

Health services and efficiency: comparative performance of the NHS over 40 years.

Waste is not a socialist value and a key critique of the capitalist system is its incredible squander of materials, energy and human capacity. Yet often the apologists and advocates of capitalism have been able to claim that socialised alternatives are inefficient or wasteful when compared to the wonderful efficiencies released by the competition of the market¹. The left has often left such claims go uncontested, and it has almost become common sense that socialised arrangements are blunderingly, bureaucratically inefficient – a bad way to use limited resources.

What can we say, however, about the relative merits of different ways of funding and organising health services? There are currently three main models of national health service delivery and organisation [1]:-

- 1) Systems like the British NHS, based on government organised and funded collective risk pooling (supported by taxation and/or other government revenues).
- 2) 'Bismarkian' systems based on State sponsored social insurance.
- 3) Systems where State responsibility is truly residual in a market system dominated by private capital and insurance companies.

These are 'ideal types': there are hybrid systems and systems with elements of the others, as in the English NHS with the increasing penetration of Capital and the use of market models. However, the broad typology does allow us to distinguish among models for the purposes of comparison.

There is not a lot of data that allows comparisons between national health systems as a whole in terms of what they deliver, for what input of resources. But one approach is to look at key indicators of population health and relate those to the share of the economy that the country devotes to health care. That would allow us to see how much 'health gain' is produced per relative unit of resource allocation. This method is imperfect – population health doesn't just depend on health service activity: public health reforms such as clean water, or cultural traditions and lifestyles are also important, but it is arguable [2] that these have been overstated and that the clinical impact of health services is a key factor in determining things like survival rates, at least once the big killers associated with infections (from water, parasites etc.) have been dealt with.

So what if we look at infant mortality (per 1000 live births) and life expectancy at birth? This data is collected by the World Health Organisation from national statistical services. There is some degree of validation of the figures. Here I have looked at figures going back to 1960. As a measure of resource allocation I

¹ This is not to imply that markets and socialism are incompatible in every respect, or that capitalism is reducible to the free market, but the terms of the debate, at least when the right picks the terrain, are often simplified thus.

have also used the proportion of Gross National Product spent on health services. This includes both public and private expenditure. This approach is not original: Alyson Pollock presents much of the data used here in a table on p 35 of her book on privatisation in the NHS [3] to demonstrate the relative efficiency of the NHS before the introduction of market models. However she presents the data in tabular form where it is not very easy to see what is going on. This article uses graphs to help the reader see the relationships.

The data presented are for the UK (as a whole), the United States of America, the 15 members of the European Union before the more recent expansion (for several countries the data starts before their accession), and the relatively wealthy group of OECD countries (which also includes some middle income countries such as México). The raw data are also available in the (costly) compendia of statistics from the Office of Health Economics.

I have also added comparable data from Cuba. Cuba is a socialised health care system in a poor socialist country. It is widely recognised as producing similar levels of population health and health outcomes as much wealthier countries. Although there are some elements of the Soviet 'Semashko' model in the Cuban system (the use of polyclinics and a medically dominated workforce, relatively poorly paid), it was the British NHS that was its major inspiration, and the Semashko orthodoxy was amended in a uniquely Cuban way to emphasise primary, community based prevention [5]. It is therefore also interesting to compare a system that is close to the original NHS vision, without the complication of the adoption of market models (or indeed *any* of the neoliberal reforms that have affected *all* other health systems[1]).

