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Health care, education and the cost disease: A looming crisis for public choice*

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An economic specter haunts the democratic governments of the world's most prosperous economies. The rising cost of health care and education casts a shadow over virtually every election, while increasing costs of other services play a part in the growth of the homeless population and the deteriorating sanitation of city streets. It will be shown here that both an explanation and a solution *in principle* are available. However, while the solution is, in one sense, simple and straightforward, in another it poses a problem of frightening magnitude for public choice. If the citizens of these countries are willing to do what is necessary for the supply of educational, health care and other related services to keep up with the expansion in overall economic output made possible by rising productivity, then, if my analysis is correct, a difficult choice will be required: either ever more of gross national product will have to be channeled through the public sector, with all the problems we know that to entail; or, alternatively, these services will have to be transferred to private enterprise, in fields where private business firms can hope to succeed only if granted an (improbably) immunity from the temptation of unwise governmental interference. This, is indeed, Scylla and Charybdis in spades.

1. The problem of the personal services: Some empirical evidence

A quarter-century has passed since William G. Bowen and I (1966) drew attention to the phenomenon of continuing and compounded rises in the real costs of a special class of economic activities that includes the live performing arts, automotive repair, health care, education, postal services, automotive and accident insurance and care of the indigent. The statistical data for the postwar period, including the decades since we wrote, have confirmed the presence and persistence of these trends. Figure 1, showing real cost of education per student (based on data from UNESCO and the U.S. Department of Education for the

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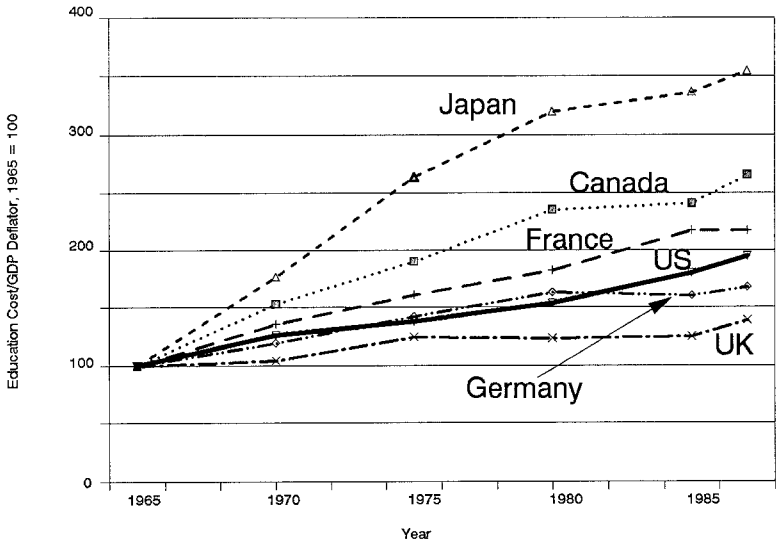

Figure 1. Education: Real cost per student (Education cost/GDP deflator), 1965 to 1987. Source: UNESCO, various years.

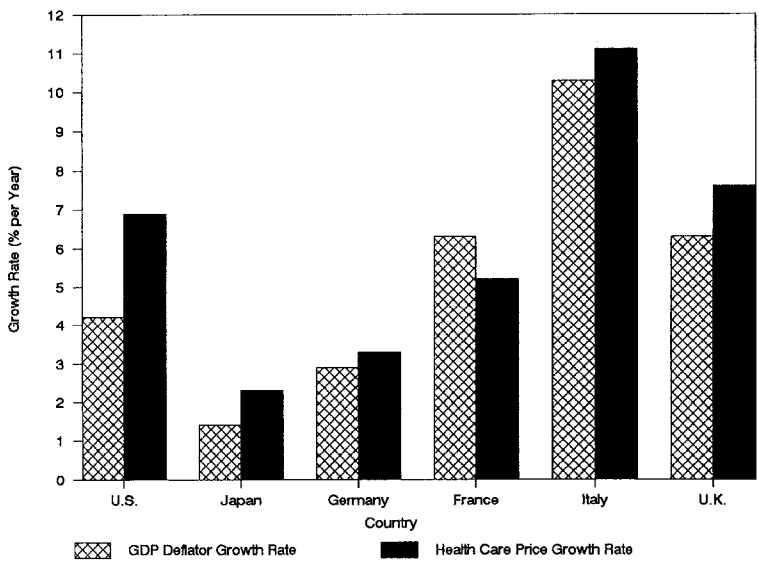

Figure 2. Growth rates: Health care price index and GDP deflator, 1980 to 1990. Source: OECD (1990).

