Building a National Health System: Learning from Other Countries’ Mistakes

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Any country designing a national health system today has the advantage that virtually every structure which it might be considering has been tried, to some degree or another, by some other country. Looking at evidence from those experiments yields a number of broad conclusions. Most importantly, standard economic analysis applies in health care, as in other areas, in the sense that demand curves slope down and supply curves slope up. Theories which argue that economic theory does not apply to health care—the argument that doctors induce unnecessary demand for their services in order to boost their incomes, for example—are generally found, on careful analysis, not to hold up. In terms of broad policy conclusions, the international empirical evidence suggests that shifting doctors from fee-for-service to capitation reduces their productivity and that preventive care, while good for patients, cannot be counted on to reduce costs. While suppliers of health care do respond to incentives in the same general manner as do suppliers of any other products, the private sector should not be seen as the enemy of a national health system. Private insurance and private supply can function as part of an efficient, universal national health care system.

Keywords: National Health Care Systems

1. INTRODUCTION

At a lunch at the Bank of England, just ten days before his death in 1946, John Maynard Keynes remarked (see Skidelsky, 2000): I find myself more and more relying for a solution of our problems on the invisible hand which I tried to eject from economic thinking twenty years ago.

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Ekonómia, Vol. 11, No. 1, Summer 2008 I © CYPRUS ECONOMIC SOCIETY

academic career at the University of Keele and moving on to the Department of Economics, University of Leicester, while Dr. Paschardis returned to Cyprus to the newly established Department of Economics, University of Cyprus. Dr. Arestis is currently in the Department of Land Economy, University of Cambridge. Finally, Dr. Georgiou is now at the Central Bank of Cyprus.

For the first five issues, the journal’s editorial structure was rather informal. However, for the sixth issue (December 1996), a more formal structure was put in place with two general editors, one review editor, two production editors and three associate editors. Dr. Georgiou and Dr. Demetriades were the general editors. This structure remained more or less intact throughout the remainder of the journal’s existence as the Cyprus Journal of Economics. As time passed, Dr. Demetriades took on the responsibility of Editor while Dr. Georgiou became, in effect, the Managing Editor.

In 1997, the Cyprus Journal of Economics was re-launched as Ekonomia with Dr. Demetriades as Editor and Dr. Georgiou as Managing Editor. However, due to other commitments, Dr. Georgiou’s tenure as Managing Editor lasted for the duration of one volume only i.e. summer and winter issues of 1997. Increasingly, the production and editorial responsibilities for Ekonomia shifted to members of the Department of Economics, University of Cyprus. Dr. Sofronis Clerides, Dr. Pantelis Kalantzidakis, Dr. Michalis Michael, and Dr. Panayiotis Lyssiotou played key roles since then; Dr. Michael is currently Co-Editor and Dr. Lyssiotou is currently Managing Editor. Dr. Arestis and Dr. S.M. Miller of the University of Nevada, Las Vegas, continue as Co-Editors. After 20 years of service, Dr. Demetriades has now stepped down as Editor. That Ekonomia now stands at the doorstep of a new era under the continuing auspices of the Cyprus Economic Society but with the very active involvement of the Department of Economics, University of Cyprus, is a tribute to the commitment and determination of Dr. Panicos Demetriades and the other founders and supporters of the journal. To them we owe a debt of gratitude.

The Future

Beginning with this issue, we are shifting the editorial and typesetting processes in-house, at the Department of Economics, University of Cyprus. We will gradually renew and expand the team of Co-Editors and the Editorial Board. We will continue to reach out to the international community for high quality submissions in all areas of economics and econometrics. These will, as always, be subjected to a rigorous refereeing process and will, if accepted, be published expeditiously. As we go forward with these changes, I look forward to the continuing support of the Cyprus Economic Society, the Department of Economics, University of Cyprus, and the individuals who have sustained the journal until now.

Louis N. Christofides
Editor, Ekonomia
There are analysts who have worked diligently to eject the invisible hand from health care, and who reject any notion that it might have a role to play in solving the problems which many national health care systems face. They would, indeed, argue that the invisible hand, or more properly the market, is the source of most problems in health care, that health care is too important to be left to the market and that the basic principles of economic analysis do not apply to health care. I would argue that they are wrong. They are wrong about economic analysis because economics is an empirical discipline, and what we refer to as laws of economics are actually just summaries of observations about consistencies in human behaviour, in particular about the types of choices people make. They are wrong about markets because they have fallen into the Nirvana fallacy, in this case the idea that, because markets are imperfect and cannot be guaranteed to produce what we might see as socially-desirable outcomes, government can produce those outcomes, either by regulation or by direct control of certain sectors or activities. I would go further, and argue that the health care policies which these analysts have encouraged have done immense damage to many national health care systems.

The state of the debate on health policy today is such that anyone who begins a talk by saying that they believe markets have a valuable role to play in a national health care system is likely to be labelled as an opponent of any government involvement in national health care systems, so I should begin with the question of whether there is any role for the government to play in health care, and in particular whether governments should work to develop national health systems of some sort or other.

