

RARE BOOKS LIB

The University of Sydney

Copyright in relation to this thesis*

Under the Copyright Act 1968 (several provision of which are referred to below), this thesis must be used only under the normal conditions of scholarly fair dealing for the purposes of research, criticism or review. In particular no results or conclusions should be extracted from it, nor should it be copied or closely paraphrased in whole or in part without the written consent of the author. Proper written acknowledgement should be made for any assistance obtained from this thesis.

Under Section 35(2) of the Copyright Act 1968 'the author of a literary, dramatic, musical or artistic work is the owner of any copyright subsisting in the work'. By virtue of Section 32(1) copyright 'subsists in an original literary, dramatic, musical or artistic work that is unpublished' and of which the author was an Australian citizen, an Australian protected person or a person resident in Australia.

The Act, by Section 36(1) provides: 'Subject to this Act, the copyright in a literary, dramatic, musical or artistic work is infringed by a person who, not being the owner of the copyright and without the licence of the owner of the copyright, does in Australia, or authorises the doing in Australia of, any act comprised in the copyright'.

Section 31(1)(a)(i) provides that copyright includes the exclusive right to 'reproduce the work in a material form'. Thus, copyright is infringed by a person who, not being the owner of the copyright, reproduces or authorises the reproduction of a work, or of more than a reasonable part of the work, in a material form, unless the reproduction is a 'fair dealing' with the work 'for the purpose of research or study' as further defined in Sections 40 and 41 of the Act.

Section 51(2) provides that "Where a manuscript, or a copy, of a thesis or other similar literary work that has not been published is kept in a library of a university or other similar institution or in an archives, the copyright in the thesis or other work is not infringed by the making of a copy of the thesis or other work by or on behalf of the officer in charge of the library or archives if the copy is supplied to a person who satisfies an authorized officer of the library or archives that he requires the copy for the purpose of research or study'.

*'Thesis' includes 'treatise', dissertation' and other similar productions.

**INSTITUTIONALIST PERSPECTIVES
ON THE ECONOMICS OF HEALTH
AND HEALTH CARE**

S. JAN

Ph.D. Public Health

2002

University of Sydney

Declaration of Author's Contribution

This thesis is my own work except as stated below.

In chapter 6, I was wholly responsible for designing the overall project and the economic evaluation framework, largely (80%) for drafting the manuscript on which the chapter was based and wholly for the chapter itself. Stephen Conaty was involved in the overall project design and supervision, secured funding for the project and contributed to the drafting of the manuscript; Rosalind Hecker was responsible for the qualitative analysis, ran the focus groups, organised the surveys and also contributed to project design; Mark Bartlett collected and analysed the data related to the quantitative outcome indicators and contributed to project design; Sheilah Delaney provided the liaison between the study team and the Daruk AMS and assisted with the running of the focus groups; and Tony Capon saw to the overall project supervision and securing funding.

In chapter 7, I designed and ran the consultations with the Divisions of General Practice with some input (10%) from Gavin Mooney. The drafting of the chapter (80%) and the review of the literature (90%) on which it was based were primarily undertaken by me. Gavin Mooney was in charge of overall management of the project and assisted with drafting of the paper on which the chapter was based. Eric Dommers participated in the consultations, provided the liaison between the project team and the divisions, organised attendance at the meetings and assisted with the drafting of the paper on which the chapter is based.

In both chapters, the conceptual frameworks and the linking of the empirical analyses with institutionalist theory were all my work.

Signed: _____

Date: _____

Preface

The idea of writing a thesis on this topic came about during a period when, together with colleagues at the Social and Public Health Economics Research (SPHERE) Group, University of Sydney, I was involved in research into the economics of Aboriginal health. As a relative novice in this field, I found that one of its most interesting and challenging aspects was the prominent role to 'background' factors such as culture, history and poverty.

In grappling with such issues, it became clear that they pose challenges to the largely reductionist approach that characterises conventional forms of health economic analysis and indeed exposed my own limitations in terms of understanding of the broader social context of health and health care. The initial reason for being drawn to the institutionalist literature was thus the need to explore approaches which are more widely encompassing and more holistic.

The thesis that follows is thus the result of my attempt to develop these ideas, drawing on the fairly large and growing literature on economic institutionalism. These ideas are applied to the various topics of study in which I have been involved over the past few years, including priority setting, Aboriginal health, the economics of general practice and the question of translating health economics research into policy. Furthermore, a growing appreciation of the insights offered by this perspective has done much to inform some of the research in which I am currently engaged on health sector regulation and policy in developing countries at the Health Policy Unit, London School of Hygiene and Tropical Medicine. That relevant applications can be found in such diverse areas of study is thus testimony to the robustness of institutionalist analysis and also to the pervasiveness of institutions in influencing the day to day functioning of health care sectors.

As I acknowledge in this thesis, there are a number of others who are also keenly exploring institutionalist approaches in health care. There is certainly much scope for adding to the existing body of research in this area. This is because not only are the

types of issues on which institutionalist thinking can shed light potentially numerous but also the fact that, as explored in the thesis, there is more than one strand of institutionalist analysis. Furthermore, there is not always much guidance in the literature as to how such forms of analysis should be applied, in theory or in practice, to the unique problems of the health sector. This means that the task ahead entails not only applying but also, more challengingly, adapting and developing new ways of thinking about institutions and their relevance in the health sector.

Acknowledgments

To Virg: I hope that having finished this thing in some way explains my various absences in mind and deed over the past few years. My enduring thanks for your love and support over that time. I suppose it's about time now I built that kennel I've been promising for the past few years!

Many thanks also to the individuals who I have asked to comment on the various bits and pieces that make up this thesis. At the terrible risk of missing someone, I will try to indicate who you all are: my present colleagues in the Health Policy Unit, London School of Hygiene and Tropical Medicine and, in particular, Anne Mills; my former colleagues at the Social and Public Health Economics Research Group, Gavin Mooney, Virginia Wiseman, Alan Shiell, Amir Ahmadi, Glenn Salkeld and Patrick Bolton; Marian Shanahan, Jim Pearse and Paul Scuffham who have each acted as discussants on early versions of individual chapters at various AHES and HESG conferences; the participants at the various seminars and conferences where some of this material has been presented; the anonymous reviewers of the various papers on which most of the chapters are based; and Peter Sainsbury, my associate supervisor.

You have all without exception been generous with your encouragement, suggestions and criticisms, all of which have contributed greatly to my understanding of this topic area.

I also wish to acknowledge my co-authors on two papers from which the case studies in chapters 6 and 7 are based. In chapter 6, they are Stephen Conaty, Rosalind Hecker, Mark Bartlett, Sheilah Delaney and Tony Capon, and in chapter 7, Eric Dommers and Gavin Mooney. Many thanks also to the participants in both the studies, particularly the Daruk Aboriginal Medical Service, the participants in the interviews and focus groups in the Daruk study and members of the Queensland Divisions of General Practice. The funding for the Daruk study came from the Australian NHMRC while the study in chapter 7 was funded by the Australian Commonwealth Department of Health and Aged Care.

In terms of financial support, I am extremely grateful that during 1999 and 2000, I was able to work more or less full-time on this thesis courtesy of a University of Sydney Medical Faculty Scholarship.

A great deal of thanks also to my friends and family for their support and encouragement including Maggie Atherton, Matt Dobson, Palle Christensen, Karen Gerard, Tony Scott, Janelle Seymour, Damian Walker, my mum, the members of the Shanachies and Highgate cricket teams and Guss, my faithful companion particularly during those early, excruciating working-on-the-thesis-at-home days.

Finally, my enduring gratitude to Gavin Mooney, my supervisor and friend: I could not have wished for better guidance and support throughout this thesis and for all the years that we have worked together. In that time, I've never known you to be anything but unconditionally generous both with your time and your ideas. Furthermore, your example as someone who is always unfailingly true to your values is a lesson in integrity I would love to think is in some way reflected in this piece of work. Many thanks.

Contents

SUMMARY	9
CHAPTER 1: INTRODUCTION	13
1.1 WHY INSTITUTIONALIST ANALYSIS?	13
1.2 WHAT ARE INSTITUTIONS?	14
1.3 THE ROLE OF INSTITUTIONS IN ECONOMICS AND HEALTH ECONOMICS	16
1.4 OUTLINE OF THESIS	20
CHAPTER 2: LITERATURE REVIEW	25
2.1 OLD INSTITUTIONALISM	26
2.2 NEW INSTITUTIONALISM	30
2.2.1 ECONOMICS OF ORGANISATION AND GOVERNANCE	34
2.2.2 PROPERTY RIGHTS	38
2.2.3 PUBLIC CHOICE THEORY	43
2.2.4 OVERLAPPING ISSUES IN NI	47
2.2.5 EVOLUTIONARY ECONOMICS	49
2.3 INSTITUTIONALISM IN HEALTH ECONOMICS	51
CHAPTER 3: A HOLISTIC APPROACH TO THE ECONOMIC EVALUATION OF HEALTH PROGRAMS USING (OLD) INSTITUTIONALIST METHODOLOGY	56
3.1 INTRODUCTION	56
3.2 SCOPE OF ECONOMIC EVALUATION	58
3.3 INSTITUTIONALIST THEORY OF SOCIAL VALUE	60
3.4 APPLICATION OF THE INSTRUMENTAL VALUATION APPROACH	62
3.5 SOURCES OF VALUE IN INDIGENOUS HEALTH: SOME EXAMPLES	66
3.6 CONCLUSION	68
3.7 POSTSCRIPT: CAN CONVENTIONAL WELFARIST APPROACHES ACCOMMODATE INSTITUTIONAL CHANGE?	69
CHAPTER 4: INSTITUTIONAL CONSIDERATIONS IN PRIORITY SETTING: TRANSACTIONS COSTS PERSPECTIVE ON PBMA	74
4.1 INTRODUCTION	74
4.2 PBMA	75
4.3 INCENTIVE COMPATIBILITY CONSTRAINTS	77
4.4 EFFICIENCY GAINS	84
4.5 CONCLUSION	87
CHAPTER 5: A PERSPECTIVE ON THE ANALYSIS OF CREDIBLE COMMITMENT AND MYOPIA IN HEALTH SECTOR DECISION MAKING	89
5.1 INTRODUCTION	89
5.2 CREDIBLE COMMITMENT	91

5.3 MODELS OF ECONOMIC BEHAVIOUR: PRISONERS' DILEMMA AND CO-ORDINATION GAMES	92
5.4 CO-OPERATION AND CO-ORDINATION IN DECISION AND POLICY MAKING	95
5.5 FORMS OF CREDIBLE COMMITMENT IN THE PUBLIC HEALTH CARE SECTOR	98 102
5.6 CONCLUSION	
CHAPTER 6: A HOLISTIC APPROACH TO ECONOMIC EVALUATION: A CASE STUDY OF AN ABORIGINAL COMMUNITY CONTROLLED MIDWIFERY PROGRAM IN WESTERN SYDNEY	104
6.1 INTRODUCTION	104
6.2 METHODS	107
6.3 RESULTS	109
6.4 DISCUSSION	118
6.5 CONCLUSION	121
CHAPTER 7: A POLITICO-ECONOMIC ANALYSIS OF DECISION MAKING IN THE FUNDING OF HEALTH CARE ORGANISATIONS	123
7.1 INTRODUCTION	123
7.2 DELIBERATIVE GROUP DECISION MAKING	125
7.3 BACKGROUND TO STUDY	128
7.4 THE PROCESS AND METHODS	130
7.5 DISCUSSION	136
7.6 CONCLUSION	138
CHAPTER 8: WHY DOES ECONOMIC ANALYSIS IN HEALTH CARE NOT GET IMPLEMENTED MORE? TOWARDS A GREATER UNDERSTANDING OF THE RULES OF THE GAME	140
8.1 INTRODUCTION	140
8.2 WHY SHOULD ECONOMISTS BE CONCERNED WITH IMPLEMENTATION?	143
8.3 THE INSTITUTIONAL CONTEXT OF DECISION MAKING	144
8.4 A FRAMEWORK FOR ALTERING THE INSTITUTIONAL SETTING?	147
8.5 CONCLUSION	151
CHAPTER 9: CONCLUSIONS	153
9.1 EVALUATION	153
9.2 DECISION MAKING	157
REFERENCES	164

Summary

This thesis provides an institutionalist perspective on economic analysis in the health sector and, at the same time, serves as a critique of conventional forms of health economic analysis. The two areas in which this critique is focused are firstly, the typically narrow notion of 'benefit' that underpins conventional economic evaluation and secondly, the lack of emphasis in conventional forms of analysis on issues of policy implementation and, particularly, the decision making processes that influence it. Recognition of such limitations is not necessarily new nor indeed are attempts to tackle them. Institutionalism, however, offers a potentially useful framework in which they can be addressed based on a coherent notion of institutions, institutional change and their fundamental role in facilitating economic activity. This feature adds richness to such approaches that make them potentially much more relevant to policy and to policy making. At the same time they make for a less clearly defined set of parameters for analysis and thus can pose significant methodological challenges. These, however, need to be balanced with the potential in conventional analyses, as found in instances within the thesis, to miss potentially important aspects of such change and thus provide only partial accounts of both economic evaluation and the analysis of decision making.

The institutions of institutionalism are defined as the 'rules of the game' within a society and can be formal, such as laws and regulations, or informal, such as norms and conventions. They are important because they determine the way individuals, groups and organisations interact with one another and furthermore reduce the level of uncertainty in how this is done. As a consequence they can have significant economic implications particularly in terms of reducing the costs of transactions and facilitating various forms of activity.

Institutionalist analysis can be categorised into two broad schools of thought, the old and the new institutionalist. The former tends to be more sociologically based and radical in its ideological orientation. The latter is more closely aligned with conventional neoclassical economic theory and shares with it the central assumption of instrumental rationality (utility maximisation). Although institutionalism is relatively new to health economics there are clear signs of its growing application.

In terms of economic evaluation, old institutionalist theory has important applications in the development of methods that are more holistic in scope than conventional forms of cost-effectiveness and cost-benefit analysis. This is explored in chapter 3 through the development of a holistic approach to economic evaluation. Such evaluation seeks to capture institutional changes resulting from the implementation of a program. These are of potential value to not only users of the program but the broader community and relate specifically to changes in the way in which individuals interact with one another and the broader functionings of the community.

This approach to evaluation has been found to have particular relevance to indigenous health and was applied in the thesis (chapter 6) to evaluate a community controlled Aboriginal midwifery service. The study employed a combination of quantitative and qualitative techniques and found that important aspects of institutional change resulting from the program were (i) increased levels of confidence in decision making by the women who used the service; (ii) greater levels of information; and (iii) important organisational links forged between the service and other providers within the community. Although institutionalism has no sole claim over the analysis of these types of variables, it importantly provides a framework in which they can be coherently placed within a broader context of community.

Chapter 4 provides an analysis of a method of economic priority setting known as program budgeting and marginal analysis. This technique involves the shifting of resources across health care programs on the basis of cost-benefit criteria in order to achieve more allocatively efficient outcomes. One of the reasons identified in the chapter for the breakdown of such exercises in practice is that they often require participants to act in a manner inconsistent with their self-interest. This can be seen as a problem of institutional design since the incentives in decision making are not matched well with the objectives of the organisation. This incentive compatibility problem is shown to resemble that of the prisoners' dilemma and accordingly some lessons from that literature are drawn upon as recommendations for addressing this problem.

Chapter 5 deals with another aspect of organisational decision making, namely, the tendency to myopic decision making within public sector organisations. As with

chapter 4, the assumption that the interests of the individual decision maker are necessarily consistent with those of the organisation is relaxed. Myopia, it is argued, can arise from a lack of credible commitment to a certain policy position and thus results in a reluctance on the part of managers to make decisions which yield long term payoffs for fear of the 'rug being pulled from beneath them'. Credible commitments, in effect, are a means of providing stability in the decision making environment and can thus encourage more long-term or strategic decision making both within public sector organisations and in organisations that rely on a stable policy environment. Some institutional measures where an element of credible commitment is present are health care constitutions, long term contracting and investment in specific use assets.

After Chapter 6's analysis of an Aboriginal community controlled health service (see above), Chapter 7 is a case study of deliberative decision making and deals with some of the concepts raised in earlier chapters. It examines an initiative to reallocate resources across a number of health service organisations in Australia known as Divisions of General Practice. The problem that arose was that such reallocations required consensus from all the organisations affected but, at the same time, would have created winners and losers. It was found that a process of consultation that was both inclusive and collegial could be important in reorienting the nature of the problem and achieve a degree of necessary co-operation.

Chapter 8 also looks at the issue of resource allocation decision making and examines, in more general terms, the problem considered in chapter 7, i.e. that any redistribution of resources tends to create winners and losers across participants and thus imposes costs on those decision makers involved in implementation. This can therefore lead to agency problems and the non-implementation of initiatives that are more cost-effective or indeed desirable on the basis of any other criterion. A possible solution to the implementation problem lies in reorienting the incentives faced by decision makers so that there is the prospect of some 'gain sharing' to individual participants from any of the benefits of redistribution, and in addition, linking present decisions with those to be made in the future so that the prospect of current losses by any one individual can be offset by longer term gains.

In conclusion it is argued that there is significant scope for greater use of institutionalist perspectives in health care and that this can not only enrich health economics research but also provide a more comprehensive evidence base for policy makers. Although institutionalism has made some inroads into the health economics literature, its use has generally been narrowly confined to specific issues revolving around health sector reform and their transactions cost implications. A major aspect of this thesis is its demonstration of the versatility and breadth of institutionalist perspectives and the various insights they can have on wider issues related to evaluation and policy and decision making.