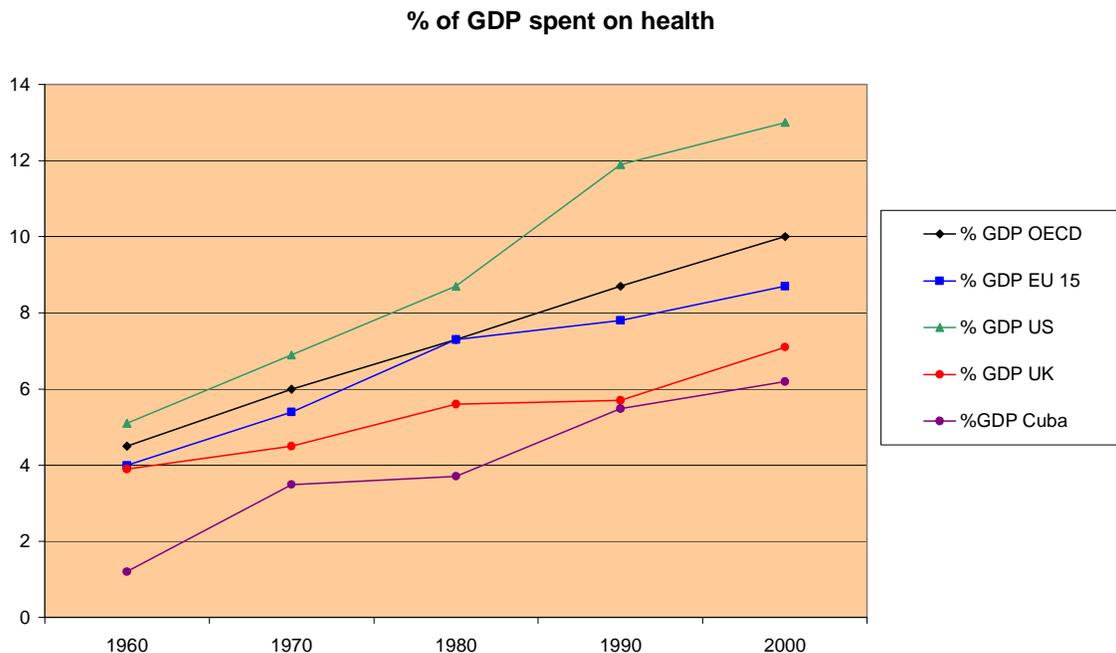
The Cuban data of infant mortality and life expectancy were easy enough to find [6-9]. Estimates of proportion of GDP spent on health took a few steps to find. However, there is data on health expenditure since 1959 [6, 8] and there is also data on GDP over the period [10]. Some calculations were made to provide an internationally comparable statistic across the time period (since different sources presented data in different ways). This means the figures should be viewed with some caution, but as will be seen below, the key arguments made here are not dependent on exact accuracy but rather on comparisons of relative magnitude and of trends in expenditure over time.

Data are presented for the 40 year period, 1960 to 2000.

Results

Comparative expenditure on health

	1960	1970	1980	1990	2000
OECD	4.5	6	7.3	8.7	10
EU 15	4	5.4	7.3	7.8	8.7
US	5.1	6.9	8.7	11.9	13
UK	3.9	4.5	5.6	5.7	7.1
Cuba	1.2	3.5	3.7	5.5	6.2



In all cases the proportion of GDP spent on health has steadily increased. The US experienced the fastest rate of increase in the later period. Cuba, not surprisingly showed a steep early growth: they started from a low base with almost no provision outside the cities and the revolution of 1959 made health and the construction of a public health service a keystone of its programme. This was followed by a second rise in the 1980s which coincided with the establishment of the family doctor programme. What is more surprising is the continued increase during the 1990s and this reflects the continuing priority of health for the Cuban revolution, despite the privations of the (post-soviet) special period and the tightening of the US blockade.