2. A NATIONAL HEALTH SYSTEM?

The answer to that question probably lies in the answer to another question. Would we be willing to refuse major medical treatment to someone who needed it but who lacked the resources to pay for it himself, either because they lacked the personal wealth or because they had not purchased insurance? For most people, myself included, the answer to this question would be no. Given that, though, we have to consider the free rider question. Are we content to allow people to choose not to make provision for the eventuality that they will be faced with the need for major medical care? If we have said no to the first question, we would probably say no to the second. Saying no to the second, however, implies the desirability of some sort of universal health system, and also the need for subsidies of some sort for lower income individuals, since most people would not favour a national health system which was regressive in its funding.

So our starting point is that it is appropriate for a country to develop a national health care system. That conclusion, however, is not a great help when it comes to actually designing the system. We can go a bit further if we adopt the view of the Hungarian economist, Janos Kornai (see, for example, Kornai and Eggleston, 2001), that any national health system should embody the principles of solidarity and individual sovereignty. In terms of practical advice for building a system, though, we need to go further. Let me start, then, by listing a few, still very general, principles for designing a national health insurance scheme.

3. ISSUES IN DESIGNING A HEALTH INSURANCE SYSTEM

3.1 General Points

A national health insurance scheme needs to be universal. It needs to cover catastrophic illness, but it need not and indeed should not try to be comprehensive. It does not need to be a government monopoly, and the government does not need to supply all medical care.

It is probably safe to say that, to many people, all but the first of those principles will seem controversial, or downright objectionable. These principles arise both from the application of basic economics to health care issues, and also from observations of the performance of health care systems in many different countries. That last bit—observation—should not be passed over lightly. Policy makers who find themselves trying to design a national health system for Cyprus today have a considerable advantage over their counterparts who undertook that task in other countries in past decades, in that there is literally a world’s worth of empirical evidence against which they can test their theoretical propositions. It is fairly safe to say that pretty much any structure that you might be considering trying has already been tried, in some form or other, by someone else somewhere else. All you have to do is look for it.1

Perhaps the most important lesson to be drawn from other countries’ experience is that in health care as in everything else, demand curves slope down. Supply curves slope up and people respond to incentives. The most serious mistake which a health policy maker can make is to assume that these principles do not apply, and to ignore evidence to the contrary.

3.2 Payment Methods and Implications

Consider, for example, the issue of how doctors should be paid. Standard economic theory tells us that the quantity of output supplied will be greater if the earnings of suppliers are linked at least to some degree to the quantity of goods or services which they supply. In the case of doctors, the usual payment systems are fee for service, in which doctors are paid a specific price for each service which they supply (this is the way most Canadian doctors are paid, for example), capitation, in which doctors have a list of patients for whose care they are responsible and are paid a flat annual amount for each name on the list (the best known example of a capitation system is probably the way GPs in the UK were originally paid under the British NHS) and salary, in which the doctor is an employee of the system. Pure fee for service is an activity-based funding mechanism, under the pure versions of the other two systems, the doctor’s income...
does not rise with increased output, nor does it fall when his output falls. Empirical evidence tells us that doctors respond to incentives in the same general manner as do suppliers of any other services—a typical result is that when doctors are switched from fee for service to non-output based payment mechanisms their output falls by perhaps twenty five percent.2

This result is of particular interest to me in the Canadian context, because the province of Ontario is enthusiastically promoting what are often referred to as multi-speciality primary care clinics (also known as poly-clinics, or super clinics) which will employ GPs, Nurse Practitioners, physiotherapists and other types of labour input as seems desirable. Unlike the majority of Canadian GPs, the doctors in these clinics—called family health teams—will not be paid on a fee-for-service basis, but rather on capitation, with responsibility for a list of patients who have been put on their practice’s roster. Virtually all of Ontario, with the possible exception of metropolitan Toronto, suffers from a shortage of GPs, and the province expects that capitated clinics will increase access to care.

These clinics look a lot like the sort of structure which Finland adopted when it was developing its personal doctor system. Unfortunately, policy makers in Ontario do not seem to have looked closely at the Finnish experience since they appear to have decided to adopt a system which looks very much like an early, pure capitation version of the Finnish system. When the current Finnish system was introduced, the system by which doctors were paid was modified to a mixture of capitation, salary and fee for service, but a recent OECD (2005) review of the Finnish health system noted that productivity was still low, as indicated by long waiting times, and that doctors in the health centres tended to work nine-to-five type hours. The implication seems to be that importing this sort of structure into a province which is already suffering from doctor shortages is probably not the best of ideas.