Introduction

1.1 Why institutionalist analysis?

This thesis uses institutionalist approaches in the analysis of certain economic problems within the health sector. It is based on a recognition that, in understanding the structure, conduct and performance of health care systems, there are limitations to conventional economic methods that render unexplained a certain set of potentially significant variables, namely, its institutions. As explored throughout the thesis, this has implications in terms of two key questions:

1. How do individuals, groups and organisations make decisions?
2. On what basis can it be determined that such decisions are appropriate?

In relation to the first question, it is proposed that an institutionalist perspective involves an examination of wider, largely contextual influences on the objectives and constraints faced by decision makers. The conventional economic approach is based on the assumption of instrumental rationality where decision making is characterised as being motivated solely by the achievement of a pre-specified objective, subject, in turn, to some fixed constraint, typically budgetary. While within institutionalism there are varying degrees of acceptance of the assumption of instrumental rationality, where it tends to differ from the conventional approach in its analysis of decision making is in the breadth of variables that are allowed to enter into consideration – particularly those that comprise the constraints faced by the decision maker e.g. some of the so-called ‘political’ constraints on policy making that are explored in Chapters 7 and 8. It is suggested that this broader approach provides a more realistic basis for examining first decision making with respect to resource allocation and second the actual implementation of decisions. Furthermore, it can address, from a positivistic

viewpoint, the issue of why in practice certain decisions are made and behaviour exhibited that do not ostensibly accord with the assumptions or predictions of conventional economic theory.

The second question examines the criteria by which various options available to the decision maker are valued. This deals with the normative issue of how to define social value. This is particularly relevant to the design and conduct of economic evaluation where conventional approaches tend to focus on either cost-effectiveness or a narrow concept of cost-benefit analysis where the benefits encompass only health outcomes. Again an institutionalist approach would entail the use of a more contextually-grounded explanation of what it is that individuals and society value, both in a positive and also in a negative sense, from health care.

The objective overall is therefore to provide a more holistic and potentially complementary approach (or approaches) to the economic analyses of health care by investigating how an understanding of its institutions can aid in addressing these key positive and normative questions. It is important to recognise, however, that in attempting to extend the scope of analysis in this way, there is something of a danger in becoming too broad. An institutionalist framework, if it is to have any analytical value, cannot seek simply to examine in some rather ad hoc manner everything that is found to be omitted from usual forms of analysis. Ultimately, a specific evaluative criterion requires a coherent framework. This must involve the establishment of clearly defined parameters - a study that lacks this can be little more than descriptive. In adopting an institutionalist approach to any study, there consequently need to be well-specified conceptual bases on which to work. First and foremost, this means determining precisely what constitute and conversely, what do not constitute, institutions. The next section sets out to define this fairly ubiquitous term and, as such, provides a consistent basis on which the various conceptual frameworks for analyses presented in later chapters can be built.

1.2 What are institutions?

There are numerous definitions of institutions available. One problem in selecting an appropriate one is that its use in common parlance is not always commensurate with

the way it is used in the institutionalist literature (and indeed, within this literature, there are also differences across writers – see Nelson and Sampat, 2001). As a starting point, it is worth considering the range of possibilities available. The Macquarie dictionary sets out eight:

‘1. an organisation or establishment for the promotion of a particular object, usu. one for some public, educational, charitable, or similar purpose. 2. a building used for such work, as a college, school, hospital, mental hospital, or the like. 3. a concern engaged in some activity, as an insurance company. 4. *Sociol.* an organised pattern of group behaviour, well-established and accepted as a fundamental part of culture, such as slavery. 5. any established law, custom, etc. 6. any familiar practice or object. 7. the act of instituting or setting up; establishment: *the institution of laws*. 8. *Eccles.* a. the origination of the Eucharist, and enactment of its observance, by Christ. b. the investment of a clergyman with a spiritual charge’ (Delbridge et al, 1992).

The definition of institutions used in this thesis is highly specific and should be distinguished from most of these more common uses. It embraces a number of these definitions, most notably, versions 4-7 above. To clarify, it is instructive to set out firstly what are *not* institutions. They are not the bricks and mortar that make up hospitals, clinics and nursing homes; nor are they the doctors, nurses, health workers, equipment and other physical resource inputs in the health care system. They are also not the insurance companies, government, trade unions and professional bodies that form the organisational structure of such systems. Instead, institutions are what connect these various factors and shape the way in which they relate within the health care system. In a sense, they comprise a significant part of what Elster (1989a) refers to as the ‘cement of society’.

To emphasise this point, it is worth drawing attention to the distinction made by North (1993) between institutions and organisations: ‘Institutions are the rules of the game and organizations are the players.’

He further states that institutions:

‘are the humanly devised constraints that structure human interaction. They are composed of formal rules (statute, common law, regulations), informal constraints (convention, norms of behavior and self-imposed rules of behavior); and the enforcement characteristics of both (North, 1992a).’

Similarly, Atkinson in citing Fagg Foster (Atkinson, 1995), defines institutions as ‘prescribed patterns of correlated behavior’.

The role of institutions in economic life is therefore that they influence the way in which individuals, groups and organisations interact with one another. For instance, in a business transaction between two parties, there are, at one level, laws and regulations that govern the way in which such transactions are carried out. This usually implies that there are, among other things, certain requirements as to the level of information each of the parties should supply in the transaction and a certain recourse to legal action should there be a breach of the various agreements made during this process of transacting. Furthermore, the influence of these institutions is also determined by the extent to which they are enforced.

At another level, however, if the two parties concerned are somehow related, for instance they are close neighbours, acquaintances or family, then there are likely to be important informal institutional considerations that affect the nature of their transaction such as local customs and trust. In these circumstances, the existing relationships between the two parties and prevailing norms of behaviour that govern their interactions more generally also have an influence over how transactions are carried out. Such informal institutions often also exist between unrelated parties and indeed across society. From an analytical viewpoint, as explored throughout the thesis, the prospect of future interactions, the way they were carried out in the past and the context of the community in which they take place are all seen to be important.

1.3 The role of institutions in economics and health economics

Institutions, both formal and informal, may develop because they enable human beings to have recourse to an understood framework in their dealings with others. In

effect, '(t)hey reduce uncertainty by providing a structure to political economic and social exchange' (North, 1990a). Central to this thesis is the hypothesis that the characteristics of a particular institutional setting can have powerful and highly pervasive consequences in health care because they can facilitate, or indeed hamper, economic transactions and other forms of interaction between organisations and individuals. Different institutional arrangements represent, in effect, different sets of rules within which such interactions are carried out and some may do so better than others. For instance, in relation to economic transactions, through one institutional arrangement these could occur in a less costly manner than would be the case with an alternative arrangement.

Thus an important implication taken up extensively throughout the thesis, and indeed one which forms the basis for large strands of the institutionalist literature, is the impact that institutional arrangements have upon the transactions costs to the various parties engaging in exchange. They form a crucial variable that can shape how certain institutional forms develop and thus constitute a major criterion on which institutions can be evaluated: the value of any institutional arrangement being the extent to which it affects the costs of exchange between two parties. They are consequently the focal point for a large part of the research in this area particularly from the new institutionalist school (NI) – as discussed in the next chapter.

There is however another school of thought within institutionalism, notably old institutionalist (OI), that places less emphasis on transactions costs in terms of explaining and evaluating institutional structure. Instead, its explanations have much in common with broader sociological perspectives (Nelson and Sampat, 2001) recognising the significance of, for instance, the ethical foundations on which various informal institutions such as norms and customs develop. Although broader than the more 'economistic' versions of institutionalism embodied in NI (i.e. based on an assumption of utility maximisation), ultimately the common thread running through all of them is the recognition of the potentially significant consequences that different institutional forms impose upon economic activity. The next chapter deals in greater detail with the distinctions between the different strands of literature.

Health care, unlike many other sectors of the economy, is, in most western industrialised nations, organised around many non-market as well as market-based institutional arrangements (Arrow, 1963). Furthermore, such arrangements are likely to differ markedly across nations as well as across governmental jurisdictions. As a consequence, any analysis of how different health care systems operate in certain contexts requires an understanding of, *inter alia*, the formal legislative and regulatory framework and, less formally, the system of conventions and norms, interests and values that guide decision making.

It is increasingly being recognised within the health economics literature that conventional forms of economic analysis tend to endorse a rather narrow and limited view of both health and health care (Mooney, 1994a; Mooney, 1994b; Shiell and Hawe, 1996; Hurley, 1998; Rice, 1998). Hurley (1998) uses the term 'monism' to describe the preoccupation exclusively with health gain. As a consequence, the small economic evaluation literature that has attempted to investigate this limitation has identified, and in some cases measured, certain variables that are typically excluded from the health care objective function. Some of these 'omitted' variables include 'process' attributes such as autonomy and choice in the treatment process (Mooney, 1998; Salkeld, 1998) as well as 'non-health outcomes' such as information and reassurance (Berwick and Weinstein, 1985; Mooney and Lange, 1993; Ryan, 1995). Although many of the critiques in which these variables are highlighted are not specifically institutionalist, they are born of a similar concern about the limited scope of economic analysis that forms the rationale for adopting an institutionalist approach.

Such concerns arise because conventional economic theory and practice generally take as given the institutional structure prevalent at any one time and, within any such structure, examine a limited set of variables. As indicated, two areas in particular where this limitation is present are in economic evaluation and in the analysis of decision making on resource allocation. In health economic evaluation, the variables included tend to be only cost and a health outcome of interest. In estimating cost-effectiveness/benefit ratios conventional economic evaluation provides a quasi-price signal to decision makers that, in principle, guides them in setting priorities with the assumed objective of health maximisation. The usual 'ceteris paribus' assumption implies that any ensuing change to the institutional setting and thus any value that

may be attached to such change is overlooked. As explored, particularly in chapters 3 and 6, health care programs, especially those that involve significant degrees of engagement of individuals, do have the propensity to effect significant institutional change in how individuals access and in general make decisions regarding health services such as through information and empowerment.

In addition, the conventional approach encourages the belief that the brief given to someone doing an economic evaluation begins and ends in the production of the price signals implicit in such cost-effectiveness/benefit ratios. The assumption is that optimality is achieved, as in competitive markets, when marginal rates of substitution are equalised across the economy (Bator, 1958). As indicated above, the role of cost-effectiveness and cost-benefit data is that they represent quasi-price signals in the absence of such markets. Whether or not such signals are actually used to inform decision making, and there is much evidence that they are not (see chapter 8), is, from an institutionalist perspective, a relevant question for analysis and potentially determined by the costs of decision making. Important institutional characteristics such as the type of incentives faced by managers and the various norms or conventions of conduct that are prevalent within an organisation can have a bearing on such costs. They can thus act to undermine or facilitate the implementation of potentially efficient strategies. In contrast, the conventional approach assumes away such costs. As a consequence, its normative concerns are restricted solely to the task of 'getting the prices right' (North, 1999). As suggested, institutionalist theory, in contrast to the conventional economic approach, seeks to *explain* rather than *assume* the nature of the institutions (Nelson and Sampat, 2001). Furthermore, from a normative viewpoint, it considers institutional adaptation as a relevant lever for change. An example of where this narrower focus of conventional forms of economic analysis lies is in how the topic of implementation is often addressed, as explored in chapters 7 and 8.

Perhaps a starker illustration of the contrasting concerns of the conventional and institutionalist approaches can be drawn from examples from outside the health sector. In examining the processes required to achieve economic development of the Russian economy following the fall of the Soviet regime, Weingast (1993) juxtaposes the more conventional economic concerns that centre on the need to minimise

distortions in market prices with the fundamental institutionalist one of building a system in which property rights are secured. In these circumstances, while both concerns are important, the latter is better seen as a pre-requisite for the success of the former. Implicit in an institutionalist analysis is that the institutional context in which economic activity takes place cannot be taken for granted or simply assumed. There is a tendency in conventional forms of economic analysis to assign a certain primacy to markets over other institutional forms and also to assume the preconditions for the proper functioning of them. Markets, however, are but one type of institutional arrangement and the case for their use over say, quasi-markets or hierarchical forms of organisation, is itself, from the institutionalist viewpoint, a contestable hypothesis and thus a potential subject of evaluation. Furthermore, even if markets are the preferred institutional form, the preconditions for their better functioning may also need to be evaluated.

1.4 Outline of the thesis

This thesis is divided into two parts. The first, in chapters 3 to 5, entails a critique of conventional economic approaches as applied to the health sector and the conceptual development of alternative, institutionalist approaches. The second, chapters 6 to 8, examines their application to various case studies.

Chapter 2 first provides a general overview of the relevant literature. It focuses, in particular, on identifying the distinguishing characteristics of the various strands of institutionalism within the economics literature. It subsequently reviews some of the studies of an institutionalist nature that have been undertaken within health economics.

Following this, chapter 3 examines the possibilities for employing more holistic approaches to the evaluation of health care programs, drawing on theories of social value within the OI literature. This is based initially on a discussion of the limited scope of conventional forms of economic analysis, with particular emphasis being placed on evaluation in health economics. It is argued that the reductionism of conventional forms of economic evaluation, where benefit is seen in terms of purely either health consequences or individuals' utility, can result in distortion and cause a

number of aspects of such programs to be overlooked. This can impose fairly strict limits on the capacity of economic evaluation to inform public policy. In contrast, institutionalist economic theory is an area of research that acknowledges that change to the broader socio-political environment can be a source of value. It is suggested that this idea has, for instance, significance for the evaluation of indigenous health programs where notions of 'cultural appropriateness' have a strong influence over the effectiveness and acceptability of such programs. It is concluded that no one evaluative approach is appropriate in all situations and that, in some, a greater receptiveness to broader sources of social value may be particularly useful.

In contrast, Chapter 4 adopts a NI approach to evaluation, applying it to a method of priority setting in health care that has as its basis, notions of cost-benefit, namely, program budgeting and marginal analysis (PBMA). Although PBMA is increasingly being used to set priorities in the health care sector, it has on occasions been subject to problems in its application which can be seen as being 'institutional' in nature. This chapter examines the extent to which the institutional setting of PBMA affects the way in which it can be conducted. In particular, a transactions costs perspective is taken to analyse the extent to which variations in such costs can alter the incentives of the individual participants. A number of recommendations for improving the sustainability of such projects are then provided. Following this, the implications which this 'institutionalist' approach has for the evaluation of PBMA are set out.

Chapter 5 again uses a NI approach to examine a potentially general problem of institutional design within health care – namely the tendency for myopic or short-term decision making. It examines the role of credible commitment in facilitating long-term decision making in health care. Commitments are defined as undertakings by one party to perform certain future tasks. It is argued that policy objectives and political imperatives within public sector organisations can often mean that decision making takes place on shifting institutional terrain. This creates incentives on decision making that favour those choices that yield short-term gains. Such myopia is not necessarily consistent with organisational objectives nor with the implementation of policies that promote such objectives. These incentive problems can be formally modelled in terms of prisoners' dilemma and co-ordination games. Measures that promote public sector organisations to credibly commit to various values or policy

positions can assist in reconciling individual and organisational objectives by allowing decision makers, in good faith, to build long-term outcomes into their decision making. In effect they allow co-operation and co-ordination. Given these potential gains, credible commitment can occur spontaneously but, when it does not, it may need to be facilitated by a third party (most commonly the State). Such forms of commitment are usually apparent in various policy measures such as health service constitutions, long-term contracting, legislation and incentive payments. Measures that secure credible commitment allow the discount rate to be reduced on long-term decisions of not only public sector organisations but also of those stakeholders who rely on stable public sector institutions. It is argued, however, that the importance of the notion of commitment needs to be recognised against the background of other institutional factors that may also influence decision making.

In Chapter 6, an OI approach is used in the evaluation of an Aboriginal community controlled health service. It draws on some of the concepts presented in chapter 3. The basis for evaluating this particular program was a recognition that community controlled health services are more than simply about producing 'health'. Their objectives need to be viewed against the background of some of the wider social problems encountered by the Aboriginal population such as cultural alienation, poverty, lack of trust, dispossession and dependence. The evaluation therefore takes into account the role of such services in not only generating health gains but their contribution in effecting broader institutional change. It shows that health services, such as the example of the Daruk midwifery service, can in this way, potentially influence the functioning of individual communities in a broader context.

Chapter 7 reports on a case study of a priority setting exercise conducted in conjunction with the Queensland Divisions of General Practice (QDGP) to examine the politico-economic issues associated with specific resource allocation issues. It is based more on a NI approach and examines the process behind an initiative carried out by the QDGP to alter the way in which resources are distributed across health service organisations, namely, the individual Divisions of GPs in Queensland (numbering twenty). This study is a positive analysis of deliberative group decision making, undertaken against a background in which existing levels of funding for individual Divisions had, for a number of years, been determined largely by an

allocation formula. The motivation for this study was a perceived inequity created by the long-term under-funding of smaller (resource poor or 'marginal') Divisions.

The challenge in this project lay in the fact that any change would inevitably create 'winners' and 'losers' and, additionally, would require the support of all the Divisions. The chapter documents a consultative process whereby the relevant stakeholders were asked to participate in deliberations as to how such a problem should be tackled. The objective was to encourage relevant players to take into consideration the global allocation issues and to move beyond their localised interests. It was thus an exercise in institutional adaptation. The results indicate that such a process can be effective in not only generating the necessary goodwill to enable such group decision making but also in establishing a more realistic set of policy recommendations. The analysis highlighted the process of negotiating the potential conflicting interests of individuals and pointed to changes that were required in the management and decision making culture.

The studies in chapters 6 and 7 involve some qualitative analysis - a methodology that has until recently not been well explored in the health economics literature (Coast, 1999).