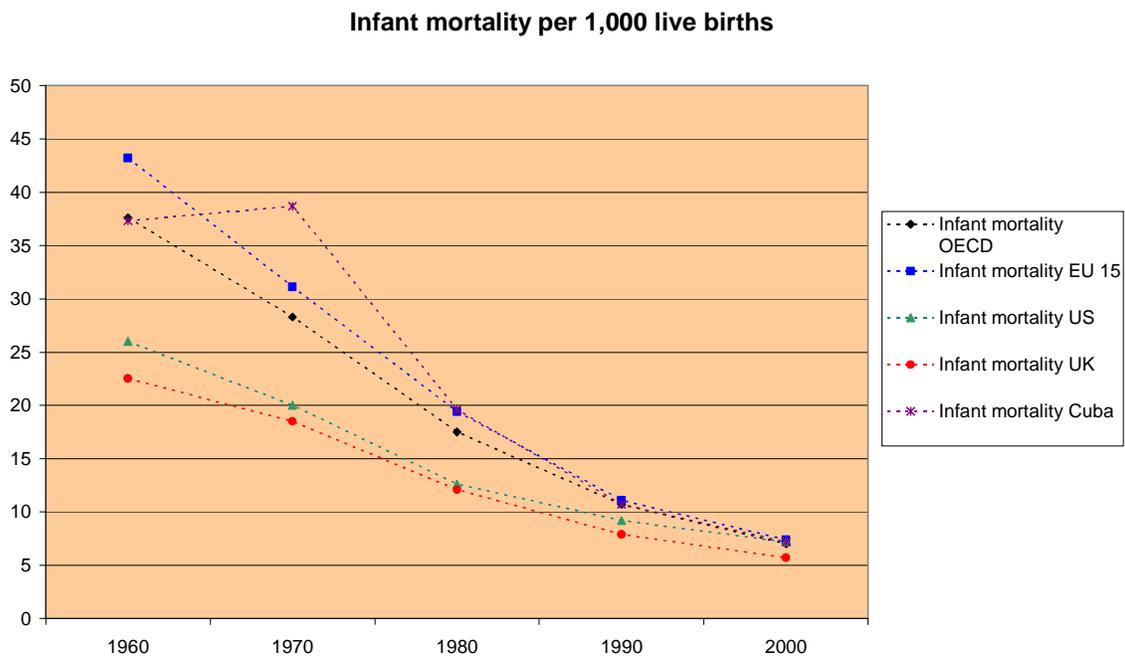
The overall comparisons are of interest since they show the NHS consuming a smaller proportion of GNP over the entirety of its existence (up to 2000 – note that the Labour government has since dramatically increased expenditure to bring it up to EU average levels). The US system has consistently consumed more than twice what the British system has had to make do with. There is no direct comparison with social insurance based systems but both the EU and the

OECD aggregate together systems with these characteristics and those with more socialised features (e.g. UK, Spain, Scandinavia). Both the EU and OECD lines trace intermediate courses between the UK and US ones.

But what do the populations get for their money?

Infant mortality

Infant mortality rates in each area from 1960 to 2000 are presented in the following graph.



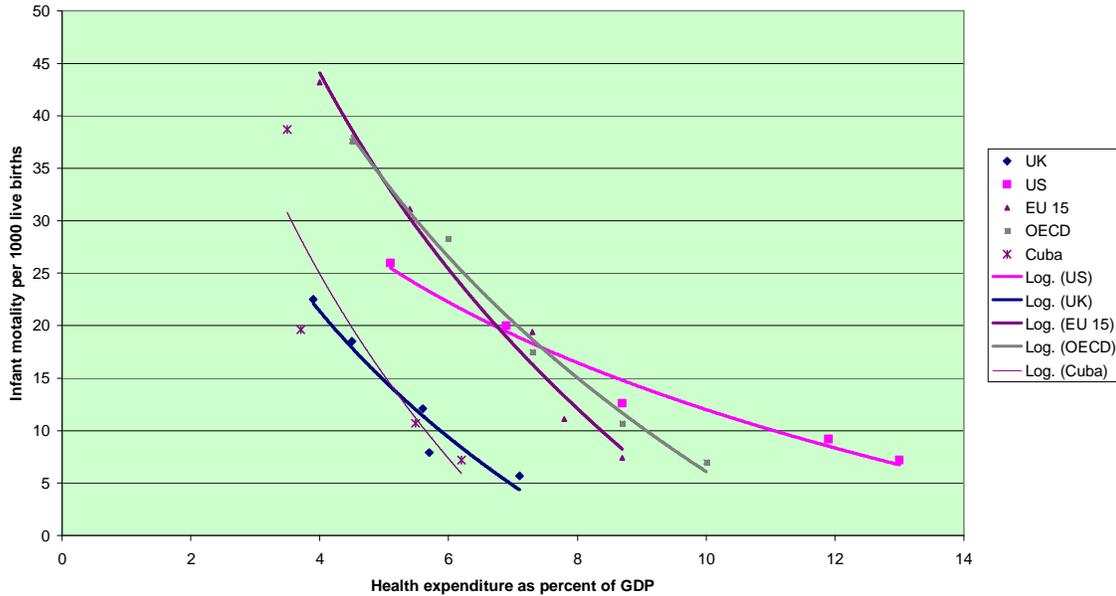
Not surprisingly the rates decline dramatically in each area over the period and improvements flatten out over time. Rates are lower throughout in the UK and US but differences between countries reduce over the period. The following table shows the figures:

	1960	1970	1980	1990	1998
OECD	37.6	28.3	17.5	10.7	7
EU 15	43.2	31.1	19.4	11.1	7.4
US	26	20	12.6	9.2	7.2
UK	22.5	18.5	12.1	7.9	5.7
Cuba	37.3	38.7	19.6	10.7	7.2

Note that there is subsequent data that shows Cuba catching up with the UK and leaving the US behind [11].

