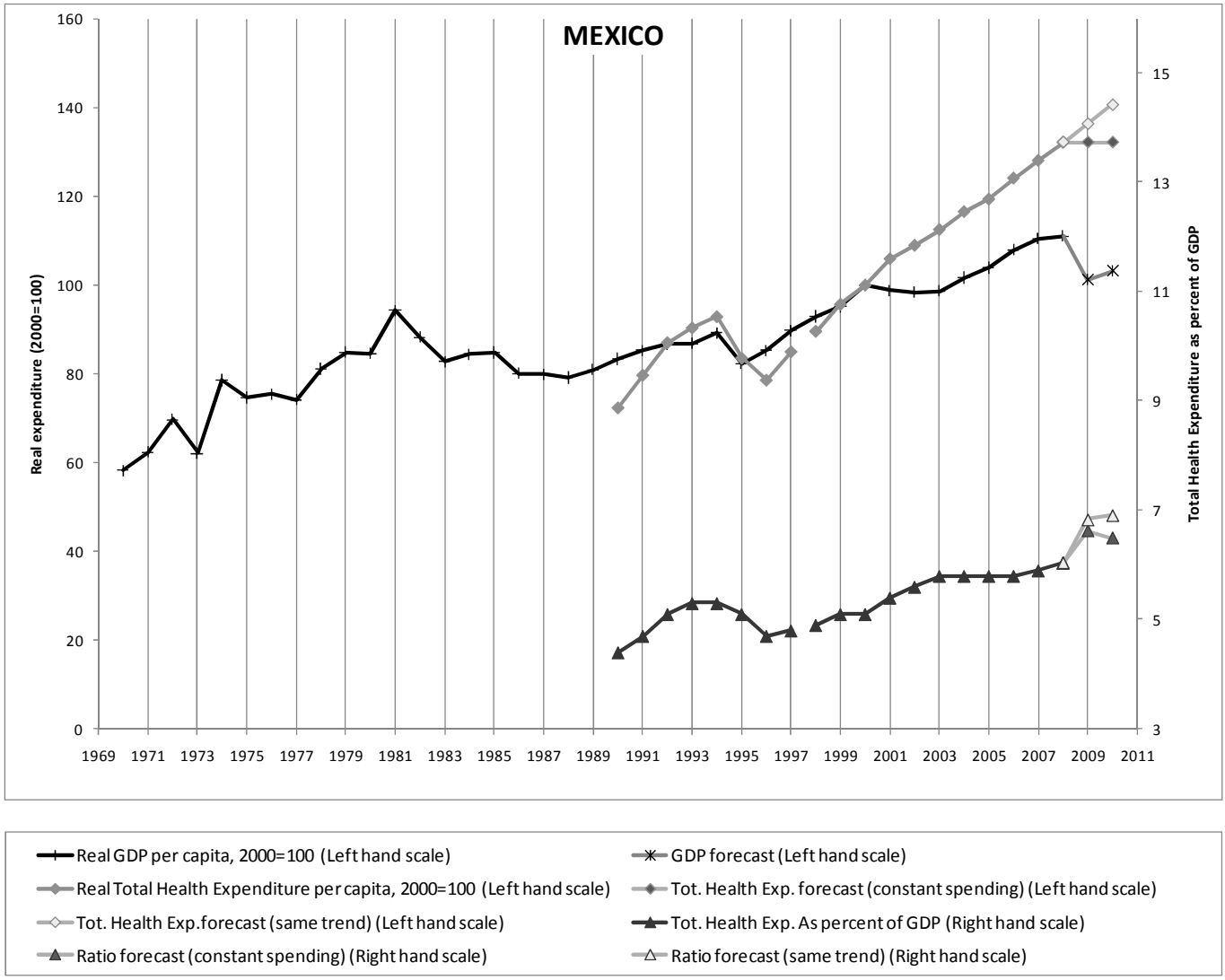
Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

Figure Annex 15: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, Luxembourg