Chapter 8 involves the application of (new) institutionalist thinking to a highly topical and general problem, namely, the implementation of the results of economic analysis – particularly economic priority setting. The question of why it often happens that such research results do not get implemented has been the focus of some recent debate. This chapter provides a new perspective on the issue. In particular, it recognises that any priority setting initiative is likely to create winners and losers and, as a consequence, any change in the status quo will tend to impose direct costs on decision makers. At the same time, the participants will often lack any property rights over the benefits of any resulting changes. In this type of setting, the prospects of achieving the necessary co-operation is low since decision making can be characterised as a one shot, zero-sum game. The aim of this chapter is to examine options for altering such an institutional environment so that it can be more conducive to co-operative decision making.

Finally, the conclusions in chapter 9 sum up the findings from the preceding chapters. These are classified in terms of their implications for evaluation and for analysis of decision making. In addition, avenues for further research are spelt out, with some attention given to areas of the non-economics literature that can be used in the task of augmenting our (especially health economists') currently limited understanding of the role of institutions in health care.

Literature review

This chapter provides a general overview of the institutionalist literature. Its intent is not to be necessarily comprehensive but rather to allow an understanding of the various strands within it and thereby permit the reader to grasp where this school of economics has reached and from where it has come. At the same time it reviews some of the health economics studies that have some elements of an institutionalist approach to provide an understanding of its application within the field of health economics. In the later chapters, certain sections of the literature are examined in greater depth in the process of developing the analytical frameworks through which specific health sector problems are analysed. The intention here is thus to provide a general map of the literature in this area so that the context in which concepts presented later is clear.

Institutionalism in economics has its origins in the United States in the late nineteenth century. Its development largely reflected the perceived inability of orthodox economic theory to explain aspects of American economic development and the role played by factors such as legislative structures, the place of government in the economy and changes in consumer values.

Institutionalism has since evolved into a broad school, encompassing not only numerous areas of study such as the environment, agriculture and health but also diverse ideological positions. In relation to the latter, institutionalist perspectives can be traced in areas as diverse as neo-Marxist political economy (Amin, 1974; Frank, 1996) and at the other end of the political spectrum, in the approach taken by libertarians from the public choice school (Buchanan and Tullock, 1965; Brennan and Buchanan, 1985) and their predecessors from the Austrian school (Menger, 1892;

Hayek, 1944; Wicksell, 1997). Elements of institutionalism are also apparent in other disciplines such as political science, law, anthropology, sociology and game theory. Some, not all, of these varying perspectives and applications have been incorporated into this thesis.

The economic institutionalist literature, however, is most commonly categorised into two major traditions: the 'Old Institutional (OI)' school associated with Veblen, Mitchell and Ayres and the 'New Institutional (NI)' school of Coase, Williamson and North (see Rutherford, 1996). This distinction will be employed throughout the thesis.

The rest of this chapter is set out as follows. The next section (2.1) provides an overview of the analytical perspective and concerns of the OI school. This is followed by a similar review of NI in section 2.2. Finally, section 2.3 provides a review of some of the health economics studies which have significant institutionalist elements within them, although as indicated, not all explicitly acknowledge this particular banner.

2.1 Old institutionalism

The OI framework, unlike neoclassicism, is not underpinned by any one theoretical construct but draws on aspects of other theories which include neoclassical economics, Marxian economics and sociology. In essence, it is a 'pragmatic' approach (Wilber and Harrison, 1978) driven mainly by empirical observation. Although it exists in various forms, there are generally three pillars to such institutionalist theory (Gruchy, 1947):

1. A dynamic or evolutionary framework of analysis. Under conventional neoclassical theory, the economic order is characterised by equilibrium solutions to market based problems. Whereas the equilibrium framework is essentially ahistorical and static, institutionalist analysis specifically considers the influence of those factors conventionally left out or 'controlled for' and the evolution of those factors over time. For instance, the *ceteris paribus*

assumption is often invoked in neoclassical analysis in order to close off economic models.

2. Analysis of social rather than individualistic behaviour. One common criticism of neoclassicism is that it is based on 'static individualistic psychological theory' (Gruchy, 1947) where the behaviour of agents is seen to be without roots in society. Institutional theory instead adopts 'collective or social psychological theory' (Gruchy, 1947) which takes into account the social norms and standards which govern conduct.
3. It embraces a 'holistic' approach to the analysis of economic phenomena. Randall (1985) defines this form of holism as 'a theory that the universe is correctly seen in terms of interacting organic or unitary wholes that are more than a mere aggregation of elementary particles'. It follows that attempts to analyse one part of the economy in isolation are generally resisted by OI. Factors influencing the economic order are seen to interact in patterns rather than in the linear cause-effect manner assumed in conventional deductive models (Diesing, 1972). It is thus argued that conventional forms of analysis are incomplete and, as such, potentially biased.

Perhaps not surprisingly, writers within the OI tradition, in contrast to those within NI, tend to have a more radical orientation with much of their attention devoted not only to a critique of conventional economic theory and methodology but also to the prevailing institutional structures within society that are seen to preserve undesirable elements of the status quo. Indeed, a major feature of the OI approach, in general, is the upfront manner in which the values that drive the analysis are projected. A criticism often mounted by OI is that NI and conventional neoclassical approaches each typically fails to acknowledge the values embedded in their analytical approaches and, furthermore, these values tend to reinforce the status quo (Dugger, 1992).

Myrdal (1981) neatly acknowledges this point regarding the inevitability of imposing some values in analysis with the statement: 'Valuations are always with us. Disinterested research there has never been and can never be.'

A number of authors have identified two broadly defined strands of thought from which present writings within OI have evolved (Dugger, 1992; Rutherford, 1996). The first is that of Veblen and Ayres (for example, Veblen 1924; Ayres 1952). The subject of their analyses tended to be the role of technology within society. In particular, they highlighted the influence of various social institutions such as prevailing conventions and vested interests on the impact of technological change. For instance, the topic of much of Veblen's work was the changes to the way of life experienced by sections of the American population and the evolving character of American firms as a result of the social and economic developments associated with industrial growth in the nineteenth century. One important legacy of this work (and one that strongly influences the conceptual framework for evaluation set out in chapters 3 and 6) was the distinction made between 'ceremonial' and 'instrumental' value that was employed in judging the contribution of such technology to the wellbeing of the community. The view put forward was that the impact of technological changes can be separated into two types: those that affect solely the relative standing or status of individuals within the community (referred to as 'ceremonial' and indeed it is in this context that the term 'conspicuous consumption' derives). Second there are those that contribute materially to the wellbeing of the population ('instrumental'). Apparent in this dichotomy are clear value positions as to the normative implications of both – the former being labelled 'invidious' and the latter 'non-invidious' (Veblen, 1924). Elements of this approach and the concerns that occupied Veblen and Ayres can be seen in the later works of institutionalists such as Galbraith (1967), Myrdal (1972), Tool (1977; 1979).

The other major strand within OI has as its focus the role of property rights and law in facilitating economic activity. Its roots lie most notably in the work of Commons (1931; 1950; 1968). Unlike the Veblenesque strand, with its radical critique of capitalist development, much of the analysis of Commons and his ilk has at its core an emphasis on promoting pragmatic legal and political reform (Dugger, 1992).

An interesting feature of Commons' legacy is his intellectual influence on writers within the NI, particularly on the property rights and economics of organisation branch (see next section) and indeed this is in some cases explicitly acknowledged (Williamson, 1975). Much of this legacy derives, however, from the subject matter

chosen for analysis rather than the analytical approach. As such, there are significant differences between the OI approach of Commons and these NI writers, the main being the importance attached by the NI to markets as the normative benchmark for institutional reform (Dugger, 1992). In other words, the value basis of much of the NI is that it is predicated on the use of a 'market standard of value' (Dugger, 1992). This tends to lead to the promotion of objectives such as the efficient distribution of property rights and the minimisation of transactions costs – i.e. in some sense aiming to achieve the desired outcomes of competitive markets in a second best world. Commons and others within the OI literature (Tool, 1977; 1979; Dugger, 1992), however, tend to be more eclectic in terms of their normative criteria and emphasise broader goals such as equality of opportunity and the right to work (Commons, 1931). In specifying such goals clearly for public policy, as indicated above, the value basis of the analysis tends to be made more upfront.

Commons' view of individual property rights emphasised the importance of collective action, generally through the State, required to establish and protect such rights (Commons, 1950). Consequently there is an explicit recognition that the creation and maintenance of prevailing institutional frameworks through which economic activity takes place requires some degree of human agency.

'(T)here is no right without its corresponding duty, no effective or actual right and duty of individuals without both a correlative power and responsibility of officials to come to the aid of the right by enforcing duty' (Commons, 1968).

As indicated earlier, prominent in this approach is a reformist agenda which allows for a significant role for the State through legislation and policy. One criticism of this view, however, is that, given the central role ascribed to such forms of collective action, there is a lack of acknowledgement of what is commonly referred to as the 'collective action problem'. This is somewhat incongruous. In contrast, it is specifically these types of problems in the forms of free riding and prisoners' dilemma type decisions (Olson, 1965; Hardin, 1968; Ullman-Margalit, 1978; Axelrod, 1988; Ostrom, 1990), regulatory capture (Stigler, 1971), common agency (Dixit, 1996) and bureaucratic capture (Niskanen, 1971; 1975) that have occupied a major strand of analysis within NI known as public choice theory (see next section). The

public choice school, in turn, draws much of its intellectual inspiration from some contemporaries of Commons, notably early writers from the Austrian School such as Carl Menger (1892). This alternative perspective views the process of institutional development ‘organically’ in terms of the interaction of self-interested parties (Schotter, 1981) and thus, unlike the OI, addresses specifically the possibility of government failure as the flipside to market failure.

In summary, the OI critique of conventional economic theory has typically centred on the ahistorical, individualistic and reductionist manner in which economic phenomena are characterised under the conventional economic approach (Gruchy, 1947; Fusfeld, 1980). In terms of its normative scope, the OI school allows for the process of institutional change to be considered as a potential source of value. As indicated in chapters 3 and 6, this aspect of OI theory has much to contribute to health economic analysis, particularly the evaluation of health programs where the social benefit is unlikely to be fully or readily captured by conventional measures of health outcome.

This notion of value and its place within an evaluation framework is elaborated upon in chapter 3 (Tool, 1977; 1979 – see also Jan (1998) on which that chapter is based). Given the richness of this often overlooked literature, this aspect of the OI approach is probably the most relevant to this thesis. The application of OI to social value theory involves encapsulating any change in potentially disparate institutional variables into its analysis. It is generally amenable to qualitative as well as quantitative approaches, as demonstrated through the case study in chapter 6. That study represents a fairly major departure from conventional welfare theory in terms of not only its normative scope but also its usual method of analysis. For further elaboration on the roots of this theory, see chapter 3.

2.2 New Institutionalism

NI, in contrast to OI, is more closely wedded to conventional economic theory. It can, to a large extent, be viewed as an extension of the conventional choice theoretic framework with, however, the constraints on choice loosened to enable the analysis of institutional structure. In contrast, OI entails analysis that tends to be sociologically based (Nelson and Sempat, 2001) because it rejects the underlying assumption of

universal instrumental rationality that is generally characteristic of studies within the NI tradition. The term 'instrumental rationality' here is synonymous with utility maximisation and is often represented by the caricature of 'homo economicus'.

The OI perspective is more eclectic in its conceptual underpinning, drawing on insights from numerous disciplinary perspectives in order to explain, through a more behaviouralist perspective, the motives of individual decision makers. Such eclecticism and its rejection of universal instrumental rationality have led to criticism, perhaps unjustified, that OI 'lacks theory' (Coase, 1984; Williamson, 1987). The implication is that it is simply descriptive. OI, conversely, has tended to apply the criticisms generally directed at conventional neoclassical economics to NI – namely, the narrow and potentially biased perspective it provides. (See Rutherford (1996) for an extensive catalogue of the areas in which these two schools of thought are seen both to diverge and to converge.)

The conceptual distinction between the two major institutionalist schools, however, is increasingly becoming blurred as there is growing recognition from writers associated with NI of the limitations of the assumption of instrumental rationality - without necessarily rejecting it as the general building block for both positive and normative analysis. This has led to more consideration of other motivations that might underlie decision making and an embracing of many of the sociological factors that hitherto had been the preserve of OI (Granovetter, 1985; Elster, 1989b; Lindbeck, 1997). Indeed, it is also apparent that there has been a growing influence of instrumental rationalism within sociological studies as inevitably the cross-fertilisation between disciplines works both ways (Zafirovski and Levine, 1997). Chapter 7 is cast very much in this tradition. It reports on a case study where non-rationalistic norms of behaviour are seen to play a role in decision making. It investigates possibilities for bringing such norms within the rubric of institutionalist analysis while still maintaining a strong element of assumed instrumental rationality.

As its central point of departure from conventional forms of economic analysis, NI recognises that participating in markets is not a costless activity. It then examines the implications this has upon, inter alia, the organisation and governance of firms, the creation of legal structures and the way in which individuals make decisions. These

costs generally arise because individuals lack full information about the terms and conditions involved in a transaction. This introduces an element of uncertainty in decision making.¹ This is partly because the transactions themselves are likely to be subject to numerable contingencies that are not always possible to anticipate and, as a consequence, the task of setting comprehensive terms and conditions is likely to be very costly, perhaps even impossible. In these circumstances, contracts are invariably, to at least some extent, 'incomplete'. Furthermore, imperfect information allied with the possibility of opportunism by other contracting parties adds to the costs of transacting. In practice, such costs may, for instance, manifest themselves in terms of expenditure on insurance coverage to cover unanticipated financial risks, investment in better information (e.g. credit checks) and the costs of securing loans. Pertinently, the *potential* for such costs may distort the relative costs of options and result in decisions that favour an option ostensibly less cost-effective or efficient (or indeed less desirable on the basis of any other criterion) than another. In such circumstances, the realisation of transactions costs thus occurs in terms of the opportunity costs of such 'second best' choices. Each strand of NI, with the possible exception of the public choice school (Buchanan, 1995), takes to varying extents the presence of transactions costs as a crucial building block in the analysis.

Overwhelmingly and perhaps surprisingly given its pervasiveness within the NI tradition, transactions costs tend to be presented as an analytical construct rather than an empirical phenomenon. Very few studies have sought to measure transactions costs. One exception is Wallis and North (1986) who estimated that for the US economy such costs accounted for 45% of national income in 1970. The relevance of costs presented in such a context however is limited. Aside from the inherent imprecision associated with estimating these figures, the notion of transactions costs, and indeed cost more generally, lacks meaning when removed from its decision making context. A cost figure of say \$20 per transaction means little unless it is given context by information such as what it is actually able to purchase and the amount

¹ This concept of uncertainty is different from the conventional notion 'risk' that is used in say expected utility theory. Risk tends to be defined as the presence of uncertain outcomes with known probabilities whereas uncertainty, as it is used here, relates to a general lack of information about both future states of nature and the motivation of others. It typically is not characterised by known probabilities.

available in the budget. Furthermore, transactions cost is to a large extent a cognitive phenomenon. It is often its perception that determines its influence on decision making and in particular the constraint it imposes on the decision maker.

Therefore some of the empirical studies of transactions costs that have been undertaken at a micro-level and have then explored their influence over a particular decision making problem have provided perhaps more insight. De Soto (1989) undertook a classic study of the transactions and administrative costs of setting up a business in Peru. The study involved recording the costs of establishing and running a garment business by actually attempting to do so. Similarly, Stone, Levy and Paredes (1996) examined the actual costs associated with running garment businesses in Chile and Brazil – ascertained through interviews with managers of various sized firms. In both studies some significant cost constraints were identified in the undertaking of these business activities. Some support was thereby provided for the view that transactions costs generally could be a significant impediment to economic development. Interestingly also, both identified various informal cost minimising institutions that evolved in response, such as bribery and the creation of new occupational groups to act as agents in negotiating bureaucratic obstacles.

Throughout this thesis, transactions costs and to lesser extent, the similar notion of decision costs (see chapter 8) are explored and in particular their influence on health sector decision making. As mentioned, they can influence decision making by distorting the relative cost of various options and thus lead to decision making that is out of kilter with the predictions of conventional economic theory. They consequently provide key analytical tools in the study of the decision making process (although some of the normative implications in relation to economic evaluation are also explored in chapters 3 and 6).

In general, there are three strands within the NI School that can be defined broadly by the following labels (Nelson and Sampat, 2001):

1. The economics of organisation and governance
2. Economics of property rights and the law
3. Public choice.

In addition, a brief overview of an area of the literature that straddles NI, OI as well as neoclassical economics, namely, evolutionary economics will be provided.

2.2.1 Economics of organisation and governance

This branch of NI has its roots in the seminal paper by Ronald Coase (1937) and whose legacy has been carried forward most notably by Oliver Williamson (1975; 1985) who in turn was also influenced heavily by Herbert Simon's theories of administrative behaviour (Simon, 1965). As with much of NI, the starting point for this analysis is the postulate that transacting in the market place can be costly. The presence of such costs provides then the rationale for why 'hierarchies', notably firms of varying types, develop. Without such costs there is no reason why all transactions cannot be carried out in the marketplace – indeed in these circumstances, according to Coase (1988) 'the firm has no purpose'. As a consequence the major criticism of neoclassical economics, with its usual assumption of zero transactions costs, is that it lacks an explanation for the emergence of the firm (Coase, 1988).

Through the NI perspective, firms are not viewed in the conventional manner, as production functions, but instead, as networks of contracts (Alchian and Demsetz, 1972).

'production involves not only the physical transformation of inputs into outputs but also the transfer of property rights between the owners of resources, commodities, and labor services. In the transfer of rights, whether within firms or across markets, agents maximise their objective functions subject to the constraints of organizations and institutions' (Eggertsson, 1990).