It gets interesting when we plot the expenditure data against the infant mortality data. Best fit lines are also plotted.

Infant mortality over 40 year period in relation to health expenditure

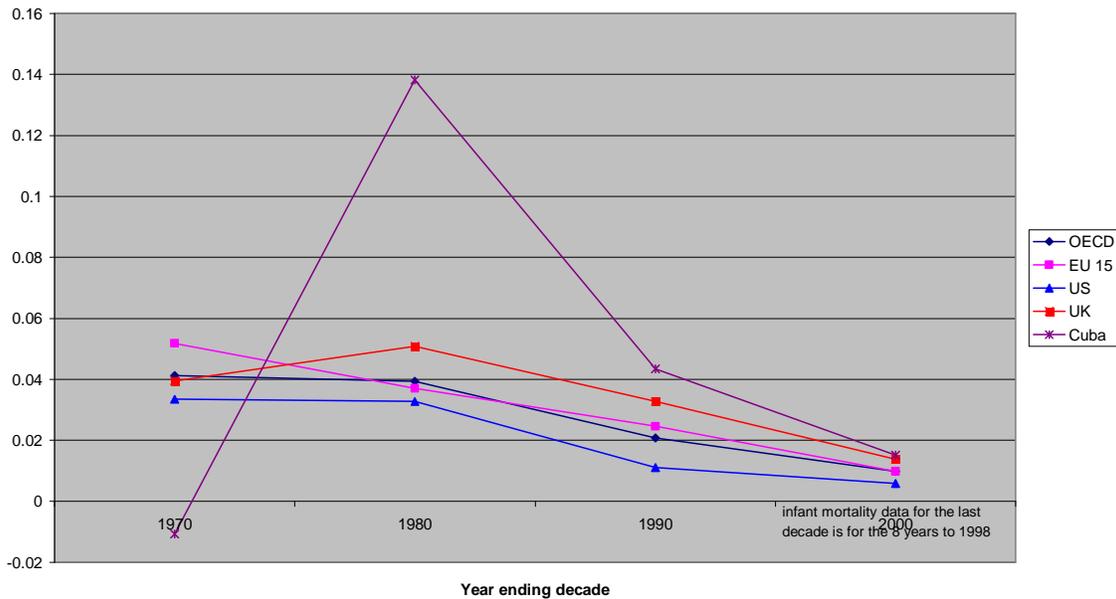


This shows very clearly that the UK and Cuba (increased first decade omitted²) get more improvement in infant mortality for the money they spend on health than do the other areas. In the case of the United States their expenditure appears to become more and more inefficient: they have to spend more and more to get the same outcomes as the other countries.

The data can also be presented showing the change in infant mortality as a percentage of the starting figure, again in relation to expenditure:

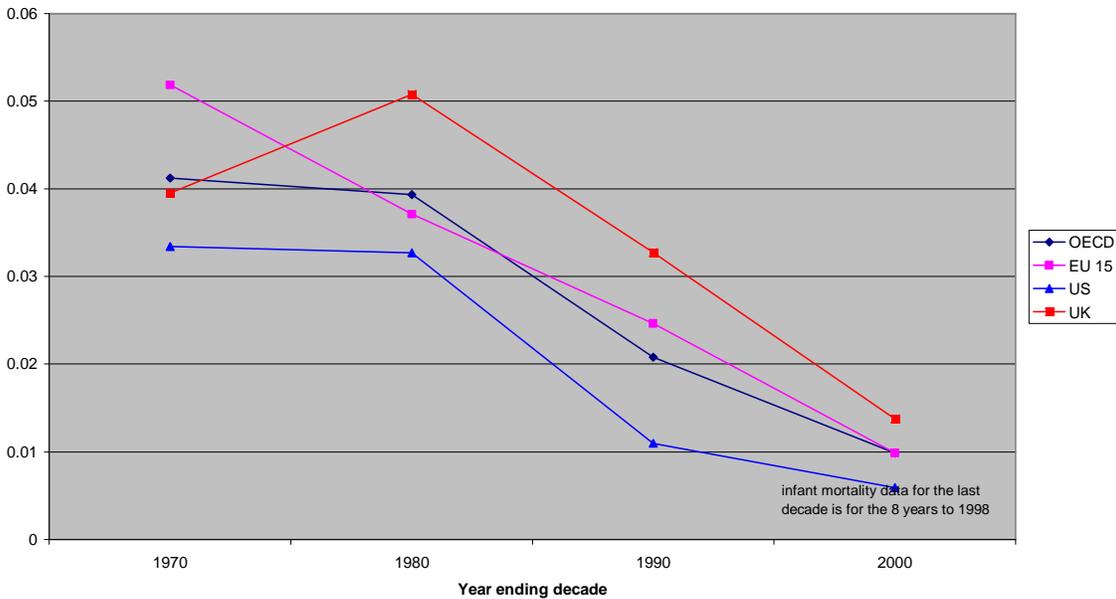
² this increase is probably due to better recording in the poorer part of the population following the roll out of public health services

Improvement in infant mortality per unit of expenditure on health



Excluding the (initially see-sawing) Cuban data we can more easily see the differences between the other countries and regions:

Improvement in infant mortality per unit of expenditure on health

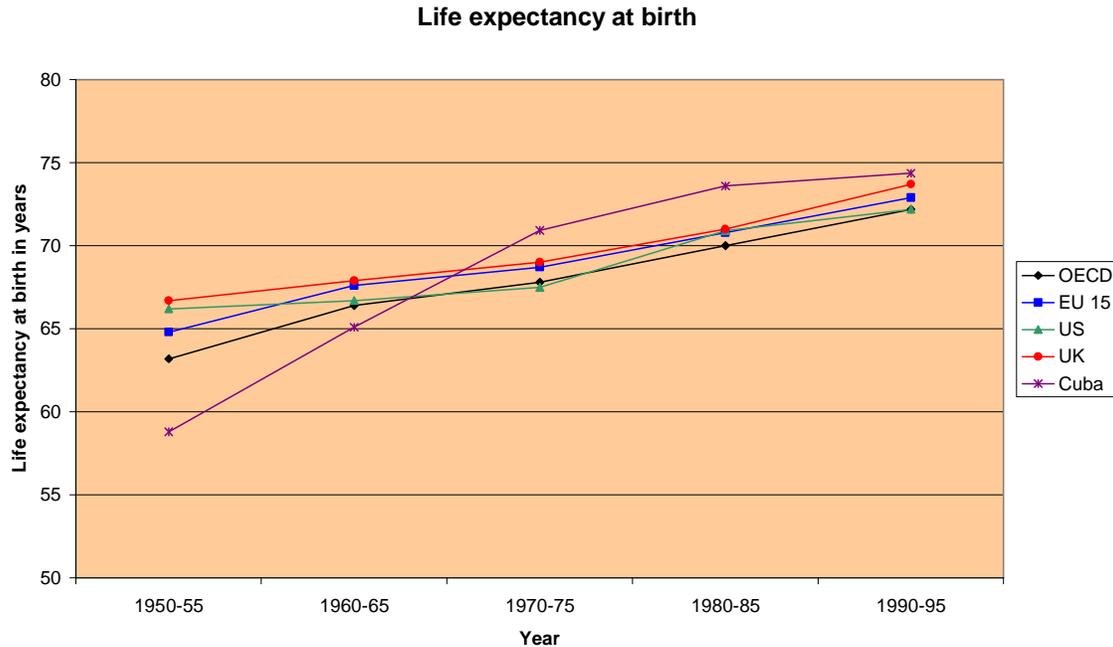


The UK system is clearly the best performer, despite having the handicap of the lowest (i.e. best) starting position (it is easier to make changes where mortality rates are higher – that is why the rate of improvement declines over time). It continues to out-perform the other systems, although its relative efficiency (compared to the others) is better before the market ‘reforms’ came in to the NHS from the early 1990s.