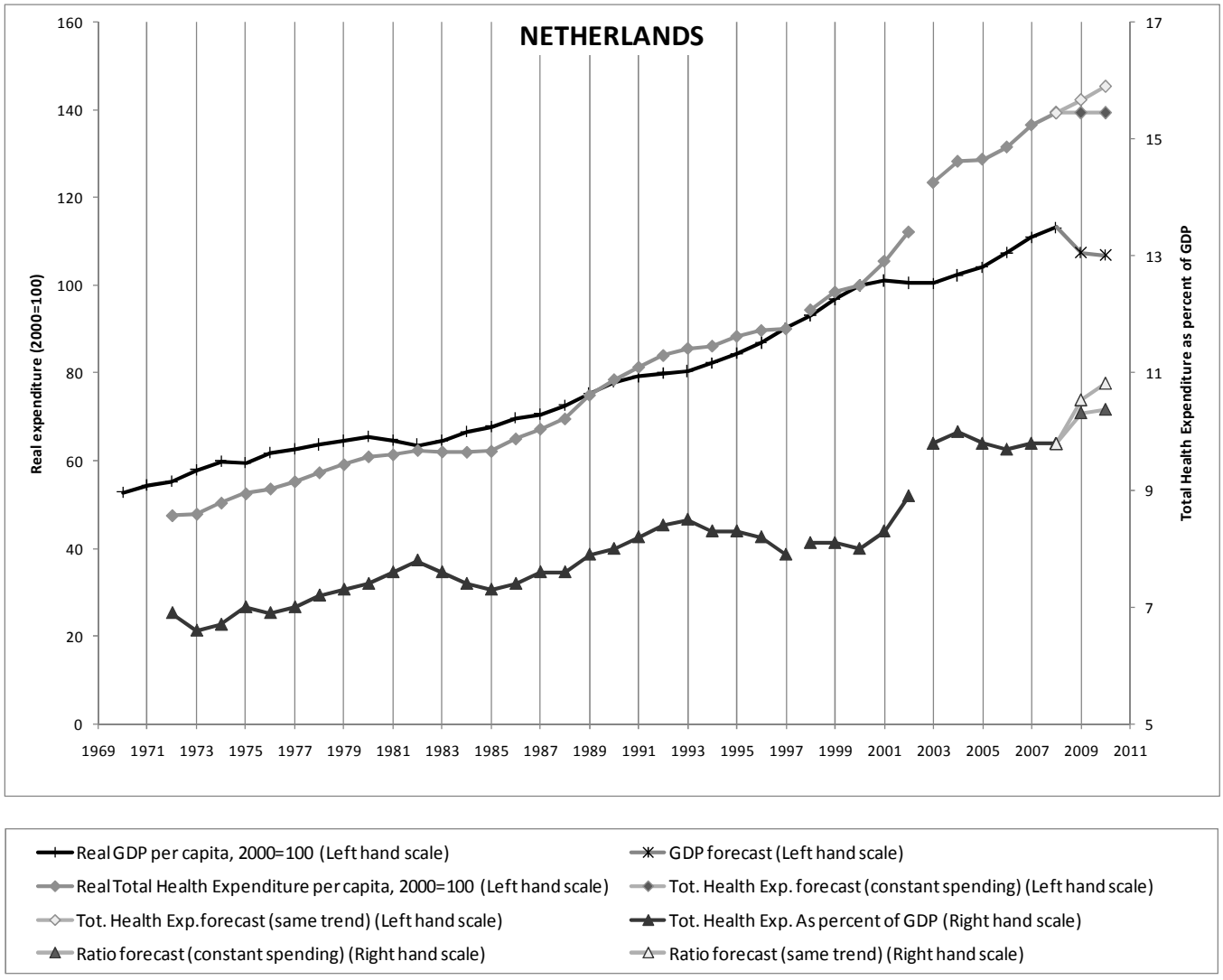
Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

Figure Annex 16: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, Mexico



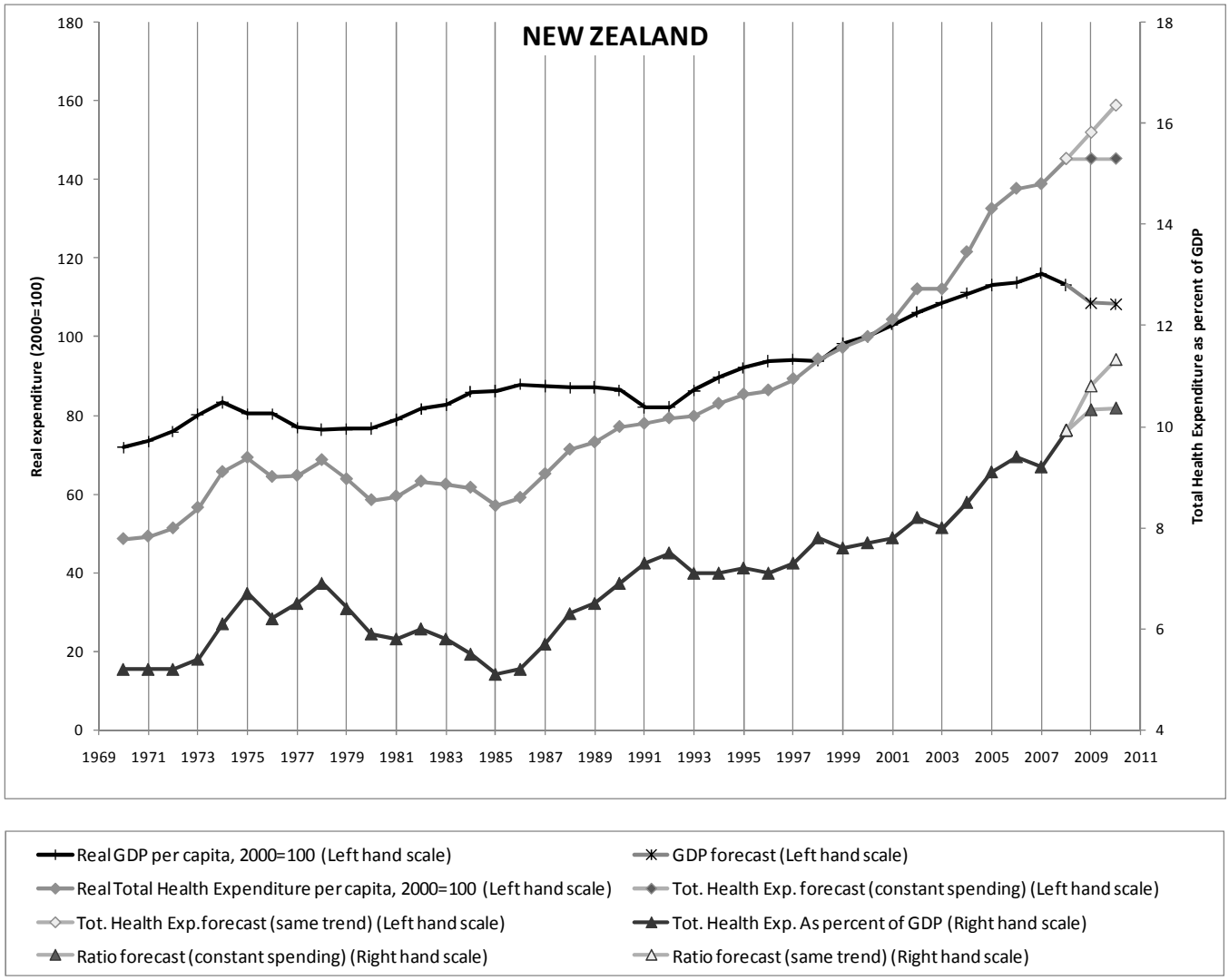
Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