period 1965 to 1987), confirms that these expenditures have indeed grown everywhere over the bulk of the period since World War II. Similarly, Figure 2, comparing (for six countries for the decade 1970–1980) the growth rate of

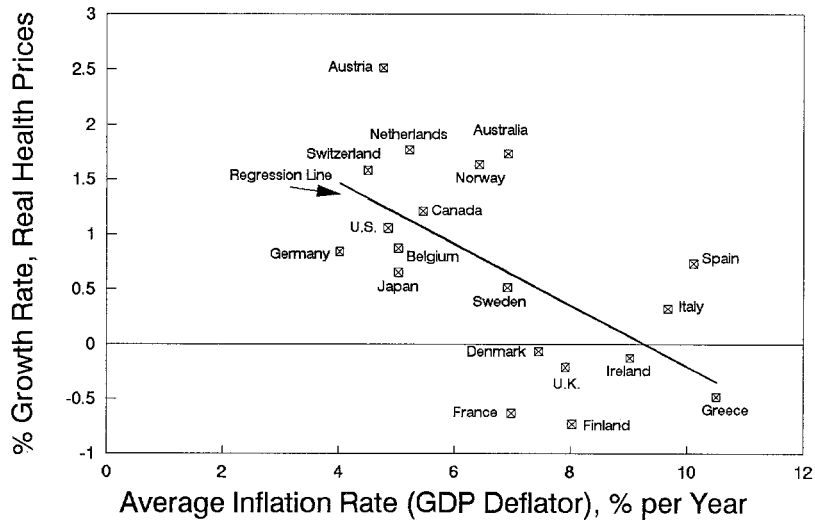

Figure 3. Real health prices versus inflation: Growth rates, 1960 to 1987.
Source: OECD (1990).

the health care cost index with that of the GDP deflator, also confirms that real health care expenditures have grown over the decade in five of the countries – that is, health care prices have grown faster than the GDP deflator (France being the exception).[1] These figures confirm that the problem of rising health care costs is not overcome either by private or public sector operation. Indeed, (Figure 3) over the period 1960–1987, six of the 19 countries in the available sample had real growth rates of medical costs higher than those in the U.S., even though those countries all offer public health care systems.

Finally, Figure 4 shows for the U.S. for the period 1947–1989 the relative prices of automobile repair and auto insurance, compared to the Consumer Price Index, confirming that these private sector activities have had persistent real price trends similar to those just reported for education and health care. In other words, all of them suffer from what we call the "cost disease of the personal services."

2. Explaining the cost disease: Low productivity growth in the personal services

Of course, no single influence can account for any such complex phenomenon. For example, litigation and rent seeking probably play a considerable role in affecting the magnitude of medical costs.[2] However, there is reason to believe that relatively low productivity growth in the personal services is a substantial contributory influence: the services that have been infected by the cost disease are precisely those in which the human touch is crucial, and are thus resistant to labor productivity growth.[3]