Life expectancy

The same sequence of data can now be presented for life expectancy, which is presented in terms of the first five years of each decade.

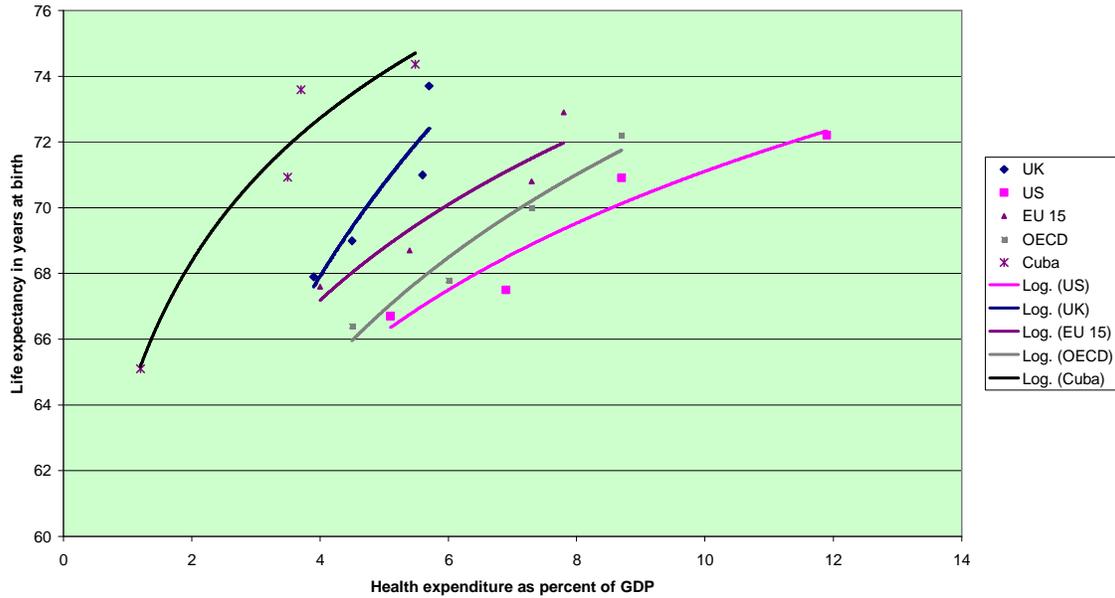
Firstly the raw data on life expectancy, for both sexes, at birth.



Over the forty year period all areas made significant improvements. The well-known success of Cuba in moving from a 'third world' pattern to a first world pattern of mortality is plain to see overtaking the other areas by the first five years of the 1990s. Otherwise, the UK does marginally better than the other areas in terms of overall outcomes.

When life expectancy is plotted against the expenditure statistic (for the year at the beginning of the 5 year period) the same pattern emerges as for infant mortality:

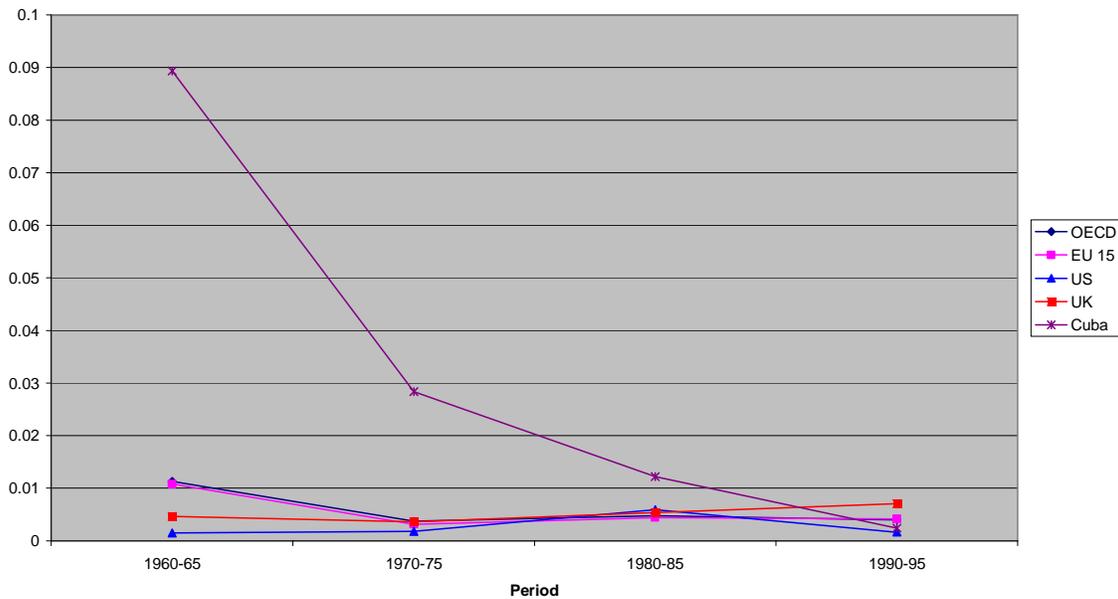
Life expectancy at birth over 40 year period in relation to health expenditure