Figure Annex 17: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, Netherlands



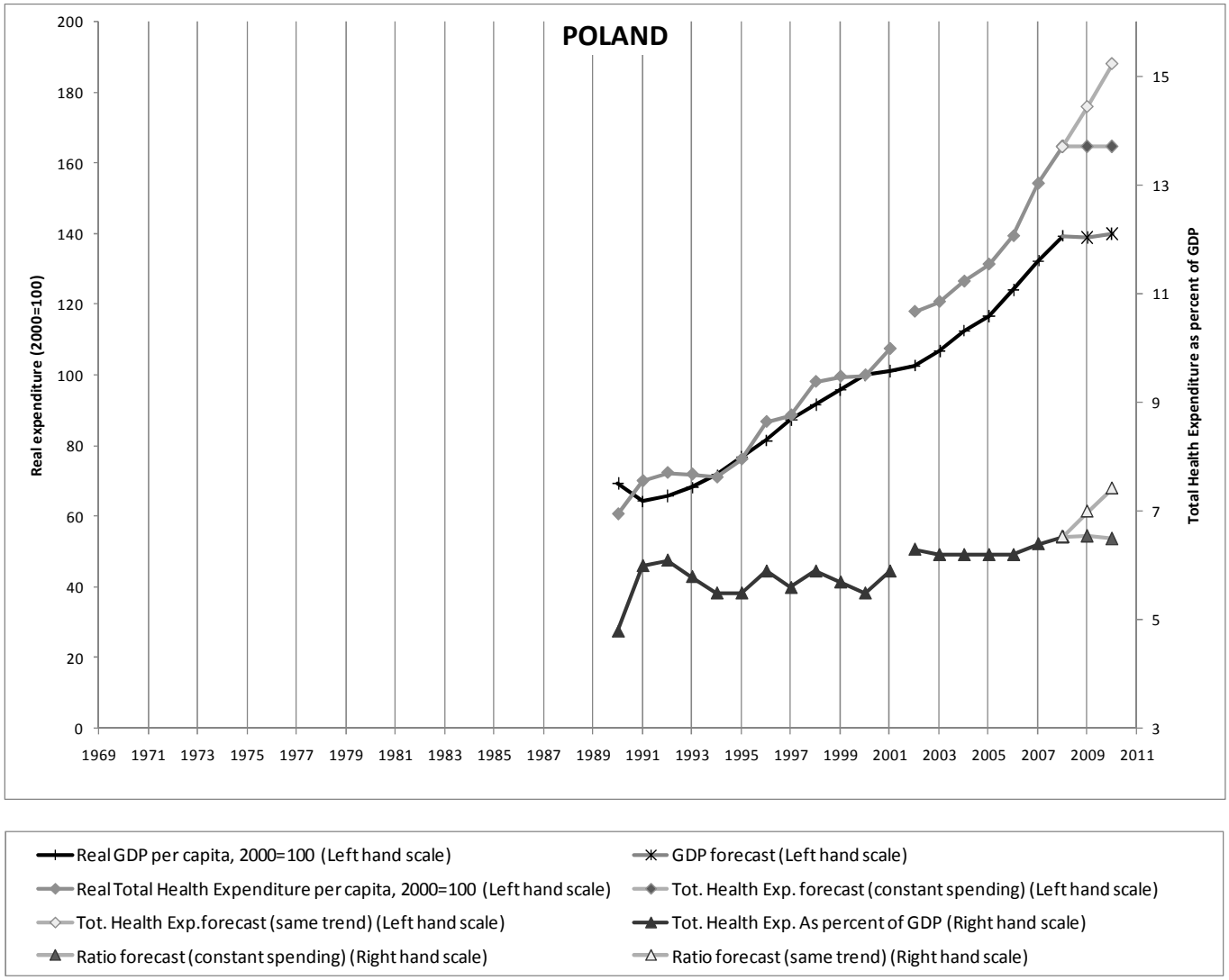
Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