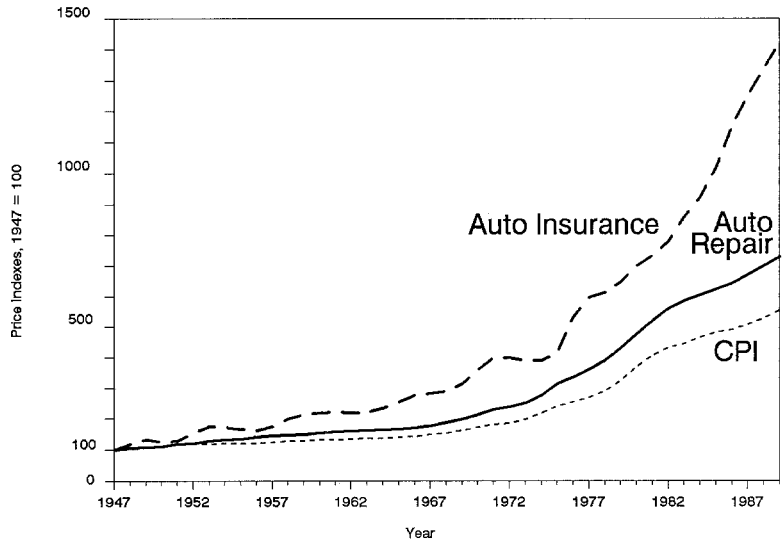

Figure 4. U.S. price indices, 1947 to 1989: Auto insurance, auto repair and consumer price index. Source: U.S. Department Commerce, Bureau of Labor Statistics, various years.

We would expect that the productivity of some economic activities would grow more slowly than others, but what *is* surprising is that those services whose productivity grows slowly today are the same ones whose productivity grew slowly as far back as there are data available. These stagnant services are the very items that have already been listed here.

There are at least two reasons why rapid and persistent productivity growth has eluded the stagnant services. First, some of them entail production processes that are inconsistent with standardization. Before one can undertake to cure a patient or to repair a broken piece of machinery it is necessary to determine, case by case, just what is wrong, and then the treatment must be tailored to the individual case. The manufacture of thousands of identical automobiles can be carried out on an assembly line and much of the work done by industrial robots, but the repair of a car just hauled to a garage from the site of an accident cannot be entrusted to automated processes. A second reason why it has been difficult to reduce the labor content of these services is the fact that in many of them quality is, or is at least believed to be, inescapably correlated with the amount of human labor devoted to their production. Teachers who cut down the time they spend on their classes or who increase class size, doctors who speed up the examination of their patients, or a police force that spends less time on the beat are all held to be shortchanging those whom they serve. This, then, is why the stagnant services have consistently proved unamenable to productivity growth.[4]

The relation to cost behavior should be clear. If, in the telecommunications

industry, nominal wages rise at a compounded annual rate of 4 percent, but productivity goes up at an even higher rate of 5 percent, then cost per unit of output in this industry will actually fall. But if, in education, the pupil-teacher ratio remains constant, so that crude productivity growth per teacher-hour is zero, then a 3 percent rise in nominal teacher salaries (or *any* growth at all in those salaries, for that matter) will lead to a commensurate rise in cost per pupil. Since the overall price level in the economy is made up of an average of these two types of product, and since market forces in the long run push nominal wages up everywhere (even in the zero-productivity-growth services), then it follows that the cost of education will rise, not only more quickly than that of telecommunications, but more rapidly that the general price level.

3. Toward viable policy: Can we afford the stagnant services?

The pervasive fiscal difficulties that threaten the quality of life in the industrialized countries have many roots. However, the evidence indicates that a considerable share of the problem is attributable to the cost disease. If inflation proceeds at a rate of, say, four percent per year, but the cost of education per pupil and other municipal services rises at a rate of six percent, then a tax base that expands only a little faster than the rate of inflation is sure to lead to growing financial problems for the city. And medical costs and insurance premiums that considerably outstrip the rate of inflation year after year would appear to put such vital services beyond the reach of all but the wealthiest families. If the cause of this predicament is, indeed, the nature of the technology of the supply of these services, and the course of the development of such technology does not lend itself to easy modification, then the implication would seem grim indeed – the conclusion would appear to be one that befits the natural pessimism of a practitioner of the dismal science.