Some Canadian researchers are apparently starting to have doubts about how well Ontario’s family health teams are working—a recent article in the Ottawa Citizen newspaper (Denley, 2008) quotes Dr. William Hogg, of the University of Ottawa as saying that, even in teams where doctors are paid a mixture of fee for service and capitation, it appears that these teams have increased costs without increasing output. Dr. Hogg is quoted in the Ottawa citizen article as saying that any increase in efficiency which the structure might have produced seems to have been eaten up by “the meetings that these multi-disciplinary practices require”. Interestingly, from the point of view of the argument that I am making about the value of drawing on the experiences of the rest of the world, Saltman (2002) notes that, in the 1980s, salaried primary care physicians in publicly operated Finnish health centres spent only 55% of their time actually seeing patients.

### 3.3 Supplier-Induced Demand

Interestingly, some analysts support a shift to capitation precisely because they expect it to reduce output. These writers generally adhere to a theory known as supplier-induced demand (SID), which holds that standard economic analysis doesn’t apply in health care. SID theorists argue that there exists a significant asymmetry in information between physician and patient, which is an unremarkable proposition, and argue further that under fee for service a significant number of doctors take advantage of that asymmetry to induce patients to have unnecessary medical care, solely for the purpose of maintaining the doctor’s income. This unnecessary care is often referred to as remunerateeomies. SID theorists can show that if their model is correct, an increase in the number of doctors per capita in a community will simply lead to an increase in unnecessary care and an increase in costs roughly proportional to the increase in the physician stock as individual MDs aim to maintain their incomes in the face of increased competition. They argue that switching to capitation eliminates the incentive to induce demand and so will result in a drop in the number of services supplied and in health care costs. They have also argued in some countries that the chief problem facing the health care system is that there are too many doctors, inducing too much demand, and that a reduction in the physician supply, by reducing competition among doctors, will eliminate the need to induce demand, even under fee for service. The result would be that a reduction in the physician stock would lead to a drop in health care costs with no reduction in quality of care, since the drop in costs would be due to a drop in unnecessary services. (In Canada it has often been said that about thirty per cent of medical care is unnecessary, based on a series of studies done by the RAND Corporation in the United States.)

At one time the inducement hypothesis was widely accepted among health economists—the lore of the profession holds that the editor of the Journal of Health Economics once said that he was receiving so many submissions of papers on SID that he was thinking of changing the name of the journal to the Journal of Induced Demand. Today, while many health service researchers still believe that SID is important, it is probably fair to say that most health economists are of the view that the early studies which found SID were marred by serious problems of econometric methodology, and that if SID exists at all it is a minor factor in driving costs.

Unfortunately, it had sufficient appeal to Canadian policy makers that it was a major factor in the decision to make significant cuts in the number of places in Canadian medical schools in the mid 1990s, a decision which is having serious consequences for access to care in Canada today.

### 3.4 The Supply of Doctors

Standard economic theory predicts that an artificial shortage of the sort created by the reductions in medical school class sizes a decade ago will tend to drive up the price of the services supplied by the factor in question—in this case, doctors. Under Canadian Medicare, doctors in fee-for-service practice cannot set their own prices, and cannot bill in excess of the Medicare fee schedule, but must accept Medicare’s fees as payment in full, so the shortage cannot result in an immediate increase in the price of care to the health care system. Instead, what we are increasingly seeing happening is provinces making lump sum payments to try and attract doctors to underserved areas. And not only are provincial governments
offering what are essentially signing bonuses, so too are municipal governments—cities are recruiting doctors by offering them cash payments, offering to supply their office space and facilities, offering to pay the medical school debts of newly graduated doctors. This has raised the ire of provincial ministries of health, since richer communities are more likely to be in a position to make this sort of payment than are poorer ones, but if a community decides, as one has happened recently, to offer a house to any doctor who will move there, there is very little which the province can do about it. What we are seeing in the Canadian market for physicians is the price of physicians adjusting in response to the shortage which has resulted from workforce policies which were adopted a decade ago.

3.5 Prevention

Other policy analysts favour capitation because they believe that fee for service rewards curative procedures over preventive care, and hold that under capitation doctors would have less incentive to supply procedures and more incentive to focus on keeping patients from getting sick. This too is a testable proposition—early supporters of staff-model Health Maintenance Organizations (HMOs) in the United States held this view, but it is generally accepted now that doctors working in those HMOs were no more likely to focus on preventive care than were fee for service doctors. But perhaps the most striking evidence on the matter comes from the English National Health Service.

There has been much coverage in the British press in the past few years of problems in the NHS, notably rapid increases in spending which were not, despite the Blair government’s expectations, accompanied by increases in output or productivity. One element in these cost increases was the Quality and Outcomes Framework, a pay-for-performance system which gave NHS doctors additional payments for each of a number of quality indicators which their practices met (Doran et al., 2006). Most of the indicators were related to preventive care and many were matters of record keeping: recording patients’ smoking status, for example, and offering smoking cessation advice. The cost of the QOF incentives turned out to be far in excess of what the NHS had budgeted for (and became the subject of a report by the British government’s National Audit Office (2008)) because, in economic terms, the supply of the selected indicators turned out to be a lot more elastic than the NHS had anticipated. We could debate the issue of the set of indicators which was included, or the issue of the price which was paid for each point which a practice achieved, but for our present purposes the key issue is the fact that the NHS believed that under its primarily capitated system for paying for primary care, not enough preventive care was being supplied. While many capitated practices undoubtedly do supply preventive care, so too do many fee-for-service practices, and the literature does not, overall, seem to support the idea that a shift to capitation will, by itself, lead to doctors practicing a more prevention oriented style of medicine. Apparently, if you want to raise the quantity of preventive care supplied, you have to raise the price you pay for it.