Figure Annex 18: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, New Zealand



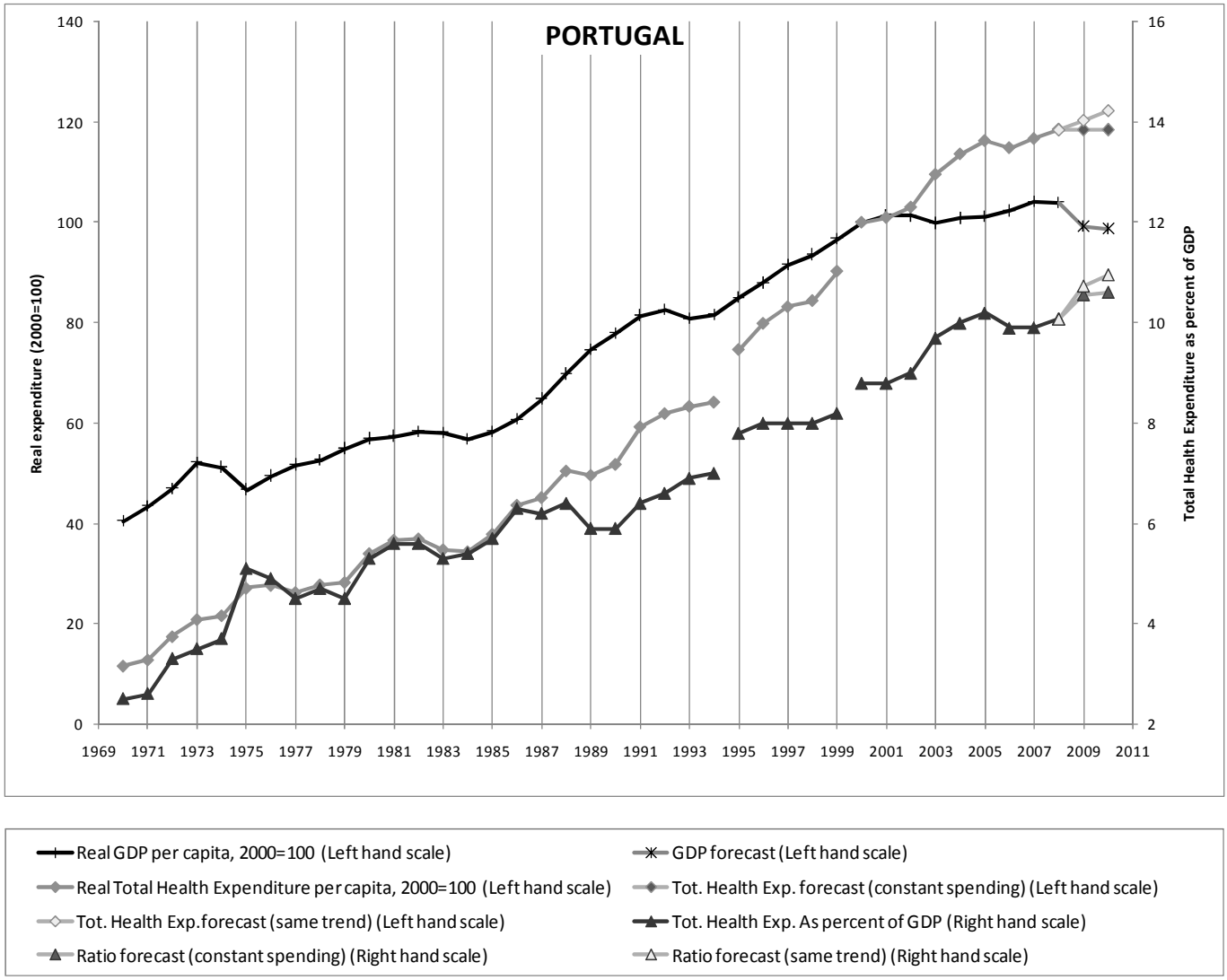
Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