Yet, I will argue next that, far from there being no exit, the very structure of the problem is such as to offer society all the resources requisite for its solution. Contrary to appearances, we *can* afford ever more ample medical care, ever more abundant education, ever more adequate support of the indigent, and all this along with a growing profusion of private comforts and luxuries. It is only an *illusion* that we cannot do so, and the main step needed to deal effectively with our fiscal problems is to overcome that illusion. This conclusion may strike the reader as implausible in light of all that has been said. Yet, if our future overall productivity record bears any resemblance to that of the decades past, then this conclusion is inescapable. There are two fundamental reasons that will be described in turn:

3.1. The small, but positive, growth rate of productivity in the stagnant services

In *A Connecticut Yankee in King Arthur's Court*, Mark Twain devotes an entire chapter to Sir Boss's unsuccessful attempt to explain the concept of real wages to his primitive hosts. Sir Boss argues with some passion that the monetary magnitudes of wages are irrelevant; that, regardless of their value as expressed in terms of money, wages are really higher only if it takes fewer hours of labor to earn the wages needed to purchase a given set of goods. Yet, as will be shown now, precisely that is true of the stagnant services. Their money prices are indeed rising ever higher, and their exchange rate against manufactured goods is constantly increasing, just as has been shown. But in terms of the number of labor hours it takes to acquire them over the longer run, their cost is decreasing steadily, albeit relatively slowly. So, the claim that we cannot afford them is simply a manifestation of money illusion.

In fact, even the most technologically stagnant of services is undergoing productivity growth – slowly, and not very steadily, but some growth nevertheless. Our cost disease analysis does not claim otherwise; its workings merely require productivity in the stagnant services to grow substantially more *slowly* than that of the economy overall. To illustrate the point, let me return to my favorite example. If a hypothetical Mozart string quartet had been scored for a half-hour performance, then its performance in 1990 required two persons-hours of labor, just as it did in 1790, when it might have been written. Thus, here, there appears to be absolutely no scope for the slightest increase in labor productivity.[5] Yet that is only an illusion. To see why, assume that the 1990 performance was by a Viennese group of musicians, and that the piece was played in Frankfurt am Main. A trip from their Austrian home base to the German auditorium surely would normally have taken the performers no more than several hours in 1990. But when Mozart made the trip in 1790 it required *six days* of travelling in extreme discomfort (and, at that, Mozart wrote that he was surprised at the speed of the journey, (Letter of 28 September, 1790). Certainly, technical progress *has* reduced the number of hours of labor required to provide a unit of the output in question, thus raising the labor productivity of every itinerant performer, even in live performance (and we know that performers are virtually all itinerant).

This example clearly suggests that there is no personal service whose productivity is untouched by technical progress to some degree. The consequent rise in labor productivity means, by definition, that it requires ever less labor time to produce a unit of such a service. And every resulting reduction in labor-time expended in producing the service means that those purchasing the service must expend that much less labor-time to acquire the wherewithal needed to purchase it. That is the sense in which even education and medical care have really grown steadily cheaper (albeit at a snail's pace, compared to other outputs),

even as they appear to become steadily more unaffordable. Productivity growth in the stagnant services means that their real costs are steadily, if slowly, declining despite the dramatic inflation in their money prices. However, this, at best, can only make a minor contribution toward solution of the politico-budgetary problems that stem from the cost disease. More powerful aid must come from a second source:

3.2. Productivity growth in the economy means we can afford more of everything

There is a good deal more to the sanguine side of the cost disease story. Even if it were true that productivity in the stagnant services was not increasing one iota, their rising prices could still not put them beyond the reach of the community; on the contrary, it would remain true that society could afford ever more of them, just as it has in fact been getting ever more of the health care and education that seem to grow steadily toward becoming too expensive to afford.

As was pointed out some time ago by David Bradford (1969), in an economy in which productivity is growing in almost every sector and declining in none, consumers can have more of *every* good and service. To achieve this goal, some limited quantity of the inputs used to produce goods whose productivity is growing (the "progressive" outputs) must be transferred into the production of the stagnant services. Then productivity growth will still permit expansion of the progressive output quantities (despite the small subtraction from their inputs), while the outputs of the stagnant services will grow because more input is being devoted to their production. To achieve such a goal – greater abundance of everything – society must change the *proportions* of its income that it devotes to the different products. It is a fiscal illusion that underlies the view that consumers as a group cannot afford to pay the rising costs of education, health care, and other such services.