3.6 Activity-based Funding

Incentives also matter in the hospital sector. Canadian hospitals are paid, for the most part, on the basis of pre-determined annual global budgets, from which they are supposed to fund all of their operations for the year. This structure gives their managers, who are regularly threatened by Ministers of Health with sanctions should they exceed their budgets, an incentive to be conservative in how they use their funds, to ensure that they have funds in reserve should they be hit with a surge in demand towards the end of the budget year. The result has been that Canadians face significant wait times for all but the most urgent procedures. Other countries have gone over to various types of activity-based funding for hospitals. Activity based funding—paying hospitals at least part of their budget on a fee-for-service basis—means guaranteeing the hospitals that funding will follow the patients. Under activity-based funding, should a hospital experience an unexpected surge in demand, perhaps because of a serious flu outbreak, it knows that its budget will increase to match the spike in demand. That additional budget will not add beds that aren’t there, but it will cover the additional variable costs that a spike in demand brings: additional nursing costs, perhaps, or the need to restock the hospital pharmacy much sooner than had been planned. While activity based funding makes it harder for governments to put a cap on health costs, fluctuations in spending will be directly related to fluctuations in the provision of health care. An OECD study (Siciliani and Hurst, 2005) looking at differences in wait times for elective surgery across a number of OECD member countries concluded that the countries which were least likely to experience wait time problems were ones which had some element of activity based funding in their hospital funding system. The most striking example of this is probably from the Australian state of Victoria, which in the early 1990s added an activity-based funding component to the funding formulas for its public hospitals. The effect was immediate, dramatic and persistent—wait times fell significantly and stayed down. The effect of the Victorian policy was sufficiently dramatic that incorporation of an activity based element in hospital funding formulas was quickly adopted by most of the other Australian states.

3.7 The Role of the Private and Specialty Hospitals

Another issue which arises in the hospital context is the role of private suppliers of care. The definitions of public and private, in the health care sector, are by no means always clear cut. In Canada, for example, fee-for-service GPs are private practitioners who happen to make an income selling their services exclusively to the public health care system. Canadian hospitals are nominally private, not-for-profit institutions with independent boards and management, but they are so much under the control of provincial departments of health that it is absurd to think of them as in any way equivalent to private American non-profit hospitals. The Canadian province of New Brunswick recently reduced the number of health regions in the province from eight to two, eliminating six regional hospital boards in the process. This is not something which could be quite so casually done if hospitals were really private institutions.
Still, there are some cases in which the term private has a fairly clear-cut meaning. Most notable is the case of private specialty hospitals which are appearing in a number of countries. They include, in the United States, orthopaedic hospitals, cardiac surgery hospitals and women’s hospitals; in Canada the Shoulder hospital, a private, for-profit hospital specialising in hernia operations; while in Finland the Coxa hospital is reported to have had tremendous success in improving the quality of joint surgery. Coxa is partly owned by the local hospital district, but is also partly owned by a German private hospital company and is expected to operate on a commercial basis. The business literature sometimes refers to these institutions as “focused factories”, but essentially they are specialised producers of hospital care, and, because they can reap the advantages of specialisation, they tend to produce high quality care. A recent paper by Cram et al. (2005) looked at cardiac specialty hospitals in the United States and found that these hospitals had lower unadjusted mortality rates than did community hospitals. Cram et al. (2005) then adjusted the mortality rates for differences in the complexity of cases which different hospitals serviced, since specialty hospitals tended to treat less complex cases than did community hospitals, and found that, even after adjusting for case mix, cardiac specialty hospitals had lower mortality rates than did community hospitals. This remaining difference Cram et al. found to be explained by the simple fact of specialisation: as they put it, “[O]ur study provides no definitive evidence that cardiac specialty hospitals provide better or more efficient care than general hospitals with similar procedural volumes.” In other words, public hospitals could provide quality as high as that provided by specialty cardiac hospitals if they could specialise, too.

Specialty hospitals are often criticised on a number of grounds. In countries where they coexist with public hospitals, it is said that they cherry-pick, taking the easier cases and leaving the more complex ones to the public system. This argument assumes that public acute care hospitals are suitable venues for treating less serious cases. The modern history of medical technology has included a trend away from treating patients in acute care hospitals. To take one example, many procedures which once required in-patient stays are now regularly performed on a day-patient basis. Rather than insisting that acute care hospital resources continue to be used for the treatment of less complex cases, it makes much more sense to recognise the effects of changing medical technology, to designate public acute care hospitals as the places where the more complex cases will be treated, and to fund them accordingly. Such a policy will probably result in an increase in total costs, but output will rise in greater proportion than total costs, so average costs will fall.