This viewpoint of the minimisation of transactions costs provides not only an explanation for the emergence of firms as opposed to markets but it has also been used to examine the type of firm, its size, scope and the nature of the markets in which it operates. The process of institutional adaptation as envisaged under this approach involves matching the characteristics of transactions with those of institutional form in a transactions cost minimising way. Transactions can typically be characterised by five relevant dimensions, namely, uncertainty about future

contingencies, varying number of alternative parties ('thinness'), information asymmetries ('information impactedness'), potential opportunism by respective parties and bounded rationality (i.e. limits as to the level of information that participants can possess and process) (Williamson, 1985). Each of these poses potential hazards to parties engaging in market transactions and thus involves costs. On the other hand, the different institutional forms available to address these hazards range from spot markets to fully integrated firms with numerous hybrid forms in between (Shelanski and Klein, 1995). The type of institutions that tend to emerge as a consequence are seen to be those that minimise such costs. One criticism of this approach is that it tends to 'assume rather than analyse' the 'economizing' process whereby solutions which minimise transactions cost are found through some form of natural selection process (Shelanski and Klein, 1995). It thereby overlooks other potential non-economic rationale for the emergence of different organisational forms and thus the potential for inefficient institutions, in the sense of minimising transactions costs, to persist over time. As explored throughout this chapter, this is a criticism that can be levelled at much of the NI literature.

An example of how this approach can be applied can be seen in the analysis of vertical integration. The emergence of this organisational form involves ultimately a decision as to whether the firm should 'make or buy' the necessary inputs for production (Shelanski and Klein, 1995). Using this perspective, the internalisation of the transactions necessary for production within the firm represents an alternative institutional arrangement to that of carrying out these activities within the market place. The relative transactions costs of markets versus hierarchies thus explain why some organisational forms, such as large and vertically integrated firms, exist (Coase, 1937; Williamson, 1971; Klein, Crawford and Alchian, 1978). One particular reason why these may arise, as explored by Monteverde and Teece (1982), is the notion of asset specificity. In their study of the automobile industry, they postulate that vertical integration may be instituted when there is a high degree of technical expertise necessary in the production of inputs. This creates a reliance by the firm on its suppliers which, in turn, creates the potential for the latter to extract quasi-rents. In these circumstances, the firm is more likely to choose to integrate vertically and thus avoid potential transactions costs associated with this hazard. Similarly, a firm's decision to integrate vertically could be related to uncertainty over the quantity and

quality of supplies. In situations where firms are faced with these uncertainties, vertical integration can be a means of securing reliable supplies (Walker and Weber, 1984).

These findings have consequently fuelled arguments put forward by commentators such as Williamson (1975) in the debate over the appropriateness of anti-trust laws. This view is that concentrated or ostensibly monopolistic markets can, in many circumstances, be justified on the basis of evidence that such integration represents transactions costs-minimising forms of governance. The motivation for merger activity thus could be explained by a firm's need to protect itself from potential exploitation rather than as a way of extracting monopoly rents.

Along with vertical integration, Shelanski and Klein (1995) identify other organisational forms that have been the subject of study within this literature such as hybrid contracting modes, long-term commercial contracts, informal agreements and franchise contracting. Through similar rationales of transactions costs minimisation, significant empirical insights have been gained into the question of why these institutional forms might arise in various contexts.

Although not a topic that has been examined exclusively by NI, agency theory comprises a major area of research that falls within this category and is indeed, as discussed later in this chapter, one of the few areas of institutionalist analysis where the sub-discipline of health economics has devoted much attention. The agency relationship refers to the situation where a principal assigns to an agent, through a contract, certain rights to make decisions on his/her behalf in return for payment. The most commonly cited example of this form of relationship within the health economics literature is in the patient-doctor relationship but it can be seen to occur more widely, for instance, in the relationships between shareholders and directors of corporations, bureaucrats and politicians, politicians and the general public, and lawyer and client. Indeed, as suggested by Arrow (1985), it represents 'a significant component of almost all transactions'.

It arises because the asymmetry of information between the two parties means that the agent is better informed to make relevant decisions. More precisely, the costs (say, x)

to the principal of gathering and processing the necessary information are greater than those (y) incurred by the agent and thus it is efficient for the principal to pay some amount between x and y to the agent to do so on his or her behalf.

The focus of much of the economics literature on agency has been on the situation where the following two conditions are assumed – firstly, that principals are unable to observe directly the behaviour of agents and secondly, that there is some influence exerted by agents' behaviour on outcomes (Arrow, 1985). In general, the problem here arises when the interests and the attitudes toward risk of the agent and the principal do not coincide and manifest themselves in incentives for adverse selection and moral hazard. An example of the latter is the incentive to shirk or engage in other forms of opportunistic behaviour (such as so-called 'supplier-induced demand' within the doctor patient relationship). A common example of the former occurs in the setting of rates by public utilities and the difficulty encountered by such utilities in identifying the level of use each individual is likely to require (Arrow, 1985). These problems can arise due to the transactions costs associated with contract design and monitoring. Other complexities that have been built into the analysis of agency include multiple principals (Spence, 1973; Rothschild and Stiglitz, 1976), moral hazard in teams (Holmstrom, 1982) and common agency (Dixit, 1996).

The roots of this literature can be traced to early work by Berle and Means (1932) who examined the nature of the modern corporation and in particular the agency-type relationship between managers and shareholders. The focus of much of the literature in this area has been on the appropriate design of incentives within agency contracts and the issues surrounding monitoring (Arrow, 1985). The emphasis in the institutionalist research, in contrast to the typically abstract approach taken in the above-mentioned body of literature, has been more empirically based, with attention being given to the wider contextual influences on decision making within the agency relationship (Eggertsson, 1990). Indeed, it is the significant scope for broader, socially-orientated explanations for how individuals behave within this type of relationship that has been highlighted as a major area for further research (Arrow, 1985).

In health economics these NI concerns with the economics of organisation and governance could add to our understanding at a number of levels. Highlighted above is the agency relationship where in a very real sense it has already been successfully applied. While the wake of recent experiments with internal markets has brought to the fore a number of studies that have addressed specifically the issue of transactions costs, there is nonetheless a tendency within the health economics literature to overlook the possibility that institutional change is a costly process. What this recent literature has highlighted is that the efficiency of markets and competition, particularly in health care where significant problems associated with information asymmetry and agency tend to occur, cannot be assumed when transactions costs are taken into account (see section 2.3).

2.2.2 Property rights

The study of the economics of property rights has its roots in an early paper by Knight (1924). It was not however until the 1960s, with studies led initially by Coase (1960) and followed by Demsetz (1964), Alchian (1965), Demsetz (1967), Cheung (1969), and Posner (1986) that it became an area of study that was embraced by NI (Furubotn and Pejovich, 1972; Barzel, 1989) although, as mentioned earlier, it had been integral to OI of the Commons' tradition.

Property rights in economics can be defined in terms of the rights to consume, to derive income from or to exchange a particular asset (Barzel, 1989). It differs from the legalistic version of property rights which tends to equate more with the notion of ownership. Ownership, in a legal sense, entails potentially numerous variations on how rights are assigned and is, in some respects, a more imprecise notion. Frank (2000) gives an example in relation to the property rights over airspace over land and the case of a restaurant in Washington DC during the property boom of the 1970s. It was observed that this restaurant was able to sell the airspace above it to a developer who owned adjoining sites. The developer then was able to build an extension to an adjoining hotel on stilts across the top of the restaurant. Frank contrasts this situation with the lack of rights over airspace preventing land owners from charging for its use by aircraft flying overhead. The point of the example is that property rights are, in

practice, not absolute and often vary across the use and attributes of the good in question.

The criticism of neoclassical economic theory put forward by institutionalists is that the conventional approach tends to view property rights as absolute, perfectly delineated and privately held (Barzel, 1989). However, it is often observed that this is not the case because the process required to establish them is costly and involves a degree of effort in negotiating and specifying contracts and, in turn, in the protection of such rights. The way such rights are structured is important in determining how risks are shared and incentives are created for individual parties. Often crucial in this is the role of the State, for instance, in enforcing property rights through policing powers (i.e. excluding others from use of the property) and in creating public goods such as the establishment of uniform weights and measures (Eggertsson, 1990). Furthermore, social norms and conventions can play a significant role in reinforcing legally defined rights and in such circumstances, potentially reduce the transactions costs of enforcement (Alchian, 1977). For instance, this might occur in a situation where individuals' rights to use public land is subject to a prohibition on the dumping of rubbish. This attenuation by law of an individual's right can be reinforced by a community ethos that may disapprove of such behaviour and thus reduce the costs of enforcement.

Probably the most remarkable contribution to the development of a property rights branch of institutionalist theory was the theorem derived from Coase's pioneering paper (Coase, 1960). It can be expressed in the following manner:

'When the parties affected by externalities can negotiate costlessly with one another, an efficient outcome results no matter how the law assigns responsibility for damages' (Frank, 2000).

This implies that, in the absence of transactions costs, the attribution of liability as a result of externalities through law has no role since the parties involved are able to negotiate the relevant side payments needed to arrive at efficient solutions.

Importantly, the converse of this situation is that when transactions costs *are* present, such parties are then constrained in their capacity to negotiate and to arrive at an

efficient solution. The theorem can be explained by the following example of a factory owned by person A which creates smoke that impinges upon an outdoor restaurant owned by person B. In these circumstances, it is the role of the law to hold A either liable or not liable for the damage caused to B. Where there is liability, A would be faced with the choice of balancing whether the payment required to compensate B for her loss was covered sufficiently by his gain from operating the factory. If so, he would pay the compensation and continue to operate (and pollute) and, if not, he would close down. In the situation where he was not liable, then B would be faced with a decision that was, in effect, symmetrical. She could either continue to operate and bear the damage to her business caused by the smoke or alternatively offer to pay A to cease operating. The latter would only be feasible if the potential losses caused by the smoke to her restaurant exceeded the value of outputs from the factory. Coase demonstrated that the differing distributions of property rights under the two different legal regimes, namely whether A was liable or not, did not affect total output because the individuals could, either way, costlessly negotiate to minimise opportunity cost through side payments and thereby collectively maximise the level of output.²

Once the assumption of zero transactions costs is dropped, and individuals are constrained in their capacity to negotiate these side payments, then it becomes apparent that legal liability and the structure of property rights do have a significant impact on the efficiency of various arrangements. This may occur if there are significant costs associated with B being able to negotiate compensation for A to stop polluting (e.g. B may view such a payment as a form of extortion and thereby, naturally, morally offensive! Social convention here would clearly play a role in imposing costs to negotiation.) In these circumstances, it does matter ultimately in terms of efficiency how the law determines liability because it may not be possible subsequently to negotiate from this position to a collectively efficient outcome. As with the role of transactions costs and the rationale for the firm within the organisational branch of the NI literature, Coase's theorem demonstrates that in the absence of transactions costs there is no role for the law (Coase, 1988). (This point by

² The distributive implications associated with legal liability, however, are different but this is not an issue that the theorem deals with explicitly.

Coase tends to overlook the enforcement and monitoring tasks which would presumably need to exist irrespective of the assignment of property rights.) An important element in it is that it diverges from both the conventional Pigovian and the Common Law views of externalities where the distinction between the party doing the harm and the harmed is seen as significant in a normative sense. There is an automatic assumption that compensation only goes from polluter to the party adversely affected by it, thereby introducing a significant distributive concern that is lacking in Coase's theorem. As shown above, in the situation where the value of the potential losses to the harmed was greater than the gains to the harmer, Coase (1960) suggests that it would be efficient for compensation to be paid in the opposite direction.³

It is the recognition of the link between the structure of property rights and efficiency and thus economic performance, in a world where zero transactions costs *cannot* be assumed, that provides the basis for much of the empirical work in this field. In particular, this analysis has focused on the differing incentives associated with privately held, communal and state held property rights and their implications for collective outcomes. A pioneering study undertaken by Demsetz (1967) examined the effect of the commercial beaver fur trade on the efficiency of the property rights structure under which the Indian hunters in eastern Canada in the early eighteenth century had operated. Prior to such trade, the Indians observed a system of communal property rights and generally only killed for their own consumption. This, combined with the onset of the fur trade, led to an incentive to overhunt - as borne out by evidence of declining beaver numbers. A switch, however, to a system of exclusive rights to counter this incentive was never instituted. Demsetz argues that this failure was as a consequence of the high transactions costs associated with the establishment and protection of a system of private hunting lands. In a similar vein, other studies that have examined the relationship between the role of property rights and economic performance include the role of mineral rights on the performance of the mining industry in the US in the nineteenth century (Libecap, 1996), the effect of rent control on the availability and characteristics of rental properties in Hong Kong (Cheung,

³ There is however an argument that, given the absence of transactions costs and thus no constraint on non-market side payments, the efficiency result is both tautological and indeed applies more generally to all transactions – rather than simply to those that bear some externality (Calabresi, 1968).

1996) and, most notably, the major role ascribed to property rights in the study of economic history by North and colleagues (e.g. North and Thomas, 1973; North 1990a) - see below for more discussion of the last.

Although the study of property rights has constituted a major enterprise within the institutionalist literature, Eggertsson (1990) labels some of the studies that have been undertaken as 'naïve' with respect to their assumption about the role of government. Implicit has been the assumption that government generally acts to secure a system of property rights that will maximise net social wealth. There is thus a perceived naivety with regard to the potential role of interest groups and distributive issues with which, for instance, Coase (1960) does not deal, but which may affect the way government decisions are made and call into question the assumption of collective wealth maximisation. In short, they reflect a failure to recognise the problems of collective action that are central to the analysis of government from a public choice perspective. These issues are taken up further in the next section.⁴

In health economics, there is considerable scope for much greater use of the application of property rights in both theory and practice. One particular area where this may clarify arguments on both sides has been in the recent debate about the conflict between the protection of patent rights on antiretroviral drugs and access to such drugs in developing countries (Kremer, 2000). Here there are significant economic, ethical and health related implications associated with how the law is defined and enforced. Although this is touched upon briefly in chapter 5 of this thesis, there is a great deal more that can be contributed by an institutionalist perspective particularly in examining ways of reorientating the nature of the problem as it is generally presented (i.e. a necessary trade-off between providing access to drugs now for these needy populations with the requirement to preserve incentives for industry to

⁴ It could be argued that this derives from a lack of explanation of the rationality assumption underlying Coase's analysis. Regan (1972) states that, if such an assumption entails rationality in a strategic sense, then individual actors may use threats that would entail mutual loss in order to extort, in the long run, higher payoffs. Such threats are only credible, however, if they are occasionally carried out and as such, when modelled as a variable sum game, behaviour that may in such settings be individually rational, can potentially lead to collectively inefficient outcomes.

continue research and development) so that concerns on both sides of the debate can be better addressed.

2.2.3. Public Choice Theory (PCT)

PCT is the application of the NI approach to political science and, in particular, to the study of government. Its origins can be traced to the pioneering contributions to the analysis of social choice by Bergson (1938) and Arrow (1951), but its development as a distinct branch of economic theory is most commonly associated with Black (1958) and Buchanan and Tullock (1965). There are two major elements of this approach that distinguish it from conventional economic theory:

1. Government is viewed as a body comprising individual decision makers who are assumed to be motivated by self-interest i.e. rational in the conventional economic sense. There is thus a rejection of an assumption that, within government, individual decision makers' private interests can be readily separated from their public role. The public choice approach is often presented as being in opposition to the so-called 'public interest' approach that views government as a necessary response to market failures. The latter view is most commonly associated with the 'merit goods' argument in public finance (Musgrave, 1959).

2. The institutional context in which collective decisions take place has a relevant influence over outcomes i.e. the rules that govern conduct are variables that are deemed to be the subject of normative analysis. As a consequence, this perspective creates scope for examining the performance of government organisations and the possibility of 'government failure' as a corollary to 'market failure'.

Mueller (1979) states that PCT has its underpinnings in game theory and, in particular, the collective action problem that results from prisoners' dilemma type situations (see also Schotter, 1981). The prisoners' dilemma arises in the situation when co-operation between two or more parties is required to establish mutual gains but defection, for each individual, represents the dominant strategy, regardless of whatever course of action is chosen by other parties. In this situation, the collective gains from co-operation in aggregate are greater than the aggregate individual gains

from non co-operation but co-operation does not represent an equilibrium strategy since individuals can do better for themselves by defecting. The problem thus arises due to an incompatibility between individual interests of players and the maximisation of collective outcomes. It manifests itself most visibly in relation to public goods (i.e. indivisible and non-excludable goods) and the tendency for their undersupply in private markets due to the incentive for individuals to free-ride – which is a form of defection in response to prisoners' dilemma type games and known also as the 'collective action problem'. Thus the role of government through this perspective can be seen as a means of enabling potential gains from trade to be had through private markets through the supply of public goods that are necessary in facilitating it. Such functions include the provision of regulation, a legal structure and a police force but are subject to the collective action problem. (See chapters 4, 5 and 8 for applications to health sector decision making problems.) As indicated earlier, it is the analysis of these activities that forms the subject matter of PCT e.g. How much of these public goods should be supplied? How are they funded? What form do they take? The following discussion outlines some of the more notable applications.