But over the longer run, the size of the required transfer of income is startling. We can suggest the magnitudes that may possibly be involved by using current U.S. data on price trends and expenditures on health care and education to illustrate the point. It should be emphasized that the figures that follow make no pretence of being forecasts – they are intended as no more than suggestive extrapolations. We will now see what would be entailed if: 1) the *real* prices of education and health care were to continue to grow at their current rates for 50 years; 2) overall U.S. productivity were to rise for that period at its historic rate of (approximately) two percent; and, 3) real educational and health care outputs were to maintain an unchanged share of GNP – that is, the economy were to produce more education, health care and everything else, in their current relative proportions.

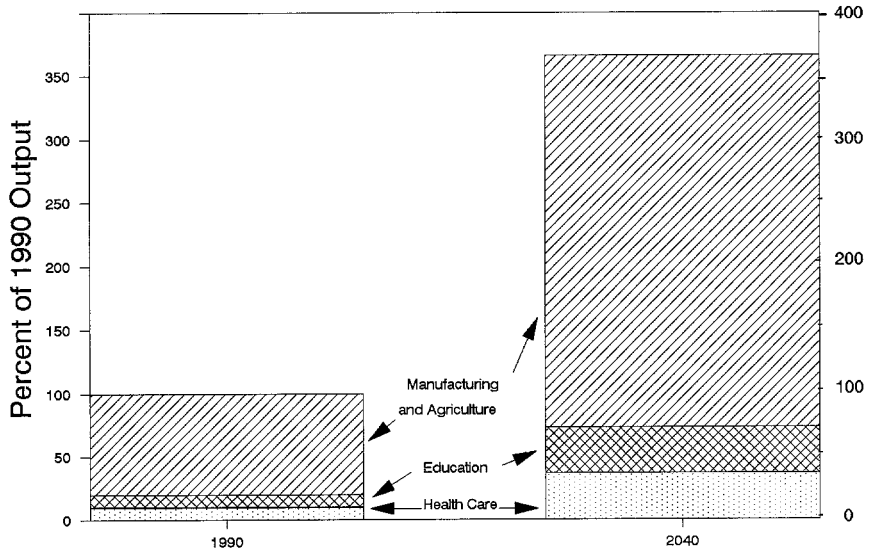

Figure 5. Hypothetical changes in total outputs, over 50 years, assuming historic sectoral productivity growth rates.
Source: Calculated by author with data from OECD (1990), U.S. Department of Education (1990) and U.S. Department of Commerce, Bureau of the Census, various years.

In both Figures 5 and 6 the left-hand bar shows the actual shares of gross national product constituted by health care, education, and the remainder in the year 1990. It shows that these two services then constituted less than 20 percent of the total. In Figure 5 the right-hand bar reports what will happen to GNP in 50 years if the number of hours of labor performed in the U.S. remains constant but productivity in the economy grows at its historic average rate and each industry's output level is adjusted to retain the same *share* of GNP. It shows that over those fifty years the output of *every* good and service, including education and health care, can increase to more than 3.5 times their 1990 magnitudes. This growth is indicated by the relative heights of the corresponding segments of the two bars in Figure 5 – that for 1990 and the one for the year 2040. That is, we see that the right-hand bar (for the year 2040), *and every one of its segments*, is more than 3.5 times as tall as in the left-hand bar (1990).