It is also sometimes argued that when specialty hospitals run into trouble—when complications arise in the cases they are treating—those cases wind up being treated in public hospitals. At one level this is a spurious argument: had those complications arisen when the patients were being treated in public hospitals, the costs of treating the complications would have fallen on the public system. At another level, this argument is relatively easy to deal with. The Australian practice of private specialty hospitals sharing campuses with public hospitals means that transfer arrangements are easily made, and it seems perfectly reasonable to require that specialty hospitals enter into insurance arrangements with public acute care hospitals, so that the cost of any such transfers would be picked up by the specialty hospital. The premium for this insurance would wind up being passed back to patients as part of the cost of their treatment, and would serve as an indicator to them of the probability of complications arising during their surgery.

One of the chief advantages of allowing private specialty hospitals to operate alongside public hospitals is the additional responsiveness they bring to the health care system. Public hospitals are costly to build and to expand, and their location and the set of services they provide tend to be subjects of intense political debate. A private specialty hospital, or for that matter a private polyclinic with capacity for performing minor surgical procedures, can be established anywhere there appears to be sufficient demand to support its operations, and even if much of its business is to be done with a public insurer, its capital funding will come from outside, not from the government’s capital budget.

3.6 The Role of the Private Insurance

I started with the assertion that universal health insurance was a desirable thing. Universal does not, however, need to mean single-payer, nor need it mean publicly run, nor even comprehensive, at least not in the sense of covering everything which can be done in a doctor’s office or in a hospital. A Swiss or Dutch style system with competing private insurers can work satisfactorily, introducing an element of competition into the system without leading to American-style chaos. The problems with the American insurance system arise not from its having a large private sector element (although a significant portion of the population is covered under a range of government programs, including some programs which provide funds to hospitals for the purpose of providing care to the uninsured) but rather from the peculiar form which American health insurance adopted as a consequence of a number of decisions made by government agencies during and immediately after the Second World War. It is often asserted that a government health insurance monopoly will necessarily have lower administrative costs than private insurers, but the American evidence which is usually cited in support of this claim neglects the fact that large pool American insurance plans have administrative costs no higher than most government run systems seem to. It is also asserted that private insurers will engage in wasteful advertising and competition, but attempts to match insurer and insured, and to get away from the one-size-fits-all approach of government monopoly systems are not welfare reducing.

There is no reason at all that a system of private insurance plans could not administer insurance covering those items for which everyone should be covered. Regulation could take the form of requiring that any insurance fund which wanted to set up operation had to cover certain items, with the government subsidising the
premiums of the lower income groups out of general revenues. The insurers could be left free to compete in the market for supplementary insurance—those items which the universal system did not mandate that they cover. This already happens in some European systems—such as the Swiss, Dutch and German systems in varying degrees—but those systems are probably over-regulated. In particular, the structure of existing risk equalization pools (pools of funds designed to ensure that no insurer suffers from happenings to attract a particularly sick subset of the population, and thereby to ensure that insurers did not have an incentive to cherry-pick, by trying to attract a particularly healthy client set) is probably excessively elaborate, and may hinder competition among insurers. In Ireland, the regulations about risk equalization transfers among insurers are probably discouraging entry by new firms, and reducing the degree of competition which the oldest established supplier of voluntary health insurance faces.

The first step in designing a national health insurance system, whatever its public-private mix, should be to decide what the mandatory, universal plan should cover and what should be left to individual responsibility. This should be done at the very beginning for the simple reason that, once something has been added to the list of covered services, it is very difficult to remove it. Canada’s Medicare system is often referred to as being intended to provide all necessary medical care, but no politician has ever dared define “necessary.” The Dutch reform proposals of the 1980s began with the proposition that only some services should be covered by the national system, but floundered at the attempt to decide which ones should be transferred to private individual’s responsibility.

The mandatory plan should not be comprehensive, in the sense that it should not attempt to cover everything which can possibly be performed in a doctor’s office, clinic or hospital. Virtually every health insurance system in the world is experiencing cost pressures, and the major drivers are not so much the individually expensive items, but rather the small ticket items. Major acute illness is relatively straightforward to insure, on standard actuarial bases, with a large enough pool of insured. Critics of the idea that standard economics applies in health care often remark that people don’t demand more heart transplants just because the price happens to have fallen to zero. This is undoubtedly true. What they do demand more of is the small ticket items—they demand more tests, just to be sure that there’s nothing wrong with them, and they demand the latest tests and technology, and any government plan which finds itself in the position of having to ration care, as all such plans eventually must, also finds itself accused of putting money ahead of people’s health.