Government regulation

Probably the most enduring contribution to the economic analysis of government regulation was provided by Stigler (1971). His theory of regulation is remarkable because of its rejection of the often-held 'public interest' view of representative democracy that assumes that the preferences of the majority of the population prevail in the formulation of policy and regulation. His theory promotes the stance that special interest groups tend to be over-represented in this process because of the greater propensity of individuals within these groups to vote on their particular issue (and also influence others through lobbying) vis-à-vis the majority with no special interest in the issue at hand. In contrast, the latter group are faced individually with potentially significant costs, notably in gathering information, and minimal individual marginal benefit. The upshot is the collective action problem and thus the tendency for those outside the special interests not to vote even if the interests of the majority conflict with those of the special interest group. Significantly, this may occur when the aggregate net benefit to those in the majority exceed the aggregate net benefit to those in the special interest group. This means that regulation and policy making, by disproportionately favouring interest groups, a result coined as 'regulatory capture',

can lead to the implementation of programs that are allocatively inefficient. Building on this framework, others have examined regulation in various specific settings including taxation (Posner, 1971), public utility price setting (Joskow, 1974), the telecommunications industry (Kridel, Sappington and Weisman, 1996) – see Joskow (2000).

In addition, the assumption of the regulator as a vote maximiser has had important implications for the further study of politician behaviour. For instance it has been used as a basis for explaining the various committee structures that are created within government, particularly in relation to the United States Congress (Weingast and Marshall, 1988).

Voting rules

The analysis of voting rules has also been a major area of focus in PCT. Two of the more commonly known and used are unanimity and majority voting. Unanimity is clearly a highly restrictive criterion for social decision making and given the monopoly power associated with the right to veto conferred on each voter, it is also potentially subject to gaming. Nevertheless, in principle, it is the only rule that guarantees Pareto efficient change, a necessary condition for which no one is to be made worse off and thus consistent with the criteria of consensus in social decision making (Buchanan, 1995) (see below and chapter 4 for a discussion of how the criterion of consent forms the basis for making social welfare judgements). The majority voting rule, on the other hand, provides a less restrictive basis for social decision making, but has long been recognised as potentially arbitrary. This can be demonstrated with the following example first formulated by de Borda (1781) (see Mueller, 1979).

A	X	Y	Z
B	Y	Z	X
C	Z	X	Y

In this example, three voters (A, B, C) are faced with three options (X, Y, Z). The preferences in order from left to right are set out above e.g. A prefers X to Y to Z. The problem associated with the use of the majority voting rule given this preference

structure is that when comparing the options pairwise, X is shown to defeat Y, Y defeats Z, but then Z defeats X. This intransitivity in the voting outcomes is a problem known specifically as 'cycling'. The significance of this is that, subject to certain preference structures, majority voting can lead to unstable outcomes which can then arbitrarily be affected by the sequence in which options are presented. Thus, the focus of the problem shifts to one of agenda setting and this, in particular, highlights the role of the bureaucrat in influencing voting outcomes (Romer and Rosenthal, 1979).⁵ Within this strand of the literature, the implications of other voting rules and practices have also been explored, including the practice of 'logrolling' (vote swapping), median voter rules and voter behaviour in representative vs. direct democracies (see Mueller, 1979).

Bureaucracy

Probably the best known study of bureaucratic behaviour with PCT was undertaken by Niskanen (1971; 1975). His studies diverge from the simple premise, characteristic of the public interest view of government, of the bureaucrat as a cost minimising or efficiency maximising agent. They instead begin with the assumption of the bureaucrat as a budget maximiser and then examine the implications of this on his/her role as agent for the government bureau and consequently the impact his/her decision making has on organisational performance. One general conclusion, perhaps unsurprising given the starting assumptions of the analysis, is that the incentives on individual bureaucrats create a general tendency for larger than efficient government. Some of the implications of using this assumption in relation to health sector organisations are explored further in Chapter 4.

Normative aspect of PCT

Although not generally recognised as work that derives from an application of PCT, Rawls' *Theory of Justice* (Rawls, 1971) is cited by Mueller (1979) as a significant influence over the way in which public choice theorists, particularly those of the contractarian school such as Buchanan and Tullock (1965), approach normative issues. Rawls developed a criterion for social decision making that involved

⁵ Equilibrium outcomes in majority voting are found to occur when preferences have the specific property of being 'single peaked' i.e. when one option dominates the others (Black, 1948; Mueller, 1979).

individuals specifying some form of social contract from behind a 'veil of ignorance'. Because it required individuals in a sense to step outside of society into an 'original position', the feature of the notion of fairness was that it was viewed as being untainted by favouritism to any particular secular interest. It is the rationale for this process of social decision making rather than Rawls' conclusions that is thereby seen to provide important normative applications to Buchanan and Tullock's earlier analysis of constitutions as a basis for social contracts. See Chapter 4 for more discussion of the normative implications of this contractarian approach through an application to a health care setting.

As is evident in the growing size of this literature and the influence of PCT outside economics, most notably political science, the insights and tools of PCT have numerous, wide ranging applications. However, as acknowledged by Mueller (1979), PCT also has clear limitations particularly with respect to its highly economic behavioural assumptions. Such assumptions can be criticised as simplistic characterisations of the decision making process within government and are, in many circumstances, at odds with the available evidence (Ostrom, Gardner and Walker, 1994). The persistence of such narrow assumptions within this field of research, however, is perhaps best explained by their compatibility with the doctrine of small government and so-called 'free markets'. They are associated with the conservative, libertarian-orientation of the writings that derive from this tradition.

In health economics, the use of public choice theory could be useful in explaining the behaviour of public sector organisations, particularly in the context of decisions where there are winners and losers. Often, such decisions in practice do not reflect the predictions of conventional welfarist perspectives and as such, tend to be explained in an ad hoc manner within the health economics literature. PCT can be important because it provides a framework which examines, at a micro level, the motivations and behaviour of individuals and groups involved in the decision making process.

2.2.4 Overlapping issues in NI

Not all studies within the NI literature fit neatly into one of these categories. Overlapping into each is a body of work undertaken by economic historians such as

Douglas North, Avner Grief and Barry Weingast who view historical processes as a series of path dependent institutional adaptations. According to this view, institutions 'evolve incrementally, connecting the past with the present and the future; history in consequence is largely a story of institutional evolution in which the historical performance of economies can only be understood as part of a sequential story. Institutions provide the incentive structure of an economy; as that structure evolves, it shapes the direction of economic change towards growth, stagnation, or decline' (North, 1992b).

Their analysis is notable for its incorporation of transactions costs, property rights and some of the game theoretical elements of public choice in addressing key economic questions relating to the performance of economies over time. Examples of the subject matter of these forms of historical studies are the analysis by North and Weingast (1989) of economic development in England following the constitutional reforms of the seventeenth century and Grief's study of merchant traders, the role of kinship and other social ties in minimising transactions costs (Grief, 1989; Grief, Milgrom and Weingast, 1994). Because this approach generally involves addressing directly the problem of why some economies do better than others, consideration is given to the persistence of relatively inefficient institutional forms.

This recognition of inefficient institutional forms addresses one of the main criticisms of the NI school, namely, the 'ex-post functionalist' viewpoint of the process by which institutions are brought into being (Granovetter, 1985). According to this critique, NI theory tends to assume a process of institutional selection that ensures the prevalence, in practice, of efficient institutional structures – in the sense that they represent solutions which minimise transactions costs. It thus relies on the potentially circular argument that suggests that existing forms are efficient simply because they survive. This criticism can be directed mainly at much of the literature in the organisational governance and, to some extent, property rights strands. From an analytical viewpoint, this type of thinking, it could be argued, imposes a form of economic hegemony over the analysis of questions regarding how societies organise themselves. Ultimately, the rationale for social institutions such as kinship ties, government regulations and conventions does not begin and end with economic efficiency –

deeper socially grounded explanations as well as the possibility that they reinforce vested interests are also important alternative explanations.

There is considerable scope within health economics for examining further these aspects of institutionalist development. The growing interest in the values that determine the way in which health service priorities are set within the health economics literature (Mooney, Jan and Wiseman, 1995; Nord et al., 1995; Taylor-Gooby, 1996; Cookson and Dolan, 1999; Dolan, Cookson and Ferguson, 1999; Jan et al., 2000) as well as the studies of the institutions of trust and co-operation in health sector organisation as discussed further below (Goddard and Mannion, 2000; Palmer, 2001; Allen, 2002), suggest movement already along this path.

2.2.5 Evolutionary economics

There are difficulties associated with the categorisation of this branch of the literature known as evolutionary economics. This is in part because evolution itself can be seen as a topic for analysis as opposed to an analytical perspective and thereby be approached from numerous viewpoints. The concept of evolution is dealt with in varying degrees by numerous schools of economic thought including neoclassical economics, OI, NI and game theory. There is, however, a significant body of literature that has developed labelled 'evolutionary economics' in which evolutionary processes are seen as central to the conduct of economic activity. Its link to institutionalism is that its attention is focused specifically on the evolution of social and economic institutions in determining the performance of economic systems and organisations over time.

Although the modern precursor to much of the recent literature in this field is generally acknowledged to be Nelson and Winter(1982), early influences can also be traced to writers as diverse in theoretical perspective and concerns as Schumpeter (1950), Marshall (1982) and Veblen (1964) as well as Darwinian and Lamarckian theories in biological evolution (Laurent and Nightingale, 2001). The evolutionary perspective that has developed holds three important premises (Magnusson, 1994):

1. Knowledge and innovation are central in economic processes. These are endogenised within the analysis;
2. The behaviour of individual actors is subject to inherent uncertainty; and
3. Agents learn over time and thus their behaviour cannot be simply characterised by the maximisation of a static objective function.

It contends that economic activity can be characterised as a process whereby various modes of behaviour develop on the basis of learning and adaptation over time.

Competitive pressures ensure that this creates efficient institutions although this latter point, characterised as 'Panglossian,' is not necessarily shared by all in this field (Langlois and Everett, 1993). Indeed a Veblenesque account would emphasise that institutional form is the unintended consequences of multiple interactions over time between individuals and will persist despite not necessarily being efficient.

Nelson and Winter (1982) focus on the learning processes within firms as a building block for macroeconomic theory. They characterise the firm as existing within an inherently uncertain environment and its response is to develop certain routines that draw on learning from experience. In effect, evolution here is seen as the institutionalisation of certain behaviours to enable the firm to address the inherent uncertainties caused by external pressures. The difference between this and the neoclassical account of the firm is summed up by Langlois and Everett (1994):

'In evolutionary theory, firms respond to changing market conditions by searching for new routines; by contrast, neoclassical part-equilibrium comparative statics lacks any theory of adjustment that is consistent with its own behavioural postulates.'

Perhaps not surprisingly, the areas of economic analysis where evolutionary perspectives have had their most significant impact have been in the theory of the firm and in the analysis of innovation, technology and economic development (Magnusson 1994).

2.3 Institutionalist analysis in health economics

This section reviews the use of institutionalist analysis within the health economics literature. This covers a number of studies that contain significant institutionalist elements even though not all have explicitly labelled themselves as such. In some sense, the very fact that health economics has emerged as a sub-discipline involves a recognition of the unique institutional characteristics of the health care sector. The premise of a great deal of health economics research, including that on equity, the study of hospitals, the economics of primary care, economic evaluation and health status measurement, is that health care is uniquely different from other areas of study.

Despite this, application of institutionalist analysis in health economics has until recently been relatively uncommon. It is therefore ironic that the analysis of non-market institutions is a major theme of Arrow's 1963 essay which is often viewed as *the* defining paper in the development of health economics (Arrow, 1963). The rise of such institutions is seen to be in response to the inherent uncertainty associated with the consumption of health care (or, more specifically, medical care). The type of uncertainty discussed includes a lack of understanding of how many forms of medical care influence health status and also in an individual's ability to anticipate demand for it. Arrow observed firstly the limited use of market-based responses to these uncertainties and, in particular, noticeable gaps in terms of the types of risks for which individuals are able to cover themselves through private insurance markets. Therefore, the development of non-market institutions such as the professionalisation of medical practice and organisational trust were seen as alternative means of addressing these uncertainties. They thereby constitute some of the defining characteristics of the health sector. Arrow, however, overlooks the institutionalist argument that there are potentially significant costs of establishing markets and that these may provide important explanations for the failure of markets to develop in health care (Demsetz, 1964).

By and large most of the studies that explicitly use an institutionalist framework within the health economics literature have been concerned with the impact of recent quasi-market reforms that have taken place, most notably in the UK (see for instance, Ferguson and Keen, 1996; Levaggi, 1996; Flynn and Williams, 1997; Forder, 1997;

Hughes, Griffiths and McHale, 1997; Bartlett, Roberts and Le Grand, 1998; Goddard and Mannion, 1998; Croxson, 1999; Dawson and Goddard, 1999; Goddard, Mannion and Smith, 2000; Dawson, 2001; Allen et al, 2002; Allen, 2002) and New Zealand (e.g. Howden-Chapman, 1993; Howden-Chapman and Ashton, 1994; Ashton, 1998). There have also been some limited applications in low and middle income countries (Bossert, 1998; Palmer, 2001; Bossert and Beauvais, 2002). A great deal of this analysis, perhaps not surprisingly, draws heavily upon the Williamson approach by examining the transactions costs' implications of various aspects of organisational change caused by these reforms. Some of the specific issues that have been explored in detail include: the length of contract agreements between purchaser and providers (Goddard and Mannion, 1998; Dawson and Goddard, 1999); the use of information technology (Ferguson and Keen, 1996; Goddard, Mannion and Smith 2000); the use of relational as opposed to classical contracting modes (Palmer, 2001; Allen, 2002; Allen et al, 2002); pricing behaviour of providers (Forder, 2000; Forder and Netten, 2000); the impact on organisational and administrative costs (Croxson, 1999); vertical integration in health care (Preker, Harding and Jarvis, 2000); the degree of monitoring associated with contracts (Ashton, 1998; Goddard, Mannion and Smith, 2000); specificity in contract arrangements (Ashton, 1998); and the use of incentive contracts to address adverse selection (Forder, 1997).

In the US context, studies with similar emphases on transactions costs and organisational structure have examined the influence of ownership status on managerial remuneration and incentives (Roomkin and Weisbrod, 1999); transactions costs on the boundaries of American hospitals (Robinson, 1994); transactions costs and hospital service quality (Stiles and Mick, 1997); vertical integration and organisational networks between primary care providers and specialists and between physicians and hospitals under managed care (Robinson and Casalino, 1996); hospital vertical integration (Lehrman and Shore, 1998); and organisational innovation in response to financial and non-financial incentives within health care (Robinson, 1993).

In the analysis of health care organisations, the role of ostensibly 'non-economic' relations between contracting parties on reducing transactions cost, notably the role of trust, has also provided an interesting perspective (Goddard and Mannion, 1998;

Palmer, 2001; Allen, 2002). These studies extend beyond the usual focus on economic incentives and informational constraints of the Williamson approach – although most of these writers do nonetheless use Williamson as a frame of reference. The subject of this research is generally the changes in organisational culture associated with various market-based reforms. The main findings are that such changes can compromise the pre-existing levels of trust and co-operation between parties and thus one of the largely unforeseen consequences of greater competition is increased transactions costs (see also Maynard, 1994).

Although agency has been the topic of a great deal of health economics research, the bulk of it has been in the context of the doctor patient relationship (see Dranove and White, 1987; Mooney and Ryan, 1993). From the institutionalist perspective, there has however been a growing interest shown in the role of health service managers as agents for government and of the general public and, as a consequence, there are overlaps with the public choice approach. How they differ from conventional economic and indeed NI analyses of agency studies has been in their inclusion of non-economic motivations on decision making. For instance, Goddard, Mannion and Smith (2000) examine the effect of using published performance indicators as a management tool in monitoring the performance of health service managers. They found that such use can adversely affect the organisational culture by compromising the level of trust. This was reflected in evidence of, inter alia, myopia in decision making and gaming amongst managers. Bossert (1998) and Bossert and Beauvais (2002), on the other hand, employ a framework coined ‘decision-space analysis’ to focus on how organisational performance can be influenced by the various constraints that effectively define the choice set available to managers. Such constraints effectively establish the ‘rules of the game’ and are determined by legislation, regulations and how well they are enforced. In particular, this approach is used to evaluate decentralisation policies in developing countries. (For other examples of studies of agency within health sector organisations, see Propper 1995; Levaggi 1996; Le Grand 1997.) To date, while there have been numerous health economics studies that have been concerned with organisation and governance (for overviews, see Banks, 1996; Dawson 2001; Robinson 2001; Stiles, Mick and Wise 2001), there has been very limited exploration of public choice perspectives or the property rights

perspective (exceptions are Ohsfeldt and Gohmann 1992; Croxson 1998; also Jan 2000 on which chapter 4 is based).

Given the intangible nature of many institutions, there has been much emphasis in empirical analysis on the use of qualitative data and methodologies (Ashton, 1998; Goddard, Mannion and Smith, 2000; Palmer, 2001; Allen, 2002). This eclecticism is also reflected in the interdisciplinary nature of many of the studies that have been undertaken in the health sector. Some of the concepts that draw on disciplinary insights from outside economic theory and have been incorporated into analyses include, as mentioned above, sociological (as well as rationalistic) notions of trust (Goddard and Mannion, 1998; Palmer, 2001; Allen, 2002), social capital (Bossert, 1998), various perspectives on agency and contracts from management science (Goddard and Mannion, 1998; Palmer, 2001) and from the legal literature (Allen, 2002).

One area of the institutionalist literature that has had very limited attention from health economists is that of the OI. This is perhaps not surprising given the general orientation toward neoclassical economics of the major journals in this field, the *Journal of Health Economics*, and, even if to a lesser extent, *Health Economics*. There have nevertheless been some limited attempts to provide critiques of conventional economic methods of evaluation through an OI perspective and the incorporation of OI theories of social value within alternative evaluation frameworks (Hildred and Beauvais, 1995; Hildred and Watkins, 1996; Keaney, 1997; Jan, 1998). To date, however, no published applications of these approaches to the health sector could be found, reflecting perhaps the difficulties in translating some of the broader political and social concerns of OI into empirically verifiable hypotheses. (Chapter 6, however, aims to address this. It contains a case study involving an evaluation of an Aboriginal community controlled midwifery service using an institutionalist framework.)