Figure 6, however, is the crucial one for our analysis, for it shows the modification of *real expenditures* required to achieve the result of Figure 5, in effect, measuring spending on each product by the relative number of hours of labor needed to earn enough to purchase it. Our assumption that the total hours of labor does not change means that total spending on GNP, measured in terms of labor hours used, must also be constant. Thus, the 1990 bar and the 2040 bar, representing total (labor-hour) expenditure on GNP in the two years, must be exactly equal in height. However, expenditure *proportions* will have

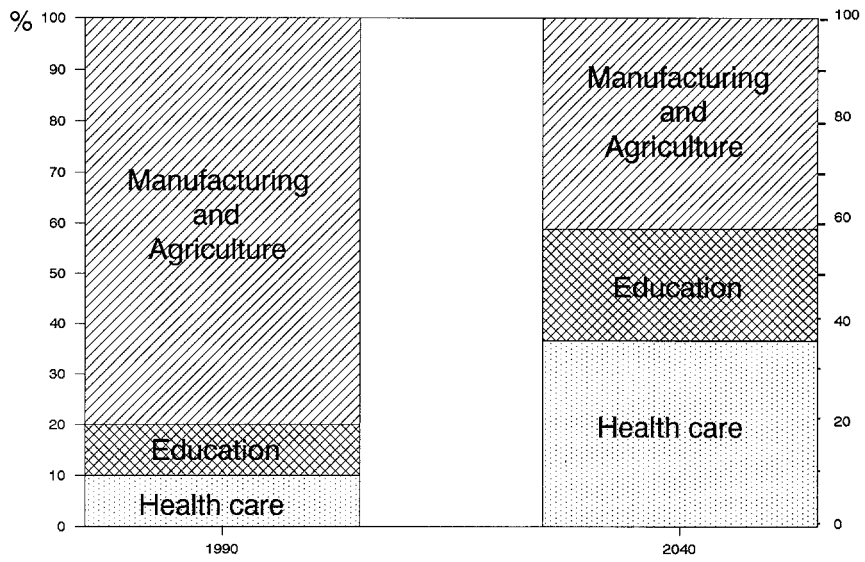

Figure 6. Hypothetical changes in total spending, over 50 years, assuming historic sectoral productivity growth rates.
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changed drastically. Medical care outlays, instead of constituting 11 percent of the total, as they did in 1987, must rise to more than 35 percent of GNP in 2039. And the share of expenditure devoted to education will have risen from under 10 percent of GNP in 1990 to more than 20 percent fifty years later. In other words, if current relative price trends and output proportions continue as they are now, by the time four decades of the next century have passed, education and health care alone will absorb well over half of GNP! *But that will not prevent consumers from nearly trebling their consumptions of each and every good and service*, including manufactured necessities and luxuries of every variety. And a little thought will confirm that this can continue indefinitely.

4. The problem of communication

Yet, this sanguine conclusion is more than a bit simplistic. The path from theory to practice is beset by daunting difficulties. Not the least of these is the difficult educational task of getting the public to recognize the difference between the reality and the illusion in the behavior of costs. It will not be easy to convince the intelligent layperson that, even though the prices of personal services appear to be rising at a rate that is out of control, in fact the costs of those services (in terms of their labor-time equivalent) are really gradually

declining, because of small increases in their labor productivity. One can hardly blame such persons for their reluctance to be taken in by what appears to be pure academic sleight of hand, or mere theoretical gobbledygook. The difficulty of convincing those who are not trained to think about these matters analytically that an item really becomes cheaper when its price doubles if, at the same time, wages rise by a factor of 2.1 is, after all, the main moral that Mark Twain seems to want the reader to draw from Sir Boss's vain attempt to make the matter clear. Yet the task of explanation to the public should not be beyond the most skilled of journalists and others who specialize in the art of effective communication. And an indispensable task it is, for without it effective budgetary reorientation along the lines described will undoubtedly be politically impossible in a democratic society.

5. The fundamental problem for public choice

There is a second problem that besets effective treatment of the cost disease – one that is arguably much more serious than the first. The cost disease analysis implies that our governments, perhaps particularly those of our towns and cities, face a daunting task in the future, in acquiring the revenues necessary to prevent municipal services from collapsing even more completely than they have already. A large portion of the budgets of town and city governments consists of education, health care, and other services likely to exhibit similar price behavior: police protection, libraries, welfare, and so on. This means that we can expect that the *real* outlays on these services may have to treble and more (!) before the middle of the 21st century, if these service outputs are not to fall behind the outputs of the economy's remaining activities.