Opponents of this idea argue that restricting coverage to major medical events means that low income people will be priced out of the market for primary care, and point to the American situation, especially with regards to the prices of drugs. This is certainly the case in the United States, but it has arisen because drug prices are set on the assumption that consumers have private, employment-based insurance of a sort which makes them insensitive to the price of care. In markets where individuals

are paying out of pocket for services, profit-maximising suppliers cannot price their services above the level that people are willing to pay. Thus in Ireland, whose health care system has many features which should never be emulated by anyone, the majority of the population pays for their GP services out of pocket—the lowest end of the income distribution are eligible for publicly funded primary care—yet even in the face of the dramatic expansion of voluntary health insurance in recent years very few people have taken out insurance for GP care.

Critics of more market involvement in the medical sector tend to assert that prices do not respond to market forces in health care. In fact, the evidence is that they do. In those countries whose public health insurance systems cover drugs and pay for them using a reference pricing system, where the government sets a maximum reimbursement level from the insurance system but allows suppliers to charge a price above that reference pricing level, drug prices behave in a distinctly competitive manner—the more substitutes there are for a particular drug, for example, the closer its price will be to the reference price and the less patients have to pay out of pocket. In Australia, GPs are paid on a fee-for-service basis by Medicare, but are allowed to extra bill—to charge a price above the Medicare fee. Patients will be reimbursed the Medicare fee by the public plan and, importantly, private insurance is not permitted to cover the extra billing amount; it must be paid out of the patient’s pocket. The amount of the out-of-pocket payment varies precisely as standard economic theory predicts: it is higher where patients’ incomes tend to be higher, lower where there are more physicians per capita, and falls when the Medicare fee rises. In Canada, where eye glasses are covered by many private, employer-sponsored insurance plans, in areas where there is more competition, the price of a pair of glasses tends to be much closer to the maximum which individual insurance plans pay, whereas in communities where there is less competition among opticians, and most notably in smaller towns where there might be only a single optician, the price of a pair of glasses tends to be higher. And, still in the eye care sector, Lasik surgery, which is not covered by either public or private plans, is a highly competitive sector in North America, with quality steadily improving at the same time as prices are falling. In short, when patients pay some or the entire price of their care out of pocket, that out of pocket element of price tends to respond to demand exactly as standard economic theory predicts that it will.

The development of a public health insurance system, then, should start from the proposition that not everything needs to be covered from the public purse. The principles used to decide what should be covered from the public purse and what is left to the individual’s purse should be made very clear to the public, and the system should be open to expanding the list of things which it does cover, but only after careful study of the proposed new items. It is much easier to add things to the insured list than it is to drop ones which people have become accustomed to having someone else pay for.
3.9 Cost Projections

Another rule of thumb which designers of public systems should keep in mind is that costs will inevitably wind up being higher than expected. Cost projections for public health care systems are rather like cost projections for the Olympic Games—they are a starting point on which to base overruns. This is a proposition which runs back to the founding of the NHS in the UK—introduced in the late 1940s, it had by the 1950s so exceeded its budget forecasts that items were dropped and user fees introduced, to the point that Nye Bevan, Minister of Health and the NHS’s political sponsor, felt compelled to resign in protest, although even he was quoted as being astonished by the Niagara of medicine that were pouring down the throats of the British public (see Hennessy, 1993, 2006).

In the same line, do not expect that increased access to primary care will cause an immediate surge in expenses but lead to a moderating of expenditure later, on the assumption that preventive care will make people healthier and they will need less of the really expensive curative care. This is an idea as old as recorded health policy thinking—in The Republic, Plato proposed that the first few years of education should include a hefty dose of good, healthy outdoor activity in order to ensure that the population of the ideal state should be healthy, and would not waste their time and resources on elaborate curative care. In more recent times, when John Maynard Keynes was in the British Treasury during the Second World War, he was asked to comment on a draft of Sir William Beveridge’s report. He said very little about the health service part, judging from the Keynes Papers, but he did comment on the cost projections. Beveridge had forecast a surge in spending in the first few years, and then projected costs to remain virtually flat for the next decade or two, on the grounds that access to primary care would make the population healthier. Keynes expressed his doubts about this latter bit, and he was right.

As an additional twist on this point, it is not sure that encouraging preventive care, even when it is effective, could actually reduce health system costs. There have been a number of modelling exercises done in recent years which suggest that the competing hazards model may trump the beneficial effects of preventive care, including one very recent modelling exercise which concluded that while obesity prevention would lead to a reduction in the costs of obesity-related diseases, this cost reduction would be cancelled out by the additional health care costs associated with non-obesity related conditions in the extra years of life that would be gained. Preventive care, if successful, is good for people’s health, but that does not mean that it is necessarily cost saving in terms of the health care system, and while it should be regarded as a good thing from the point of view of overall population health, planners should not count on it as a device for restraining health system costs (see Cohen et al., 2008).

3.10 Intergenerational Solidarity

National health care systems are often seen as matters of social solidarity—as representing a social contract. In part this is because most national health insurance systems work on a pay-as-you-go basis—the contributions an individual makes to the system in excess of his use of the system in any year are not saved for his future use but are used to pay the health care costs of other individuals. Typically, this means that the contributions paid by younger people are used to pay the health care costs of older people, and the expectation is that when today’s younger cohorts become tomorrow’s older cohorts, tomorrow’s younger cohorts (many of whom are not yet born) will continue the chain. In the economics literature this is what is known as an overlapping-generations model, in which the effective rate of return on any individual’s contributions into the system is roughly equal to the rate of population growth.