At present, given the relatively small, albeit growing, amount of institutionalist analysis that has been undertaken in health economics, little guidance is available on the application of institutionalist methods to health care. Furthermore, the unique nature of many of the institutions in health care means that the adaptation of existing methods from other areas is unlikely to be straightforward and, as seen in some of the

studies undertaken to date, multidisciplinary. To a large extent, therefore, this thesis, as discussed in the Preface, is as much about adapting and developing as it is about directly applying existing methods and theories of institutions to health care problems.

This review indicates that while institutionalist perspectives, both NI and OI, are present within the health economics literature, there is considerable scope for extending their use. In particular, some of the more notable gaps in this literature include the analysis of property rights and the law, the investigation of public choice perspectives in the analysis of government decision making and the use of the OI approach. Furthermore, the unique institutional characteristics of health care, and the challenges involved in adapting the institutionalist approach to it, provide potentially major opportunities for methodological and conceptual development.

A holistic approach to the economic evaluation of health programs using (old) institutionalist methodology

3.1 Introduction

This chapter explores the use of institutionalist, and in particular, OI methodology in the evaluation of health care programs and is based on Jan (1998). The rationale for the exploration of a more holistic approach lies in the recognition of the limitations of conventional methods of economic evaluations.

It has been argued in some quarters that economic evaluation does not always capture the full range of possible consequences from health services and that other factors beyond those conventionally included (usually only health) may contribute to the benefits of such programs (Mooney, 1994a; Ryan, 1995). Part of the explanation for this narrowness would appear to lie in the reductionism typical of conventional methods of economic evaluation where economic problems are addressed by isolating the independent effect of certain variables on the variable of interest. 'Change' seen in these terms can mean that any spillovers into other areas are missed. For instance under this approach there seems to be no room to include qualitative changes to the social environment which are not reflected in immediate changes to health or welfare but which may nevertheless be of value to relevant populations.

Whilst the association between health and environment has been recognised for a long time, there has been a recent re-emergence of interest within the health promotion literature on the socio-political, as opposed to individual risk factors influencing

health (McKinlay, 1993). The focus has been on strategies of 'community development and empowerment' with the community rather than the individual as the unit of interest (Rappaport, 1981; Israel et al., 1994; Wallerstein and Bernstein, 1994). Shiell and Hawe (1996) have investigated the possibilities for using this framework within economic evaluation.

Institutionalist theory has similarly sought to examine economic development and growth not simply through the individual improvements in income and welfare but within the context of broader institutional and structural change (in this chapter hereafter, unless otherwise stated, the term 'institutionalism' refers to OI).

Institutionalism embraces the notion that economic development does not occur in isolation from structural and institutional factors prevalent in a society at any time - such as the distribution of property rights, the values held within the community and the preferences of individuals. The means by which these factors influence the process of development are seen to involve complex patterns of interaction between such variables. This contrasts with the reductionist approach of neoclassical economics where, for instance, the *ceteris paribus* assumption is often invoked as a means of isolating or 'controlling for' these factors. The broader institutionalist view has a strong resonance in programs aimed at Australian Aboriginal and Torres Strait Islander populations⁶ where the idea of cultural appropriateness is often central to the effectiveness and acceptability of programs and with the result that such programs cannot be evaluated in isolation from the communities in which they are set (e.g. Mobbs, 1991; Freeman, 1994; Gray et al., 1995; Houston, 2001).

The aim of this chapter is to examine the possibilities for incorporating a broader, more holistic approach into the evaluation of health care programs by drawing on institutionalist methodology. Section 3.2 will provide an overview of the scope and limitations of conventional forms of economic evaluation. In section 3.3, an alternative, institutionalist theory of social value is presented. This, in turn, is followed by discussion of the methodological application of this approach to health

⁶ The term indigenous will generally be used except when specifically referring to the Australian indigenous population in which case Aboriginal and Torres Strait Islander will be used.

care (section 3.4). Some examples of its application to indigenous health programs are given in section 3.5. The conclusion (3.6) provides a broad overview of how openness to a more eclectic approach to evaluation might enable possible solutions to reflect better the problems at hand. As a postscript, section 3.7 has been added to this chapter in response to a concern that was raised about the approach originally presented in the paper on which this chapter is drawn (Jan, 1998). The concern was expressed in terms of why conventional welfarist approaches, in particular cost-benefit analysis, cannot account adequately for the institutional variables highlighted here.

3.2 Scope of economic evaluation

Institutionalists generally view neoclassical welfare theory as being too narrow to enable a meaningful analysis of institutional change. It is argued that such theory is concerned basically with potential *exchange* solutions to problems of resource allocation and is not well equipped to allow comparison across states in which any of the initial conditions or institutions such as factor endowments, consumer tastes, property rights, etc. differ (Shabman, 1985). For instance economic evaluation is neutral with respect to the prevailing distribution of income and health. According to Schulze and Howe (1985):

'An implicit assumption in benefit-cost analysis is that income distribution has already been adjusted to some ideal. This, in the view of many economists, serves to remove most normative aspects from any decision.'

Normatively, such theory is about identifying possible 'gains from trade' and, in the case of economic evaluation, informing the process of shifting resources to where marginal benefit exceeds marginal opportunity cost. In the absence of freely operating markets in health care, such comparison of marginal benefits and costs, in principle, signals where resources are most efficiently allocated.

Institutionalists, however, generally argue that there is no one uniquely efficient social welfare function. Each social welfare function can be defined by a particular institutional arrangement. Conventional welfare theory provides little help in deciding between them because the nature of the institutions in which economic activity takes

place is assumed to be exogenous. The normative scope of conventional theory is limited to achieving an efficient allocation of resources from any such given arrangement - typically the status quo. Institutionalists, on the other hand, view institutions as being not only endogenous but central to their analysis and argue that the welfarist objective of efficiency is a 'dubious social goal' because it is 'non-unique' (Randall, 1985). This, in turn, leads to the argument that exclusive adherence to conventional welfarist (and extra-welfarist, Culyer and Evans 1996) approaches entails an implicit reinforcement of the status quo because it does not directly question the institutional and structural make-up of the prevailing economic order (Livingston, 1987; Atkinson, 1995).

Economic evaluation used as a tool for judging the relative efficiency of different courses of action is consequently ill-equipped to appraise alternative choices which differ in their institutional arrangements. According to Klein (1984) this results in a serious limitation for the application of conventional forms of economic theory to the appraisal of public policy choices. He argues that the bulk of public policy extends beyond facilitating market or quasi-market transactions to engage in the process of, among other things, promoting values and redistributing property rights. This suggests that either:

1. One acknowledges that the scope of economic evaluation, limited to concerns about economic efficiency, is only legitimately used for informing that subset of public policy decisions in which there is likely to be no ensuing disturbance to existing institutional arrangements; or
2. It could be acknowledged that public policy requiring resource allocation decisions over options which entail potential changes to property rights, community values, individual preferences, etc. are legitimately brought within the scope of economic analysis. Thus, economic evaluation, appropriately adapted, may be of use in informing such decisions. It is the investigation of this second alternative which is taken up in the remainder of this chapter.

3.3 An institutionalist theory of social value

As mentioned previously, institutionalist theory is concerned with the analysis of comparative institutional arrangements and is consequently broader in scope than orthodox theory. The aim of this section is to determine, from the institutionalist literature, whether there is any unifying or clear statement of social value⁷ which could be used to form the basis of evaluation. Is institutionalist analysis concerned, in a normative sense, with any standards or criteria by which alternative courses of action can be judged?

Tool (1977; 1979) provides what is probably the most comprehensive account of how institutionalists might approach the development of a theory of social value drawing heavily on the work of early institutionalists such as Veblen, Dewey and Foster. He came up with a very general (and somewhat open) 'instrumental value principle' in which the criterion for social value is: 'the continuity and instrumental effectiveness of recreating community non-invidiously' (1977). This involves choosing between economic and social policies in terms of four qualities:

- i) 'Continuity'. Tool (1977) saw the continuity of human life and the provision of conditions necessary for such continuity as the primary obligation of any community. Thus one important aspect of his criterion was the capacity to foster human life with, importantly, a 'deference to human potential and developmental capabilities'.
- ii) 'Instrumental effectiveness'. Whether such policies add to and/or draw on the stock of reliable knowledge concerning our understanding of social reality and thereby provide a means of coping better with 'human problems and experience'. Tool saw knowledge as valuable in enabling the resolution of human problems and argued that knowledge itself is not absolute nor unchanging but requires constant reaffirmation.

⁷ The distinction between 'values' and 'value' is not clear-cut under the institutionalist paradigm. The orthodox approach involves initial specification of a set of value statements from which normative prescriptions follow (e.g. the Paretian value statements). In essence values are *inputs* into the analysis. The institutionalist approach concerns itself with changes in values and thus, within an evaluative framework, views values as *both inputs and outputs*. In other words, values are a source of value - not all of which are equally valid nor legitimate (Hickerson, 1987).

Each such act of reaffirmation contributes to the maintenance of society's capacity to solve its problems and thus could in itself be viewed as a source of value.

The notion of instrumental effectiveness points to a more general concern for the issue of whether 'means' are appropriately matched to 'ends'. For instance Tool (1977) states that 'one does not repair a watch with a sledgehammer, create a depression to cope with inflation, or enhance political democracy with campaign sabotage'.

iii) 'Recreating community'. This involves a recognition that change occurs within the context of community and culture and therefore ought to be seen in terms of how it can alter the fabric of communities. This contrasts markedly with the marginalist view embodied in conventional forms of evaluation where change is viewed in terms of increments and decrements.

iv) 'Non-invidiously'. This refers to the provision of full opportunities for the instrumental involvement of all individuals regardless of 'indices of human worth' such as race, sex, rank, status, etc. According to Tool (1977), this quality 'affirms the inherent potential and ultimate worth of human beings'.

In helping to judge whether this instrumental value principle is met, Tool (1977) provides a set of relevant questions to be addressed:

'Does the proposed structural change enhance the dignity and sense of self-worth which arises from having discretion in one's own life? Does it foster the ability to think critically and coherently? Does it extend meaningful and popular participation? Or does it erode or destroy by denigration, discrimination and disenfranchisement?'

It could be argued that Tool's notion of 'instrumental value' is coloured by his own set of Western liberal/pluralist leanings which thereby limit its application as a general theory of social value (e.g. Gordon, 1990; Samuels, 1995). Indeed to argue otherwise would be to contradict the valuation principle itself in which value is rooted firmly within a context of time and place.

It may therefore be that Tool's more enduring contribution to the development of a heterodox social value theory is his approach to 'instrumental valuation' rather than his notion of 'instrumental value'. As such, Tool's approach can be distilled down into three related aspects of social valuation:

1. Procedural aspects of change and their relationship to structures, values and knowledge within society, each of which is evolving rather than fixed. There also appears within this specification of 'non-invidious' to be a concern for factors such as procedural fairness. In contrast, welfare economics is concerned with 'consequences' - although there is a growing body of work within the health economics literature which is beginning to question the consequentialist framework used in evaluation (see Mooney 1998; Salkeld, 1998; Hurley, 1998).

2. The emphasis on instrumental value rather than consumption value. This represents a concern for capacity building and the manner in which any proposed change will affect (i.e. draw on or contribute to) the current stock of knowledge. In contrast to this is the strictly hedonistic approach of conventional theory.

3. What is of value is not fixed and is both community-specific and subject to continuing reappraisal. The conventional welfarist approach to social valuation (namely preference satisfaction) is essentially ahistorical. Institutionalists such as Hill and Owen (1984) argue that social value should instead be seen through historical processes where past experience defines, at any particular point in time, what is to be valued. 'In this manner, normative value judgements become instruments for integrating past human experience for the purpose of solving practical problems' (Hill and Owen, 1984).

3.4 Application of the instrumental valuation approach

Health services can be seen to affect health through a number of channels (see Evans and Stoddart, 1990; Poland et al, 1998). The most obvious of these is the direct health impact individual programs have on those patients/clients/target groups at which they are primarily aimed. This is generally the subject of conventional forms of evaluation. A second less direct route is the effect on health caused by the changing nature of the

community in which the program is set. This implies an altering of factors such as community values, infrastructure support and 'social capital' (and is an aspect of change less well captured by conventional forms of evaluation).

The *value* associated with this second aspect of change can be viewed in two ways. One can argue that there are benefits from the program beyond simply health outcome and that these other factors - 'process utility' and 'non-health outcomes' - also count. This line of argument has been used within the health economics literature mainly in relation to screening programs where they seem to be of greater importance (Berwick and Weinstein, 1985; Mooney and Lange, 1993; Ryan, 1995). The other line of argument involves making the connection between these institutional variables back to health. In this case, the argument is that these broader 'non-health' factors ultimately alter the social environment of the community in which these programs are set and, in turn, impact on health.⁸ (See Evans and Stoddart, 1990 who include genetic endowment, physical environment and individual response as other factors in addition to the social environment.) There is a recognition that health, environment and health services interact in 'patterns' rather than through one-directional causal relationships. Both of these arguments acknowledge that these broader institutional changes are a source of value but each clearly differs in how such changes would be reported or, if possible, measured.

The instrumental valuation approach involves viewing the processes of institutional change in patterns with variables interacting in numerous ways. No one causal relationship can be isolated and therefore conventional deductive models are often inadequate in capturing these complexities. The limitations of such models in scientific enquiry in general have long been recognised and thus pattern or

⁸Perhaps the distinction between instrumental value and the process utility / non-health outcome viewpoint holds less significance in Aboriginal health than in other areas of health because, as argued by some, Aboriginal concepts of health are typically holistic and bear a closer resemblance to the World Health Organisation definition than to the conventional biomedical notion which drives most evaluative models (see e.g. Kunitz, 1994; Houston, 2001). Therefore, in this context of indigenous health, these changes to the nature of the community and its institutions could, by and large, be seen as changes in health. The distinction in this context between health and 'non-health' is thus less important.

'concatenated' models of scientific phenomena have a well established history (Kaplan, 1964; Diesing, 1972).⁹ Once it is recognised that change can occur in patterns rather than necessarily linearly (the linear model being a subset of pattern models), the task of reporting such change becomes seemingly more complicated. Cost-effectiveness or cost-utility ratios will only capture a part, and only then a possibly biased part, of the picture.

Within the health promotion literature there has been a recent movement to emphasise the role of socio-political and environmental factors on health (see MacKinlay, 1993; Evans, Barer and Marmor, 1994; Syme, 1996)¹⁰. Change in these types of community level variables has often been reported through a combination of both qualitative and quantitative measures (see MacKinlay, 1993). In addition, conventional statistical techniques are often inappropriate for analysing the quantitative aspects of these data that are typically 'multi-levelled' (MacKinlay, 1993; Shiell and Hawe, 1996).

All this indicates that there is a multiplicity of ways in which to capture the changes resulting from the implementation of a program. Wilber and Harrison (1978) suggest that the holistic methodology lends itself to a 'story telling' approach. This requires that the evaluator undergo a process of socialisation where he/she not only observes but participates in the processes which he/she is seeking to evaluate. Through this, a number of themes are constructed out of possibly disparate sources of evidence e.g. previous case studies, survey data, personal observation. Such themes are then meshed into patterns into which the evaluator seeks to build a holistic picture of

⁹ For a background to their use in economic analysis see Wilber and Harrison (1978) and Fusfeld (1980). Luzar (1987) and Ruttan (1995) provide an example of their empirical application.

¹⁰ This could in some respects be seen as a reaction against the 'victim blaming' ideology behind the 'new' public health where individual lifestyle choices and behaviour have been pushed to the forefront of analysis [typified for instance by the 1979 US Surgeon General Report (U.S. Department of Health and Human Services, 1979) and in the health economics literature by Grossman (1972) and Fuchs (1974)]. This recent focus on community rather than individual risk factors however is not new and resembles some of the concerns associated with the public health movements of the nineteenth century (e.g. Chadwick, 1842).

reality. Such pictures or stories are not constant but ever changing in light of new evidence.

'The holist uses this experience and the various pieces of evidence to build up a many sided, complex picture of the subject matter. Unfortunately, this technique of contextual validation can never produce the rigorous certainty espoused by logical positivists; it can only indicate varying degrees of plausibility' (Wilber and Harrison, 1978).

Herein lies one of the potential weaknesses of this approach. A pattern model is made up of evidence gathered on a variety of phenomena, such as power, conflict, social relations, which are not necessarily measurable, thus making interpretation difficult and contentious. (This is not to argue that formal models of evaluation are, for their omission of these factors, any less contentious.) There is, as such, a danger according to Wilber and Harrison (1978) that the holistic approach is seen instead to be nothing more than 'loose, uncontrolled speculation'. The key is for holistic concepts to be subject to continual evaluation with reference to 'observation, cases and examples.' This involves acknowledgement on the part of the evaluator that pattern models are inseparable from their empirical base and acknowledgement generally of the plausibility of different accounts of the same phenomenon.

The story-telling approach seems to have particular relevance to the evaluation of Aboriginal and Torres Strait Islander health programs where, given the instrumental importance of community involvement, these stories can provide a meaningful medium through which one community's experience with a particular program can be communicated to others. An example of this can be found in a document published by the Australian Commonwealth Department of Health and Family Services entitled 'Sharing Good Tucker Stories' which contains a number of stories from various Aboriginal and Torres Strait Islander communities about their experiences with a gardening program. Each documents the various successes, failures and obstacles encountered in adopting this program and is aimed primarily at communities wishing to follow suit (Commonwealth Department of Health and Family Services, 1996a).