Figure Annex 19: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, Poland



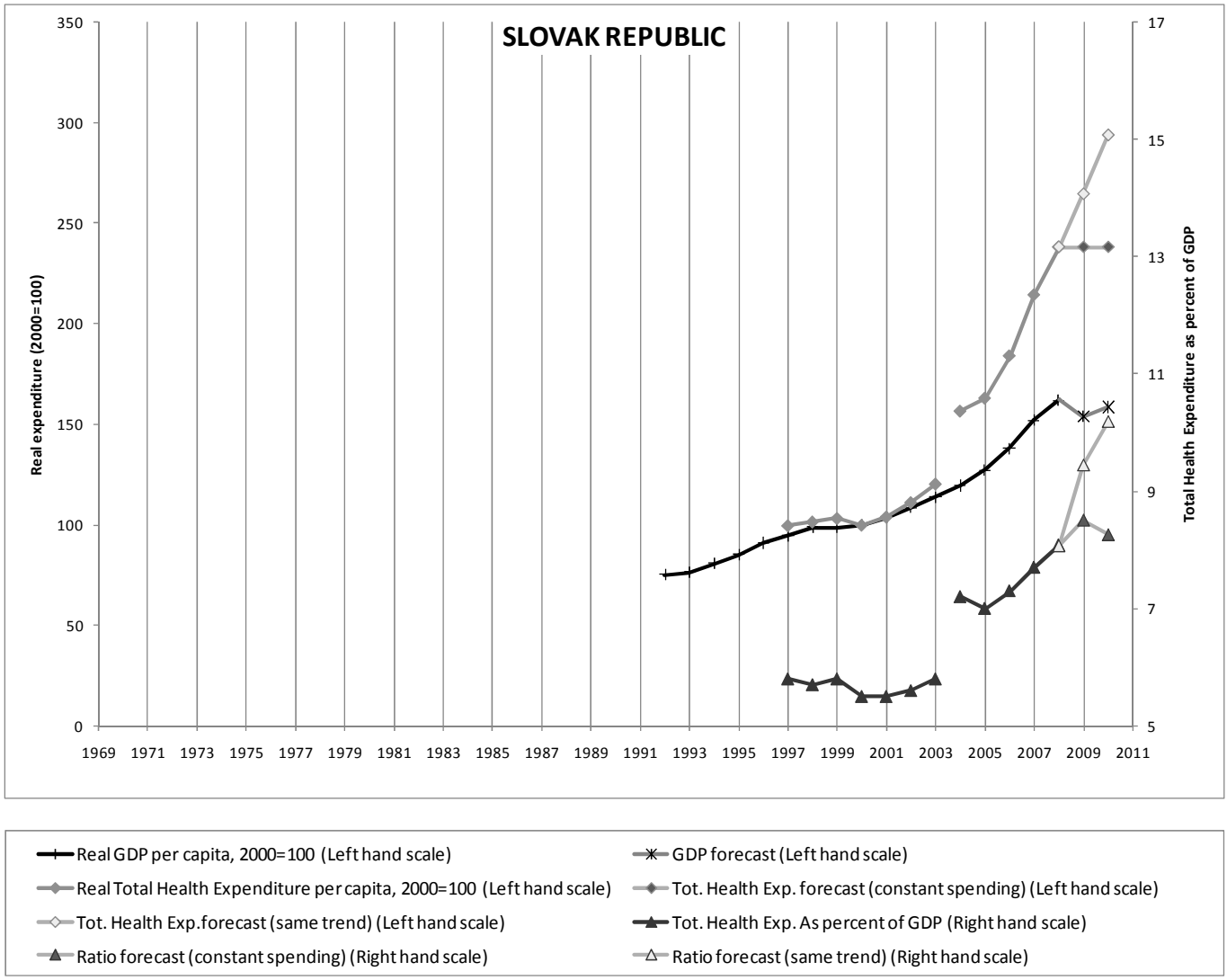
Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