This kind of structure works well when the rate of population growth is constant, and the ratio of the older to the younger age groups remains roughly constant. When the rate of population growth declines, however, so that the ratio of older to younger age groups is increasing, the effective rate of return becomes negative and, if the benefits which the older age groups expected to receive in exchange for the contributions which they had made in their younger days are to be delivered, the contribution rate paid by the younger age groups must increase. This effect is magnified if advances in medical technology tend to focus on treatments made use of mainly by the older age groups. If the rate of return becomes sufficiently low, the willingness of younger cohorts to maintain the social contract can be strained, and the system may wind up being re-shaped in a direction which favours whichever cohorts happen to possess the greatest political clout. The political process involved can itself strain the social contract.

There is an additional factor developing which designers of health insurance systems, however structured, will have to consider. Most insurance systems are run on a year-by-year basis, treating each year as an independent period. This is fine when all illness is acute: you get sick and you either die or you recover, but it works much less well when a significant portion of ill-health is chronic illness. When an individual contracts a chronic illness, their probability of needing treatment for it is affected not only in the present period but also in the future. Much pharmaceutical research is aimed at treating chronic illness—arthritis, for example—and much more is aimed at converting what are at present acute illnesses into chronic illness—cancer, for example. Since most of these chronic illnesses are diseases of older age, these developments, combined with the ageing of the population, suggest that we will need to look at changing the way health care is funded—that we will have to look at pre-funding health care, whether through public or private insurance.

Pre-funding really means setting up structures under which individuals will save to cover at least part of their own future health care costs. Germany and Australia have already made moves in that direction, but the idea of lifetime, or guaranteed renewable health insurance still needs a lot of development. Developing some mechanism for pre-funding care will be particularly important with regard to pharmaceutical expenses, where the costs of the drugs necessary to manage chronic
conditions among an older population has the potential to put serious strains on the health care budget.

3.11 The Political Context

There are other rules of thumb which should be kept in mind when developing a health insurance system. One is that it should be kept at arm's length from politicians. Politicians face a powerful temptation to promise the earth and leave it for someone else, probably in the future, to figure out how to pay for the promise. One reason the Canadian health care system faced serious cuts in the 1990s was because politicians hadn't faced up to the need to raise taxes in the 1980s to the degree necessary to pay for what was then a pretty generous health care system. The rapid increase in Canada's national debt through the 1980s and 1990s was in significant part due to borrowing to pay for more generous social welfare system. Having the government too directly involved in the administration of the health care system also leads people in general to forget that the government is not actually paying for their health care: what the government is doing is taxing and transferring. We as users of the system should never forget that what any kind of insurance system, public or private, does is share the costs of illness amongst us all.

3.12 Flexibility and Centralisation

One of the most important contributors to the smooth functioning of a health care system is flexibility. Excessive government involvement in the day-to-day running either of the health insurance system or the health care delivery system tends to reduce flexibility, if only because political considerations get in the way of health care considerations. The health care sector is an immensely complex system, which does not always deliver precisely the outcomes which politicians would like it to deliver. At precisely the time they would like those outcomes to be delivered. In Canada, in the years since Medicare was introduced in the early 1970s, the role of the government, which was originally primarily to provide insurance, has expanded to include taking more and more control over both the day-to-day operations and long-term planning function of the system. Indeed, some people would, with considerable justification, argue that this is not just a problem with the health care system but the key problem with the health care system. Instead of acting as an insurer and external quality assurer for the system, government has effectively become the system’s manager. This process has, inevitably, meant that decision-making authority has moved farther and farther away from the delivery end of the system, and also that the resources available for decision-making have become overloaded. A medical care system is too complicated a thing to be micro-managed by a centralised bureaucracy, but as decision-making authority moves to the Department of Health, the system’s decision-making capacity is actually reduced, as the people responsible for delivering care are effectively removed from the management and information system. The result is that the groups who have the authority to administer the system are overwhelmed by the information processing demands it faces. That’s how Canada wound up in a situation in which, despite having a system where every contact between patient, physician and hospital is recorded somewhere; we still don’t actually know how long people have to wait for fundamental medical care.

The outcome of increased centralisation is the sort of thing we have seen happen with Ontario’s Emergency Rooms recently. Not only did the government seem to be taken by surprise by the news that several hospitals were on the verge of having to close their Emergency Rooms, the premier actually admitted that the government had had no idea of the seriousness of the situation that was developing. What evolves is management by crisis—when the critical decision-making authority is too far removed from day to day operations, it takes note of what is happening at the operations end only when things reach crisis stage. In the absence of visible crisis, it assumes that everything is fine. In addition, government typically is not good at admitting that its policies have not worked well, and is even less able to admit that a system which it is administering is not achieving its goals. Faced with evidence of problems in the health care system, the typical administrative response is to concentrate even more decision-making authority in a limited number of hands. One thing that this can be virtually guaranteed to do is to reduce the flexibility of the system.