3.5 Sources of value in indigenous health: some examples

As alluded to earlier in this chapter, it is not possible to set out a universal statement of value using the institutional approach. Value is very much determined by the particular circumstances faced by a community at any one time. In the context of Aboriginal and Torres Strait Islander health, however, there are certain issues and themes that have a more widespread relevance than others. In this section, through a case study, some of the more general sources of value along with those which may be more specific to particular evaluations are put forward.

Many commentators have suggested that the legacy of colonialism forms a large part of any explanation of the current state of poor health in the Aboriginal and Torres Strait Islander populations (National Aboriginal Health Strategy Working Party, 1989; Bartlett and Legge, 1994). One of the clearer manifestations of this legacy is the economic dependence of large sections of the Aboriginal and Torres Strait Islander population e.g. 54.8% of the Aboriginal and Torres Strait Islander population rely on some form of Government payment as their main source of income (Australian Bureau of Statistics, 1997). In evaluating Aboriginal and Torres Strait Islander health programs, a significant source of value may therefore be possible reductions in economic and other forms of dependency - or, conversely, improvement in levels of autonomy. This might come about through the training of indigenous health staff, use of community input into decision making or community ownership and control. It could be argued that health care programs imposed upon a community without appropriate levels of community participation and control are further manifestation of the legacy of colonialism, thereby promoting continued dependence. Gray et al. (1995) set out a number of criteria by which to assess the degree of this community involvement:

- indigenous participation in policy formation
- the match between program objectives, and the needs and priorities of indigenous peoples
- the extent to which indigenous peoples are involved in the delivery of services including the contracting of service delivery to community organisations

- the opportunity for indigenous peoples to participate in the evaluation of program effectiveness.

They submit additionally that because usually more than one interpretation of evaluation data are possible, the values of indigenous stakeholders are crucial in evaluating the success of a program.

One case study of the importance of broader institutional factors in relation to individual indigenous health programs was a screening program for otitis media in Aboriginal infants implemented in the New England District of New South Wales, Australia (Bookalill, 1996). An Aboriginal Health Worker (AHW) was employed to make regular home visits to Aboriginal households containing infants up to the age of three. On each of these visits the infants were screened for ear infections and at the same time mothers were provided with various forms of health education. Routine health checks were also provided to other children within these households. Those infants found to have infections or other conditions which required treatment were then referred to local GPs. In evaluating the success of the program, it was considered important to look beyond simply measures of direct health outcome (e.g. ear infections prevented and QALYs) and examine other ways in which such a program alters the nature of the community in which it is set (Mooney and Jan, 1996). Two other potential 'outcomes' therefore were the training and employment given to the AHW and the window of access into the health care system provided to the mothers and families affected by the service. These were possible sources of value to the community because of their potential to improve opportunities for members to receive culturally appropriate care and develop, through education and exposure to the health care system, the ability and confidence needed to use appropriate services when required. Indeed in a survey of the women participating in the program, a majority reported that they were more likely to visit a doctor sooner than they would have 12 months previously and that they had more confidence in going to a doctor or clinic. Such factors can be seen as both valued 'outcomes' in themselves but also factors which improve the capacity of the community to translate future investment in health services into health gain e.g. increase the compliance rate of future screening programs because of improvements in the social networks resulting from this program. Importantly such sources of value were defined by the type of existing

problems faced by the community rather than being assumed beforehand.

Conventional forms of economic evaluation would only account, at best, partially for these sources of value. Chapter 6 provides a fuller application of this approach in the evaluation of an Aboriginal community controlled antenatal service in western Sydney.

3.6 Conclusion

This chapter identifies some of the problems in conventional forms of economic analysis and considers other approaches which could be used. As such there are likely to be a number of ways in which the more 'holistic' approach explored here could be put into practice - with conventional forms of analysis forming at least part of these. For instance, where programs require a lower level of engagement of individuals (e.g. emergency surgery), conventional cost-effectiveness analyses are likely to play a more important, although still not exclusive, role. On the other hand, various forms of incentive systems may have a role in public policy not solely because they may produce 'efficient' forms of allocation but also for their instrumental value in facilitating individual choice and delineating lines of accountability across decision makers (Shabman, 1985). The appropriateness of each form of evaluation is thus to be determined by the nature of the problem to be addressed. In addition it has been highlighted that any single approach will be based on an underlying system of values and therefore value judgements regarding the choice of evaluative framework are unavoidable.

The holistic approach presented in this chapter can be characterised as being empirically driven and involving the use of concepts drawn from across various disciplines. Inevitably the use of this type of evaluation will raise concerns about 'scientific rigour'. In turn, counter arguments will be put about the relevance of the reductionism of conventional economic theory to real life issues in, for example, health and health care.

One way around this seeming impasse is to embrace a degree of eclecticism in the design and operation of economic evaluations. In the case of indigenous health programs, dogmatic adherence to conventional forms of evaluation (and the

reductionism embodied in these) is likely to result in a neglect of various sources of value. Rather, the aim should be to conduct the analysis to match the problem at hand rather than to meet the operational objectives set by the prevailing paradigm. To achieve this will require evaluation to be undertaken on a more considered and reflective basis rather than through the mechanistic, checklist-style method which tends to characterise the state of the art as currently practised. There is no reason to believe that conventional forms of economic evaluation cannot fit *within* this broad scheme - recognising however that there are clear limitations to these approaches.

In contrast to this, the next chapter attempts to adapt NI theory to the evaluation of a particular form of priority setting initiative, program budgeting and marginal analysis. Prior to that however, the next section examines specifically the scope of cost-benefit analysis and its capacity to capture the notion of institutional change.

3.7 Postscript: Can conventional welfarist approaches accommodate institutional change?

As indicated earlier, this section is an addition written after the original paper on which this chapter is based. It addresses a concern raised informally with the author i.e. why conventional welfarist approaches, in particular cost-benefit analysis, cannot address the notion of institutional change on which this holistic approach is predicated?

Cost-benefit analysis, considered the broadest form of economic evaluation, involves the valuation of relevant costs and consequences in commensurate monetary units thereby enabling the use of a decision rule in which the social value of a particular program is assessed on the basis of whether its benefit cost ratio exceeds one (Drummond et al, 1997). In principle it enables a decision maker, on the basis of relevant economic criteria, to address the question of whether a program should be funded – subject, however, to a number of value judgements. Such value judgements are best understood against the conceptual foundation of this form of evaluation.

Cost-benefit analysis is rooted in the welfarist tradition. This means that the focus of evaluation is not simply on health outcomes but on a broader notion of utility

(Mishan, 1971; Drummond et al, 1997). While health may loom large as a significant source of utility, particularly if health care is the subject of evaluation, there are other factors that may also enter into consideration. As mentioned earlier, in a health care context, such factors typically include information, reassurance, autonomy (Berwick and Weinstein, 1985; Mooney and Lange, 1993; Ryan, 1995). This welfarist notion of utility, however, is based on an individual consumer's expressed preference for a particular good or service. The amount of utility attached to a particular good or service is thus, in principle, measured by the strength of preference – where product A can be compared to product B by the preference, expressed by an individual, for one over the other. Such preferences alone however provide, at best, an ordinal ranking of products and do not enable any form of interpersonal comparison – crucial if social judgements are to be made about the funding of health care programs which will invariably create winners and losers (at best it leads to the anaemic Paretian decision rule that programs are to be funded only if there are no losers from such a decision).

To take the extra step of comparing across individuals, a common metric needs to be established. The Hicks-Kaldor compensation (or potential Pareto) principle provides a basis for doing so by proposing the decision rule that a program should be funded if the winners, from their gains, can *potentially* fully compensate the losers for their losses and still remain ahead. This means that such compensation need not *actually* occur, only that it can. The gains in this framework would be expressed by individuals' maximum willingness to pay for them and the losses, by individuals' minimum willingness to accept. This creates a foundation for cost-benefit analysis because such evaluations seek to measure the aggregate gains against the social opportunity cost of a program and will signify whether a program should be funded if the former is greater than the latter. Aside from the potentially major distributive consequences of such a social decision rule – typically willingness to pay is strongly positively correlated with ability to pay and income levels and thus tends to give the wealthy greater voting rights in this type of social calculus (see Reinhardt, 1997) – it relies also on the strong assumption that the social value is an additive function of all individual valuations. Although informational shortcomings and externalities may pose problems with the use of willingness to pay, they have been recognised and to

some extent addressed in cost-benefit analysis (Drummond et al., 1997)¹¹. A less well-recognised limitation is the potential for health sector programs to bring about institutional change.

Given that institutions constitute the rules that operate in society, by their very nature they constrain the type of choices available to individuals and groups and affect also how decisions are made. A fundamental quality of institutions is thus their intransigence to the whims of individual preference, the very basis of 'value' within a conventional welfarist perspective on which cost-benefit analysis ultimately is based. The reason why institutions are important from an analytical viewpoint and indeed it could be argued the rationale for why they develop is a recognition that certain social objectives cannot be fulfilled simply when left to the unfettered interaction of human preferences. A stark example of this is the institution of markets that establish various well known rules of engagement across self-interested parties – in particular, the defining and enforcement of individual property rights. The rules associated with markets *inter alia* prohibit potentially utility increasing forms of behaviour such as theft and fraud (Calabresi and Bobbit, 1978). There is recognition here that the social value of establishing and maintaining properly operating markets transcends the individual utility gains from these forms of unfettered preference satisfaction and, in common parlance, is the value attached by the community to the 'rule of law'. (See also the debate regarding the market for human organs and the socially constructed rules that prevent this form of potentially Pareto efficient exchange (Harris and Erin, 2002)).

This problem could be characterised in the following manner. Assume a two person economy (persons A and B) where X represents a particular institutional form, say, a law prohibiting fraud. $U_A(.)$ and $U_B(.)$ represent the utility functions of persons A and B respectively. In this example, abolition of the law on fraud allows A to defraud B and thus a redistribution from B to A. On the basis of the cost-benefit criterion, the prohibition of fraud would be lifted if person A's maximum willingness to pay for this change in law was greater than individual B's minimum willingness to have it

¹¹ Indeed Drummond et al (1997) argue that the notion of externality in principle can also be addressed through CEA and CUA but in practice has yet to be done.

maintained ($WTP_A [U_A (X)] > WTA_B [U_B (X)]$). Even in instances where a proposed lifting of the law involved a direct zero sum redistribution of assets from person B to person A, such a change could fulfil the cost-benefit criterion dependent on the marginal utility of wealth and of the assets in question of each of the individuals (and thus incur some of the potential equity problems outlined above).

This normative approach to the formulation of law and more generally, institutional form, overlooks two important issues. Firstly, there are the often significant ethical reasons why such rules are created. The law does not exist in a moral vacuum and, in this example, the demarcation of what is deemed right and wrong is likely to reflect a significant element of procedural and distributive justice. This accords with the institutional notion of instrumental value where such institutions are viewed within the context of their role in facilitating the proper functioning of the community consistent with certain agreed-upon values. Secondly, such rules as are highlighted throughout the thesis potentially influence transactions costs. By creating greater certainty in the way in which present and, importantly, future transactions are carried out, a commitment to a stable structure of laws and regulations by the State can effectively reduce transactions costs. This, in turn, has an ongoing influence on economic activity and development.

Because society establishes such laws for constraining preferences in this way, there is an important and more explicit recognition of the inconsistency between certain social goals and individual utility. Placing institutions within the utility function for the purpose of valuing institutional change through a cost-benefit framework results in an overlooking of this crucial social dimension and renders it an incomplete tool for evaluating social institutions. Furthermore, the lack of congruence between the institutionalist notion of social value and individual utility, allied with the strong element of public good associated with institutions, is likely also to introduce, in practice, incentives for free riding, thereby leading to potential undervaluation in aggregate willingness to pay estimates.

The lack of capacity within CBA to capture institutional variables means that, while it may provide certain information about the economic efficiency of a program, it usually provides no indication of the prospects for implementation and the potential

for sustainability. Because institutions contribute to the way in which individuals, groups and organisations make decisions, they can influence first the acceptability of a particular program and second whether there is a perceived personal stake in its outcomes. Likewise for providers, as well as relevant third parties including members of the community at large, the institutional setting influences the extent to which there is a perceived ownership of its activities and, thus, the extent to which these stakeholders play their part in its implementation and maintenance. An institutionalist analysis thereby incorporates these other dimensions because of the way in which institutionalists conceive social value.

Institutional considerations in priority setting: a transactions cost perspective on PBMA

4.1 Introduction

In this chapter, the focus shifts to the application of NI approaches. Here, elements in particular of transactions cost economics, the economics of collective choice and agency theory are applied to the evaluation of program budgeting and marginal analysis (PBMA). The chapter is based on Jan (2000).

While economic analysis is often posited as an aid to decision making in the health sector (Donaldson, 1995), the extent of its impact on health policy remains limited. By providing a framework in which the costs and benefits of different interventions are compared, economics can assist policy and decision makers to determine efficient patterns of resource allocation. For instance, by allocating between programs according to lowest marginal cost per additional life year saved, the aim of maximising this form of health gain across all programs (subject to some existing budget constraint) will be achieved. Key features of economic analysis are its recognition of prevailing resource constraints, opportunity costs and, importantly, its explicitness.

PBMA is typical of this economic approach to resource allocation. Its objective is to enable health service resources to be allocated efficiently across alternative health program areas (although it is possible also to incorporate concerns for equity into this process). It has been used widely and with some success across numerous jurisdictions internationally (see *Health Policy* 33, 1995 which is a special edition containing a number of articles on PBMA). The burgeoning use of this approach in

Australia (Viney, Haas and Mooney, 1995; Newberry, 1996; Mooney et al, 1997; Peacock et al, 1997; Peacock and Edwards, 1997; Wiseman, Mooney and Stephenson, 1998) is a reflection of the increasing demands on limited health care resources and/or a growing recognition by policy makers of the potential role of economic analysis in health service decision making. Despite its growing popularity and the logic underpinning the approach, PBMA is on occasions beset with problems in its application which can be seen to be 'institutional' in nature. This chapter will investigate whether some of the insights from an institutionalist perspective can be incorporated into the economic analysis of the health sector and in particular in the use of PBMA, thereby increasing its impact on health policy.

The next section provides a brief outline of PBMA, its objectives and the institutional context in which these initiatives are often implemented. Section 4.3 examines a major aspect of the feasibility of PBMA, namely, the incentive compatibility constraints on individual participants, while section 4.4 considers the measurement of possible efficiency gains. In the last section of this chapter, some conclusions are set out.

4.2 PBMA

PBMA comprises two separate activities. The first, program budgeting, involves identifying a set of programs (and within these programs, sub-programs) which can be seen as competing candidates for funding. For each program and sub-program, it is necessary to gather data on resource inputs and outputs. The marginal analysis involves the process of shifting health service resources across program areas to those which yield the highest marginal gain per dollar. This, in principle, enables the objective of the maximisation of benefits (or efficiency) to be achieved. The focus of this chapter will be on the marginal analysis.

Despite the normative appeal of efficiency as a policy objective and the relative ease with which the logic underlying PBMA can be understood, a number of problems have been identified in its application. These, in some cases, have hampered its success as a policy-aiding tool. In examining the reasons for these problems, some explanation may be found in the institutional context of PBMA.

PBMA is often posed as an alternative to more organisationally-bound procedures for allocating resources. One of its features is that it seeks to allocate to where there is the greatest marginal benefit. In contrast, alternative mechanisms for allocating resources often lack clarity in objectives and seem to be more procedurally-based, tied in with possibly inefficient organisational norms and/or subject to various political constraints. For instance, PBMA is often compared favourably with historical funding mechanisms, first, because of its transparency and second, because it is geared toward a defined objective of efficiency. The latter feature is also often invoked when arguing the merits of PBMA over 'needs-based' methods of priority setting. Importantly, in principle, PBMA can be seen to be removed from 'non-economic' considerations.

PBMA therefore seeks to achieve some degree of 'arms length' transparency in public sector resource allocation, much in the same manner as transactions are carried out in competitive markets. It brings into consideration the notion of opportunity cost in the allocation of resources. It thereby alters the nature of the relationships between managers of various clinical and service areas by establishing an explicitly competitive environment for funds. Ultimately, however, PBMA, like competitive markets, is simply one particular institutional form. The feature which distinguishes it from some others is that it seeks to achieve, through what are in effect approximate marginal cost-benefit ratios, in the absence of appropriate price signals, 'efficient' outcomes. (Such ratios can, in addition, be subject to weightings to reflect various equity objectives, Harberger, 1978.)

Williamson identifies six types of public sector transactions – namely, procurement, redistribution, regulatory, sovereign, judicial and infrastructure (Williamson, 1999). Employing this taxonomy, it is apparent that PBMA is concerned with redistribution. Within PBMA a transaction can be seen to occur each time a set of resources are deployed or redeployed across competing programs. Each transaction in effect involves the allocation of a certain level resources by a governing authority (e.g. health board, hospital management) in return for fulfilment of stated expectation of health benefit (or alternatively, some form of intermediate outcome) from a particular program. These allocations are based on a comparison of so-called 'incremental or decremental wish lists' submitted on behalf of each program (Wiseman, Mooney and

Stephenson, 1998). Although ostensibly between funder and recipient, the losers in each funding round have a strong interest in each transaction insofar as they have submitted their wish list in good faith and relied on the reciprocity of others in the process. The difficulties of evaluation and measurement and the limitations on enforcement mean that the operation of a successful PBMA exercise relies heavily on the goodwill of participants in providing realistic assessment of expected benefit.

Although there are difficulties in transferring concepts which are essentially based on market-participating firms to PBMA in health care, central to both is that they are driven by the competing interests of those involved. It is the examination of this and, conversely, the reliance on the goodwill of participants to achieve collectively efficiency gains (and possibly equity) which form the central theme of this chapter.