Figure Annex 20: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, Portugal



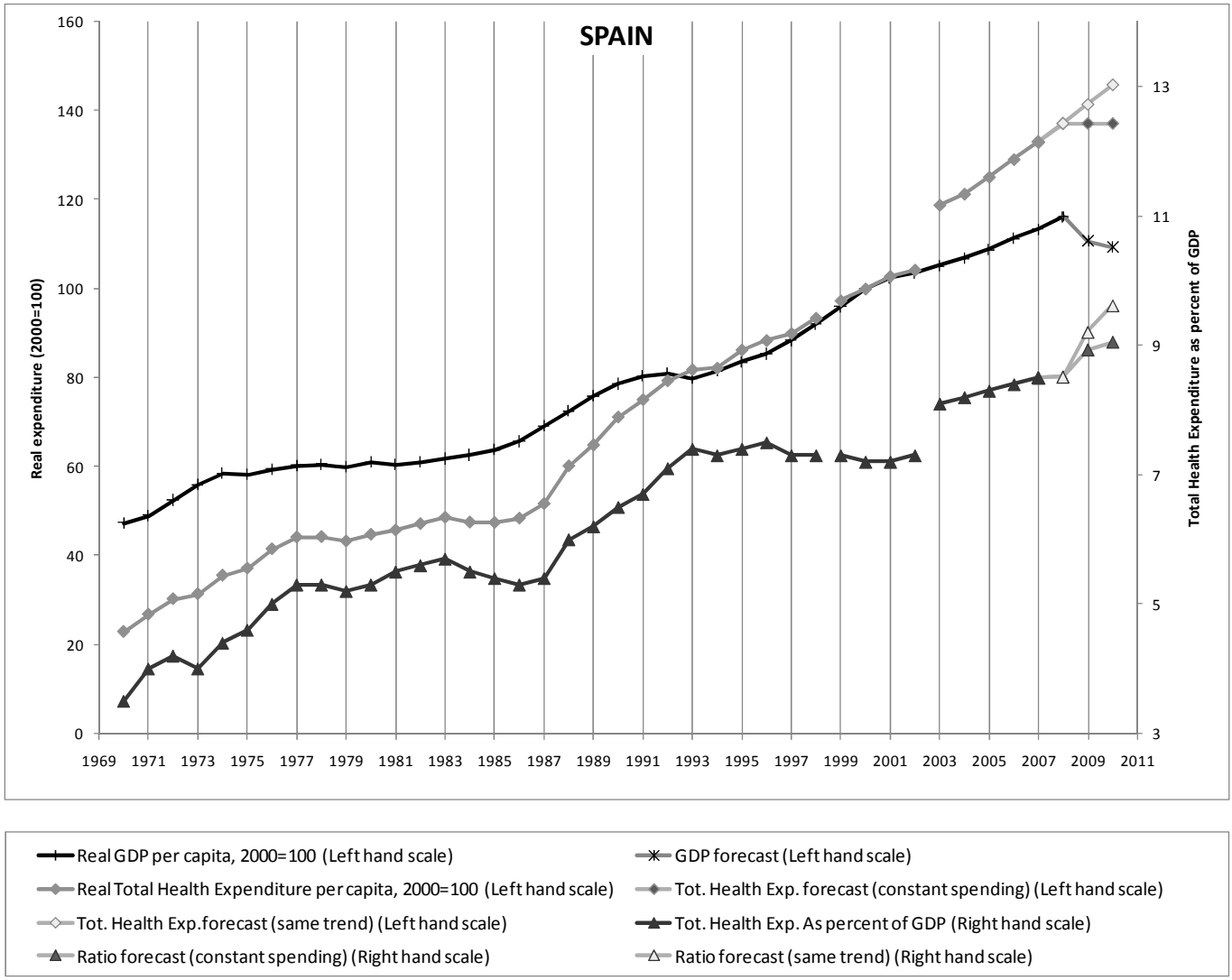
Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

Figure Annex 21: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, Slovak Republic



Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

Figure Annex 22: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, Spain



Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

Figure Annex 23: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, Sweden

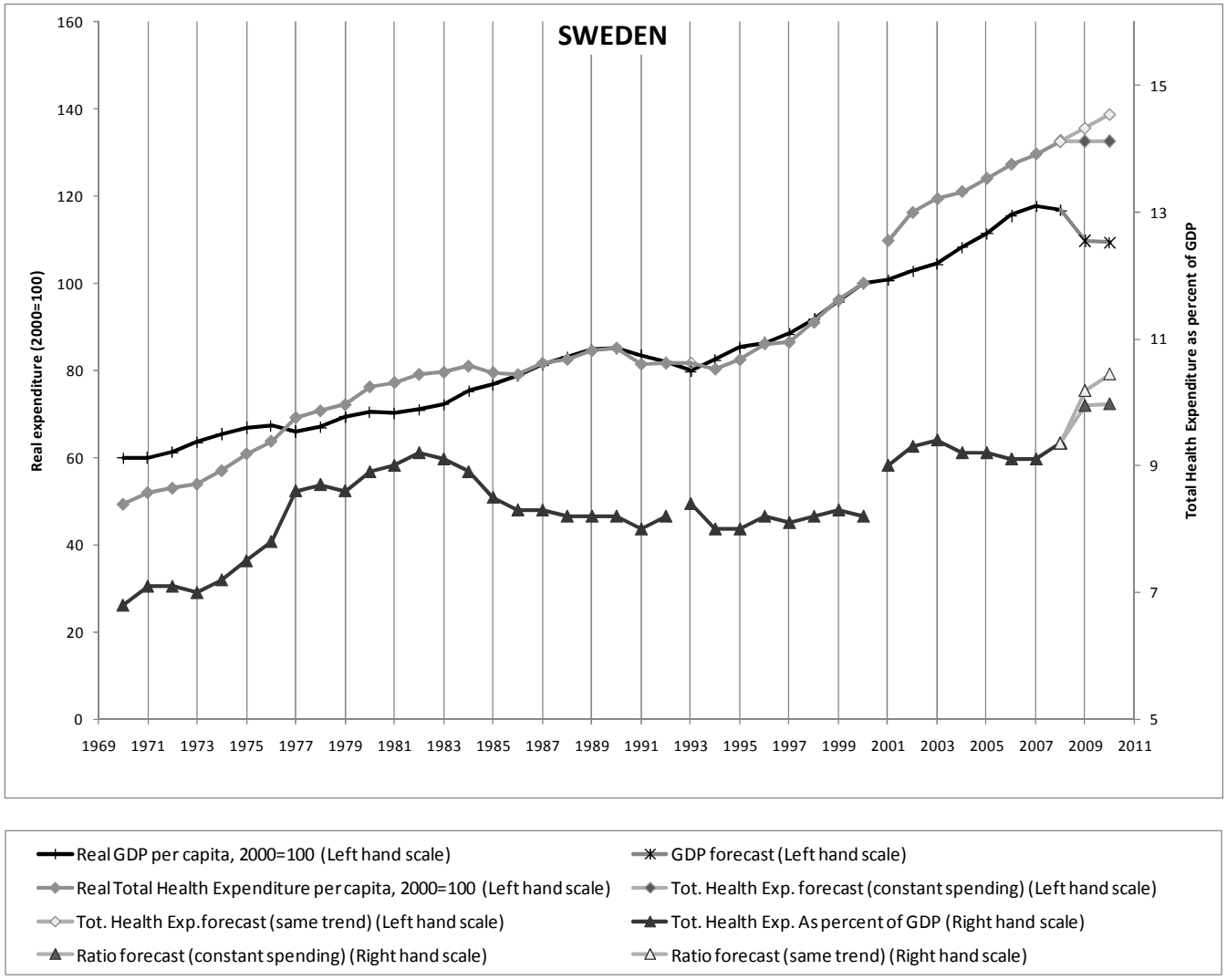


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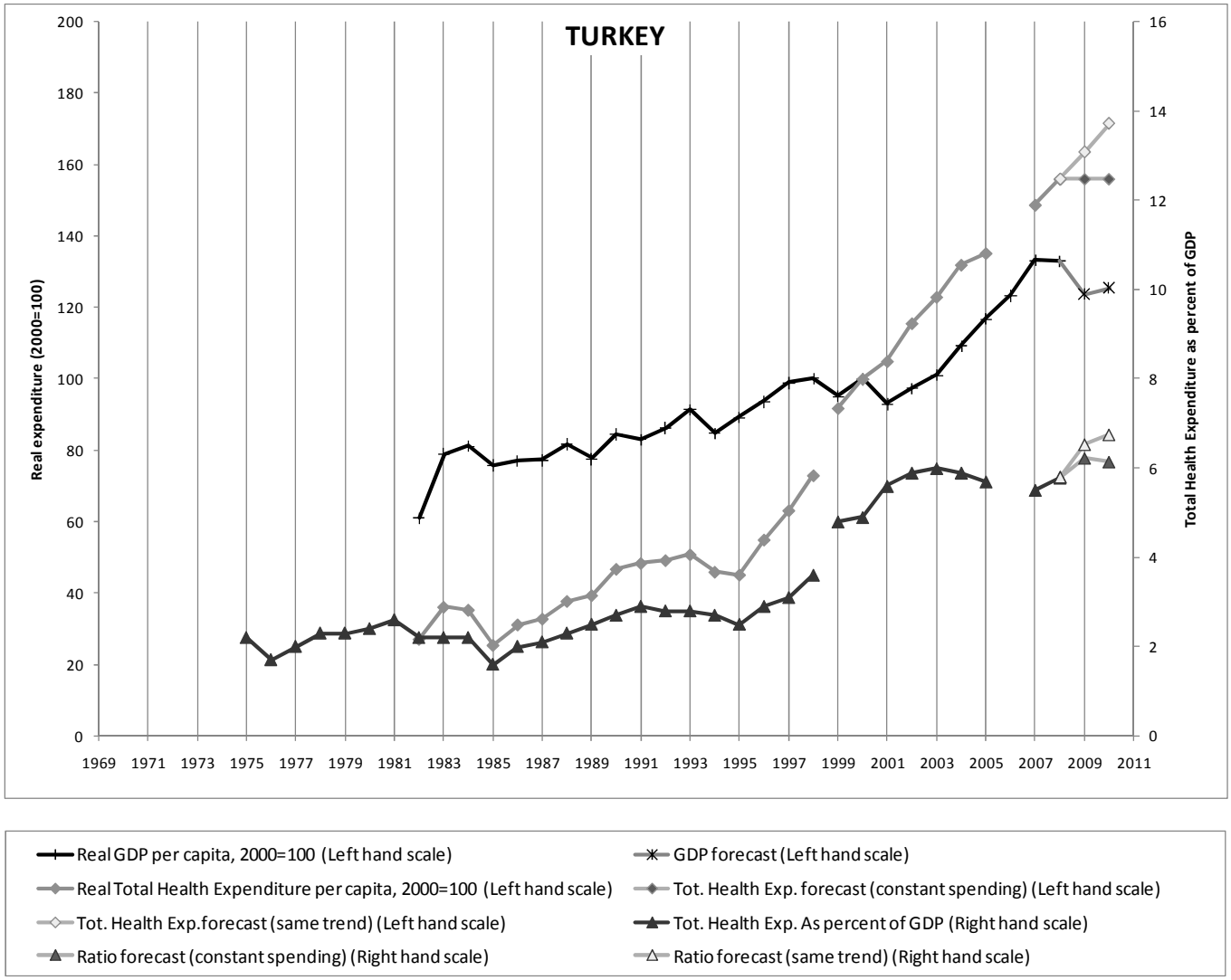