The historian Will Durant reminds us that this temptation has been around as long as government has been around. His description of how the Roman emperor Diocletian, in the third century AD, found himself having to bring more and more parts of the Roman economy under the direct control of the government would be valuable reading for anyone contemplating an expansion of the role of government in any area. Basically, each Imperial economic decree turned out to have unanticipated consequences in the form of spillover effects into other parts of the economy, and Diocletian responded to each of these spillover effects by imposing imperial regulation on additional areas of economic activity. Each of those new regulations had its own unanticipated spillover effects, and the cost of administration grew to the point where, according to some sources, half of the population of Rome was employed in regulating and administering the other half (Durant, 1944, chapter 29).

Far too many health central planners assume that, not only can they administer the health care delivery system better than can the people who are doing the actual delivery of care, but that the suppliers of care, notably doctors, are somehow the enemies of the public health care system, and must be kept on a tight rein if the system is not to fall apart completely. This is not true, although it is true that doctors do tend to come to assume that a publicly-funded system should pay for any test or treatment they think their patients should have. Left to their own devices, doctors could well blow the system’s budget, in the name of benefiting their patients, but that does not mean that administration of the system should be taken over by central planners, rather it means that doctors should be faced with the limits on the resources available. The best way to do that is likely to be to make their patients responsible for paying at least part of their own costs. One of the
drawbacks of any kind of insurance system is the breaking of one of the links between doctor and patient.

The role of government in the health care system cannot be to run every detail. That creates rigidities and perverse incentives. Anyone thinking of designing a national health care system should go back and read about the socialist calculation debate of the 1930s—the crucial issues are all present in the writings of people like Oscar Lange and Friedrich Hayek. Government’s function should be to monitor quality and to ensure that even the poorest groups in society have access to insurance against major medical events. Sometimes this will mean subsidising services—there will always be a role for public hospitals, filling the gaps which the private sector does not or cannot fill. It is important not to come to regard doctors as the enemy, and not to fear the private sector. Doctors, even when they are acting as small businessmen, are neither more nor less virtuous than any other group in society. And politicians and civil servants, no matter how well intentioned, are no more nor less smart than the population at large, and they have a set of incentives of their own, to which they will be responding.

4. CONCLUSION

In building a national health insurance system, take your time and come as close as humanly possible to getting it right the first time. It is very difficult, in health policy, to undo a mess created by hastily implemented policies or structures.

And most importantly, remember what Adam Smith (1759) said about the Man of System:

The man of system, on the contrary, is apt to be very wise in his own conceit; and is often so ensnared with the supposed beauty of his own ideal plan of government, that he cannot suffer the smallest deviation from any part of it. He goes on to establish it completely and in all its parts, without any regard either to the great interests, or to the strong prejudices which may oppose it. He seems to imagine that he can arrange the different members of a great society with as much ease as the hand arranges the different pieces upon a chess-board. He does not consider that the pieces upon the chess-board have no other principle of motion besides that which the hand impresses upon them; but that, in the great chess-board of human society, every single piece has a principle of motion of its own, altogether different from that which the legislature might chuse to impress upon it. If these two principles coincide and act in the same direction, the game of human society will go on easily and harmoniously, and is very likely to be happy and successful. If they are opposite or different, the game will go on miserably, and the society must be at all times in the highest degree of disorder.

—Adam Smith, Theory of Moral Sentiments VI.ii.2.16 (p. 233, Glasgow edition)
The objective of this paper is to gain an insight into the Greek hyperinflation that occurred during the period 1941–1946. In doing so, a relatively novel data-set in conjunction with the bound testing approach to cointegration and error correction models developed within the autoregressive distributed lag (ARDL) framework, shed additional light on the underlying long-run relationship between money supply and inflation. Girgar's causality tests between money supply and prices are also conducted in an effort to ascertain the direction of causality between money supply and the (hyper)inflation rate.

1. INTRODUCTION

The Greek hyperinflation became widely known from the publication of Philip Cagan’s (1956) seminal paper which ranked the Greek hyperinflation second from a list of seven hyperinflations with first being that of Hungary during WWII. According to Cagan’s (1956, p. 21) working definition, hyperinflation starts in the month when the inflation rate exceeds the 50% threshold and remains at this level; the phenomenon ends from the last month after which inflation remains below the 50% borderline for at least twelve months. This definition of hyperinflation was derived from the demand for money for transactions purposes and despite of its empirical character it has prevailed not only in the empirical but also in the theoretical literature.

We know that hyperinflations occur during abnormal periods such as those that characterise countries under occupation or during civil wars and, in general, in countries with weak governments and lack of social cohesion. Under such circumstances, governments lose fiscal discipline and they use their seigniorage as a