But this is not the fundamental difficulty. Rather, the threat lies in the prospect that more than half of the value of the economy's total output will have to be devoted to services whose funding derives predominantly from the public sector. The consequences of so enormous an increase of the share of GNP that will have to flow through government channels rather than the private sector of the economy are hardly an attractive prospect. With the resounding failure of the centrally directed economies so recently before us, it is disturbing, to say the least, to recognize that we are beset by apparently inexorable forces driving the free-market economies toward governmental funding and control of the purse strings, if not outright governmental provision of the outputs in question.

The obvious answer, *à la mode*, is privatization – putting more and more of these activities into the hands of private enterprise. One can be confident that such a move will elicit determined opposition, which already has shown itself, for example, whenever any measure is proposed that is perceived as even

a minor threat to the public schools. Moreover, whatever ultimate position one may take on these matters, a dispassionate evaluation will surely recognize that many of the objections raised against privatization of some of these traditionally public activities are not entirely without merit.

No matter how one feels about those arguments it should also be recognized that, for activities beset by the cost disease, privatization poses a very special problem, and one that will not be easy to overcome. The very fact that the stagnant, personal services are likely to be beset by persistent, cumulative and compounded rises in their costs is certain to make their suppliers the subject of suspicion and hostility. They are sure to be accused of greed, incompetence and worse. Insurance companies, as suppliers of bundles of stagnant services (medical, legal, automotive repair, etc.), provide a foretaste of what is to be expected. These companies have become the target of one politician after another who seeks an easy way to curry public favor. But in every case the politician's remedy has turned out to be some form of price control, which, in an industry whose costs are driven by technological imperatives to rapid rise, can only result in deterioration in the quality of the service and, ultimately, withdrawal altogether of a service that is presumably valuable to society. Thus, the danger is that privatized services subject to the cost disease will find themselves harassed and undermined by public hostility and the resulting governmental intervention. The prospect is that public pressure will be the enemy of the public interest as in so many cases where price control has been invoked as the magic formula for cost reduction.

Here is a problem for public choice that is likely to prove critical for our quality of life. An unfortunate choice in this arena does indeed threaten to bring us an economy, in the words of the poet, "where wealth accumulates and men decay." But the nature of the right choice is by no means clear.

Notes

1. It should be noted that during the period 1970–1980, a period of very rapid inflation, the health care index rose more slowly than the GDP deflator in four of the six countries. Historically, this has always been the exception (see Baumol and Bowen, 1966). In periods of rapid inflation expenditure on such services has typically been unable to keep abreast of the price level, and so real cost per unit of output of these services has tended to fall. Indeed, in this set of six countries, the two for which real health care cost rose during the 1970s were those with the *lowest* inflation rates. Moreover, in the entire sample of 19 countries for which we have been able to obtain health care cost data for the period 1960–1987, real cost increased in 13, with only those whose inflation rate was high falling behind (Figure 3).
2. However, while these probably help to account for the relatively high *level* of health care costs in the U.S., it does not seem plausible that they play much of a role in the *rate of growth* of those costs, which is the focus of this paper. For to play such a role, rent seeking presumably would have to be characterized by a secularly rising trend, and to do so in all of the many coun-

tries in which health care costs are rising faster or nearly as rapidly as ours. The fact that the compounded rise in real costs extends over so many countries with such differences in health care systems, and that it has persisted for so long a period seems to me to strengthen the case for an important role for a mechanism such as the cost disease.

3. For this purpose, productivity measurement must deliberately avoid any attempt for correction for improvement in quality, and must, rather, focus on crude indices such as number of patients per physician-hour, because cost to the patient per physician-visit depends directly on the average annual physician salary divided by sheer number of patients seen by the doctor per year, and is affected only indirectly by quality of service rendered.
4. Of course, technological change in health care has hardly been negligible. However, study of the evidence indicates that it has been predominantly quality improving rather than labor saving in character.
5. Or even for any increase in total factor productivity, for that matter; the latter appears frozen by the fact that the same number of instruments, the capital equipment, was required at the two dates.

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