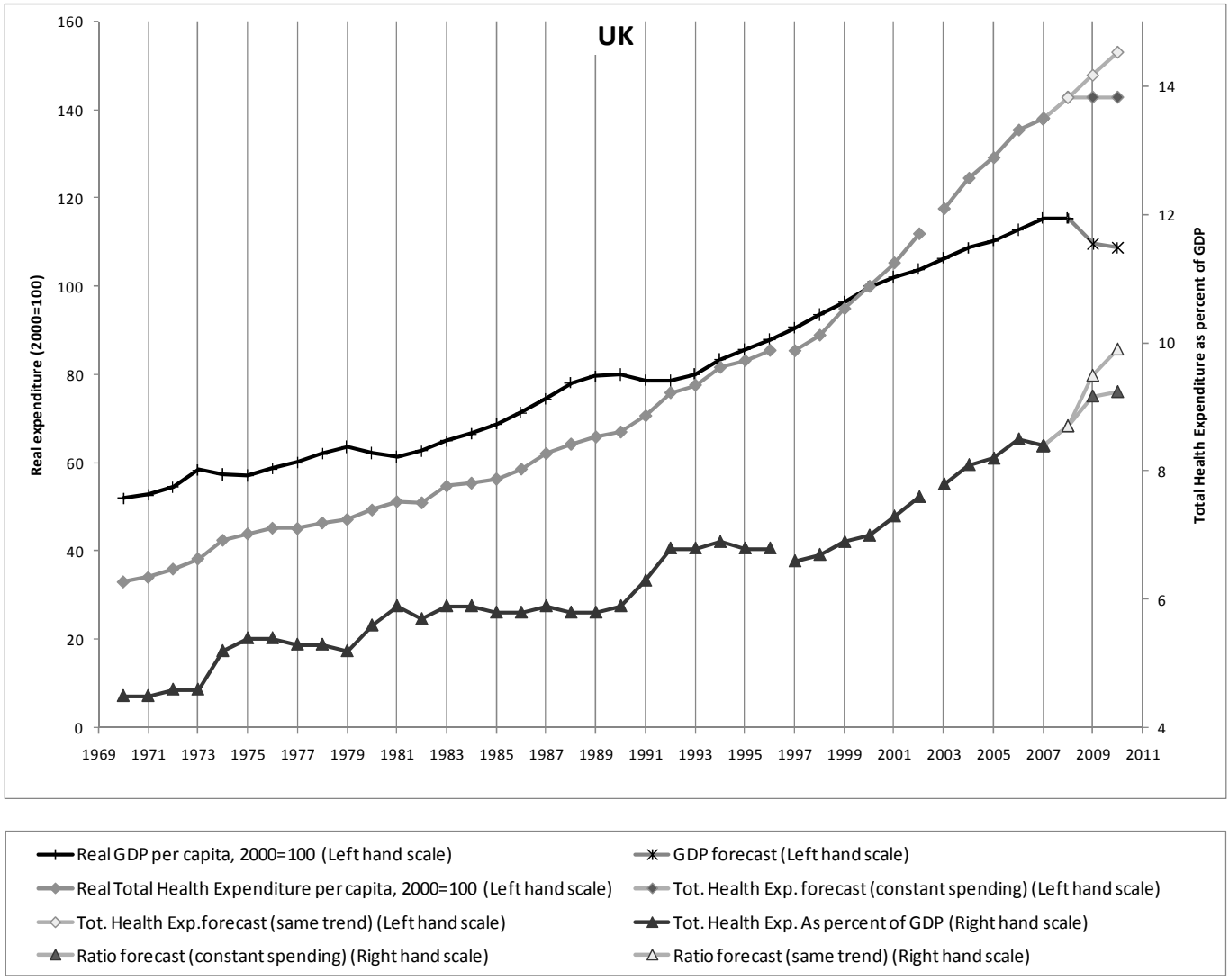
Figure Annex 24: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, Turkey



Source: OECD Health Data 2009, June 2009; Economic Outlook No 85 - June 2009

Figure Annex 25: GDP, Health Expenditure and the Ratio of Health Expenditure to GDP, 1970-2010, UK



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