Countries and regions would appear to consistently range from less to more 'efficient' in the following order: Cuba, the UK, the EU 15, the OECD and lastly again the US.

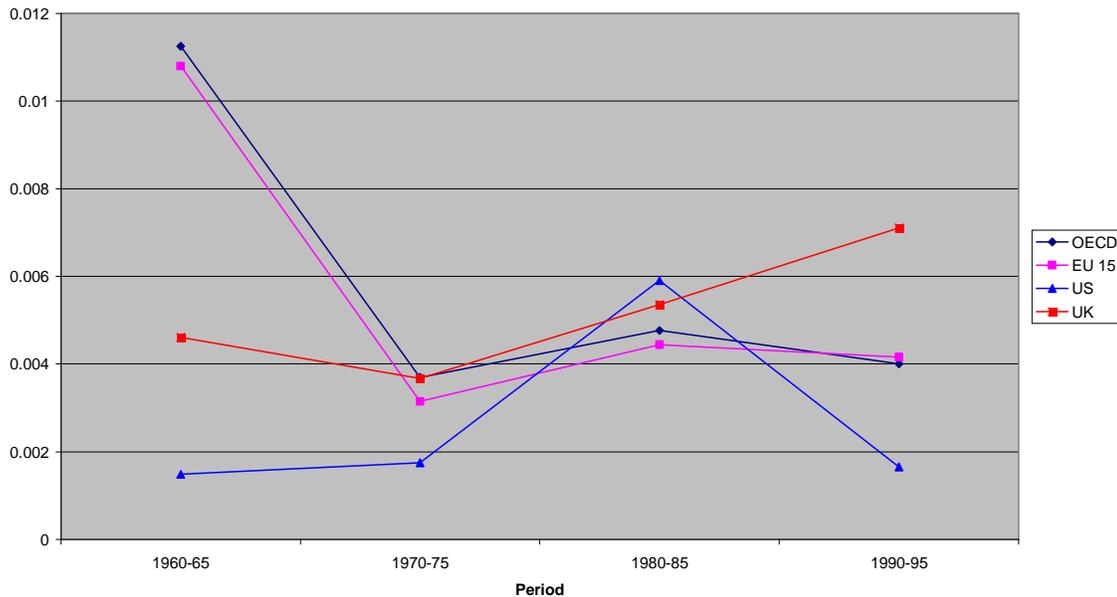
Finally, the change produced per unit of expenditure can again be graphed:

Improvement in life expectancy per unit of expenditure on health



And again without Cuba (whose great success otherwise cramps the scale for the other series, making comparison difficult):

Improvement in life expectancy per unit of expenditure on health



Again, the UK performs better overall, and with the strange exception of the period 1980-1985 (a paradoxical effect of the Reagan cuts?), the US is the worst performer again.

Conclusion

Here then, on the 60th anniversary of the NHS is evidence that, contrary to popular myth (as put about by right wing pundits and think tanks), the more socialised health service models are more efficient than the more market-based models, at least in terms of these two basic indicators of impact. This is hardly surprising: a system based on the triumph of human need over the market avoids many of the distortions and inefficiencies that the market introduces, with its duplication of products, creation of unnecessary products, and costly administration of billing, contracts, or dual management systems. It will be interesting to see what this decade looks like in retrospect. Unfortunately an increase in expenditure has been combined with increased marketisation and this is likely to have reduced the positive effects.

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July 2008

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