Thus, because PBMA can be seen as a way of achieving the arms-length transactions of the market place, its success depends, in part, on the degree to which the transactions costs of undertaking this type of initiative can be minimised. It follows that the presence of such costs affects the likelihood of success of these initiatives. An important consideration with regard to this issue, which has not been given much formal analysis in the literature on PBMA, are the incentive compatibility constraints to which individual participants are subject. The implementation of PBMA is based on a seemingly fragile system of property rights whereby the interests of participants as a whole may be promoted through full compliance with certain forms of co-operative behaviour. Can participants in PBMA sustain their involvement where certain individuals, in the presence of additional transactions costs, are likely to lose out in doing so? This question is dealt with in the next section.

4.3 Incentive compatibility constraints

A willingness of all participants (program managers) to co-operate is necessary if PBMA is to function as an effective mechanism for allocating resources more efficiently. As mentioned above, this requires participants to act in good faith by giving appropriate evaluations of the marginal benefit from increases in funding of \$X and similarly the marginal 'disbenefits' from reductions in budget of \$X. By 'appropriate' here is meant both realistic and in accordance with the principles and

objectives underpinning the organisation as a whole. To do this, adequate information to conduct these evaluations is necessary. In addition, the appropriate incentives are required for participants to carry out these tasks.

The difficulty in analysing the incentives on program managers is that the nature of their objective function is unclear. In contrast to the discipline imposed by competitive markets, public sector decision making is not based on profit motives and is complicated by issues such as common agency (i.e. decision making is subject to the competing demands of different constituents) and the diffusion of responsibility for achieving organisational objectives over numerous individuals. These contribute to what has been termed the relatively 'weak' incentive structure within such organisations (Tirole, 1994; Dixit, 1996; Williamson, 1999). Relevant here is the point made by Moe (1990) that there is no necessary reason why economic efficiency would be consistent with the individual interests of public sector decision makers. Nevertheless, PBMA, economic evaluation and normative economic analysis in health care generally tend either to rely on the assumption of the benevolent decision maker/manager in the implementation of policy recommendations or, alternatively, to overlook this issue altogether.

In terms of the economic analysis of public sector organisations, one of the central concerns which needs to be considered at the outset is the specification of the objective function which drives decision making. As discussed in chapter 2, Niskanen (1971), in his seminal study of government, employed the assumption of the bureaucrat as a budget maximiser. In a later study, this was modified and a discretionary budget (budget minus minimum production cost) was adopted as the maximand (Niskanen, 1975). Margolis (1975), in response suggested that a lifetime utility reward function was a more appropriate description of the objective function and therefore bureaucratic behaviour would be determined by the prevailing reward structure within an organisation at any one time. These assumptions seem, to varying extents, compatible with that of the manager as a budget maximiser. In contrast, Margolis (1975) suggested that in some quarters there may be great value attached to those who can act as 'henchmen' (i.e. individuals who are prepared to make tough decisions in cutting budgets, staff and other resources) while others such as Roomkin and Weisbrod (1999) have submitted that managers in the non-profit health sector

may be more likely than their 'for profit' counterparts to be motivated by the pursuit of 'the quiet life'. Clearly in these instances the incentives on managers would be directly opposed to those associated with the budget maximisation assumption. In this chapter the assumption adopted is that of a program manager as a budget maximiser although it is recognised that there are likely to be limits to the generality of this assumption. Nevertheless there is evidence in some PBMA exercises to support this. In particular, there have been a number of documented instances of often vehement resistance from program managers to cuts or proposed cuts to their programs, thereby suggesting a strong positive relationship between budget size and the interests of the individual manager (Craig, Parkin and Gerard, 1995; Scott, Donaldson and Scott, 1999).

Therefore adopting the assumption that the program manager's utility function is an increasing function of the amount of funds allocated to his/her program, all else being equal, there exists a potential problem of gaming to overstate the benefits lost through cuts and to overstate the benefits gained through increments in resources. Clearly, the entire exercise can break down if a significant number of participants behave in this manner.

The gaming problem, allied with the problem of imperfect information, can impose transactions costs on individual participants. For instance, in drawing up their incremental and decremental 'wish lists' in the presence of uncertainty about, *inter alia*, the motivations of the other participants, significant costs could be incurred by individual agents in checking the veracity of competing submissions. Within the overseeing funding body, the incentives to ensure the achievement of outcomes stated in these submissions is likely to be dissipated by factors such as the often long term nature of these benefits (notably health gain), the difficulty in their measurement, the possibly transient nature of personnel within these organisations (or 'lack of corporate memory') and the problem of dispersed and possibly unclear lines of responsibility. In these circumstances, although the relevant transactions may occur between funder and recipient, it is likely that those with the strongest interest in verifying the bona fides of the successful submission are the other program managers.

One of the problems with the way PBMA has been developed in the past is that information costs have not been given sufficient recognition. As mentioned, however, when information held by participants about others is not good and there is reason for each to doubt the good faith of others, there are likely to be costs incurred by program managers in ensuring that others are playing by the rules of the game. Paradoxically perhaps, a greater degree of vigilance by each manager may encourage more, rather than less, aberrant behaviour and further undermine the exercise. By establishing a competitive environment for funds (albeit non-market) it is possible that the costs of competing (and, in these circumstances, vigilance) imposed on participants erode effectively the amount of funding available for distribution and, more to the point, each participant's program's level of funding. It follows that an individual would have the incentive to withdraw from the PBMA project if any gain in expected budgetary allocation under PBMA is completely offset by a corresponding increase in transactions costs (Scott, Donaldson and Scott, 1999). The *incentive* of each manager to participate in a PBMA exercise can therefore be seen as being the potential gain (in terms of budget allocation) to that individual program from the implementation of PBMA less any increase in private transactions costs incurred by that individual under PBMA.

When the funding arrangements are such that the allocation to programs is to a large extent predetermined, e.g. non-performance orientated funding mechanisms such as historical funding, the feasibility of implementing PBMA may be undermined by the scale of potential transactions costs. This is because, if funding arrangements are initially 'non competitive', a switchover to competitive forms of funding will tend to generate some transactions costs. Substantially politicised forms of resource allocation, however, may also be associated with the costs of competing in a type of political 'market' e.g. advocacy and lobbying expenses (Higgs, 1996) and these could, in a sense, also be defined as transactions cost. Indeed, it has been argued that such costs associated with the political process can be significant (North, 1990b; Dixit, 1996). Where relevant, to determine the feasibility of such exercises, these need to be considered alongside those costs introduced by the implementation of PBMA.

Without appropriate arrangements binding participants to the PBMA exercise, significant levels of transactions costs can result in multiple withdrawals and

ultimately the breakdown of the project (since any one defection may trigger further defections). This could assist in explaining, for instance, the reluctance of program managers, on occasions, to identify areas which might be seen as candidates for cutbacks in funding i.e. indicate the impact of a decrease of \$X (Craig, Parkin and Gerard, 1995; Posnett and Street, 1996). The problem is exacerbated when PBMA (and economic methods of priority setting more generally) is used, and *seen* to be used explicitly, as a cost-cutting tool.

In response to the potentially adverse incentives brought about by these transactions costs, a number of institutional measures can be formulated. One way of approaching this problem is to consider this issue in terms of how co-operative solutions to prisoners' dilemma type games might be achieved. These are more likely under various general conditions, namely: when agents have good information about other agents; the game continues indefinitely; and when there are smaller numbers of players (North, 1992b). Such generalisations therefore provide an indication of how, under PBMA, incentives on individual participants can be altered through the creation of appropriate governance structures to reduce transactions costs and thereby improve the likelihood of the sustained co-operative behaviour. Some of the measures which could be built into the design of PBMA are as follows.

1. Increase the information base on marginal costs and marginal benefits across all program areas which, importantly, is then made available to *all* participants. This would make strategic over/understatement of marginal benefit/disbenefit more difficult to conceal. In addition to restricting the scope for gaming, improving the information base per se allows such initiatives to be carried out more effectively because it removes some of the uncertainty to which such decision making is inevitably subject. If the collection of good information is introduced as a collective institutional response and such information is then viewed as a public good, there is less resulting scope for informational deficiencies to have a bearing on the private transactions costs of participants. An alternative means of implementing this type of strategy would be to bring in external adjudicators to attest to the veracity of assessed costs and benefits of marginal changes. This form of external audit, while in principle it might be effective in countering the gaming problem, is constrained somewhat by the asymmetry of information between potential auditor and program manager.

2. Restrict the number of programs included within a PBMA exercise so that effectively the competition for funds occurs over a small number of alternatives. The greater the number involved, the greater the difficulty in securing the commitment of all agents to act in the desired manner. Furthermore, smaller groups are more likely to establish informal norms binding individuals to some form of co-operative behaviour.

Some support for this measure can be drawn from Olson (1965) who suggests, on the basis of economic incentives on individuals, that the likelihood of co-operation in large groups is lower than it would be in smaller groups. In large groups there is greater scope for free-riding since each individual's potential contribution has a smaller marginal effect on group outcomes and is generally less visible.

3. Establish long term, and preferably an indefinite, ongoing commitment of participants. Importantly, such commitment often needs to be credible. According to Dixit (1996), this implies that it 'must be (1) clear and observable to all ex-ante, and (2) irreversible ex post.' One way of achieving this is to lock in participants through prior agreement (contractual or otherwise) (Schelling, 1960) – see next chapter for further discussion of this notion of credible commitment.

Furthermore, by establishing PBMA as a continual, ongoing process, the incentive for gaming is diminished because it brings into consideration, for each individual, reputation effects. A framework of repeated transactions will allow individuals to build reputations for certain forms of behaviour and thereby impose costs on opportunistic rent seeking (Kreps and Wilson, 1982; Milgrom and Roberts, 1982).

In addition to the above suggestions, tying increases in the total funds available for dispersion with demonstrated efficiency gains may be a useful strategy. By establishing a stake in the overall performance of the PBMA exercise among individual participants (akin to a 'profit sharing' scheme), the likelihood that individuals might engage in behaviour that would compromise the achievement of such gains is decreased (alternatively, various penalties could be imposed in instances where gaming has occurred although, given information asymmetries, this may be difficult to enforce). This, however, would need to be implemented alongside the

three types of initiatives set out above because the incentives for gaming are not removed by this measure alone.

These measures can be interpreted as institutional responses to the problems of securing the commitment of participants in the exercises. Such responses are necessary because factors including a lack of information, uncertainty and incentive for gaming impose positive transactions costs on participants within PBMA. In this light, the incentive for non-compliance can be altered through certain institutional adaptations to the way in which PBMA projects are designed.

Central to the argument here is that PBMA tends to create explicitly an environment of 'winners' and 'losers'. To ensure compliance in such a setting, the notion of the winners somehow compensating the losers is not feasible given that the returns from health care investment (namely health gain/benefit) are non-transferable (Ben-Zion and Gafni, 1983). Alternatively, more coercive measures may in some circumstances improve compliance but do not overcome the problem of gaming. Furthermore, in many situations the power relations are such (program managers typically being senior clinicians in charge of particular service areas) that any heavy-handedness is likely to be politically unfeasible.

The options examined in this chapter are essentially about adaptations to PBMA rather than alternatives to it. Within the organisation literature, other forms of governance have been posited as means of generating the appropriate incentives to achieve organisational goals more efficiently such as contracting out arrangements, privatisation, vertical integration and franchising. The difficulty, however, with examining such measures (which are relevant largely to for-profit firms) is that their feasibility is as much dependent on prevailing political values as they are on narrower efficiency considerations. In this sense, they fail what Williamson (1999) refers to as the 'remediableness criterion'.

The institutional adaptations to PBMA suggested in this chapter are likely to involve significant administrative costs (as opposed to transactions costs) of implementation. Administrative costs are incurred collectively through the establishment of the appropriate governance structure on which PBMA is applied. Transactions costs, on

the other hand, are incurred by individual participants, are private in nature and occur with each transaction. This distinction for the purposes of this chapter is important. For instance, measures to improve the information base and to negotiate the terms necessary to secure the long term commitment of participants entail potentially a substantial up-front investment of resources. To a large extent, implementing these measures entails offsetting potential transactions costs to individuals with administrative costs which are incurred in the course of shaping the institutional make-up of a PBMA project. Recognition of this shift in cost structure has significant implications for the evaluation of PBMA as a tool for promoting efficiency.

4.4 Efficiency gains

The usual objective of PBMA is to establish a more efficient allocation of health service resources (although, as mentioned earlier, there is no reason why it cannot be used also to promote equity). Despite this, there do not appear to have been many studies in the literature evaluating the extent to which, if any, efficiency gains are actually achieved under PBMA. This perhaps reflects the assumption that, because PBMA involves marginal shifts in resources based on cost-benefit criteria, such measures will by definition involve a shift North and/or East toward the production possibility frontier (PPF). Because PBMA can be seen to be a series of such incremental shifts, it is assumed that the implementation of PBMA represents a more efficient use of resources than the arrangement which would have existed otherwise.

This view is typical of a more conventional narrow account of welfare theory in which the role of institutions is removed from the analysis. As mentioned previously, institutions are assumed to be exogenous. Efficiency, as a normative imperative in this context, is limited insofar as it is unique within a given institutional arrangement (Randall, 1985; Buchanan, 1995; Samuels and Medema, 1995). In this chapter, it is argued that PBMA itself represents a particular institutional setting which is distinct from the institutions which make up existing funding arrangements. Furthermore, it is proposed (in the previous section) that a number of institutional adaptations within PBMA are required to sustain its operation and thus, change in the institutions themselves needs to fall within the scope of the evaluation. This suggests that because PBMA and alternative funding arrangements represent different institutional set ups,

the evaluation of relative efficiency of PBMA (vis-a-vis the status quo) cannot be mapped simply on to the one PPF since each is unique within a given institutional structure.

One approach to this normative issue of evaluating institutions is offered in the contractarian perspective of Buchanan (1995). It entails determining the relative efficiency of different institutional arrangements through the 'Wicksellian contractual-consensus test'. Efficiency in this context is procedural because it requires of all interested parties the willingness to contract to enable mutual gains from trade. This contrasts with conventional notions of efficiency which are based on whether outcomes are achieved in proximity to an objectively determined efficiency frontier. According to Buchanan (1995), the contractual-consensus test can be applied to the evaluation of different institutional arrangements.

'(t)he agreement test for efficiency may be elevated or moved upward to the stage of institutions or rules, as such. Agreement on a change in the rules within which exchanges are allowed to take place would be a signal that patterns of outcomes reached or predicted under the previously-existing set of rules are less preferred or valued than the patterns expected to be generated under the rule-as-changed. Hence, the new rule is deemed more efficient than the old.'

Thus when it is assumed that individuals are the best judges of their own interests, 'efficiency' is established when parties are not constrained in their capacity to reach agreement on the terms of a transaction. In the context of public sector organisations, however, this notion of 'interest' is problematical given the issues of common agency and weak incentives discussed earlier. It is unclear in these circumstances whether consensus achieved on behalf of public sector organisations will necessarily promote best their social objectives (e.g. maximisation of health gain or health related well-being).

A further problem with applying the contractual-consensus test in this context relates to the implication that PBMA leads to greater efficiency in resource use than with the status quo simply if its implementation were to be carried out with the agreement of all the contracting parties. Given the incentive issues discussed in the previous

section, such consensus is however required also as a *prior condition* for implementation. This account of efficiency therefore is susceptible to the criticism of 'ex-post functionalism' because there is the assumption that such institutional forms develop only through some process of institutional 'natural selection'. Importantly, this view overlooks the existence of inefficient institutions and renders redundant the need for normative analysis of existing institutional forms.

Perhaps a more straightforward approach to the evaluation of PBMA relative to an alternative would entail viewing the differences in these institutional arrangements in terms of production, transactions and administrative costs. Different arrangements would be made commensurate by representing them in terms of such costs. For instance, the adaptations suggested earlier entail incurring additional administrative costs to allow for reductions in transactions costs with the intention of establishing the incentives necessary to maintain compliance. In evaluating the relative efficiency of different institutional arrangements under this approach, the aggregate output (e.g. health gain) as a ratio over the sum of these costs would be estimated. Conventional indicators typically are restricted to measuring output as a ratio over production costs only.

One general criticism which could be made of these type of 'economic' approaches is that they are overly 'reductionist' by characterising potentially complex phenomena such as institutions as a single quantitative variable, namely, cost (although this criticism could probably not be directed at the altogether different framework used by the OI school). Certainly, there is much in the sociology and philosophy literature which highlights the qualitative elements of institutions such as the values they embrace (Parsons, 1990), their 'embeddedness' within a network of social interrelationships (Granovetter, 1985), the role they play in removing uncertainty from the concerns of individuals (Gehlen, 1980) and their historical context (Weber, 1978). The challenge lies in integrating these broader characteristics into the economic analysis of institutions.

4.5 Conclusion

This chapter has examined the role of transactions costs in determining the feasibility and usefulness of PBMA initiatives. It is argued that a better understanding of how such costs influence the incentives on individual participants in PBMA projects will increase the likelihood of their sustainability. One of the problems with the way in which such projects have been run in the past is that they have assumed away potentially costly problems, such as a lack of information, the bounded rationality of individuals, uncertainty, the potential for gaming and, more fundamentally, the diverse interests which drive decision making. As indicated in this chapter, insights from the institutionalist literature offer promising solutions to these issues.

In addition to this question of feasibility, the evaluation of PBMA as an efficiency promoting tool has not been addressed well in the literature. This perhaps reflects the simplistic and narrow assumption in which the influence of institutions tends to be removed from the analysis of various funding arrangements. This leads to the possibly mistaken belief that PBMA will *necessarily* result in an increase in efficiency over the status quo. It is suggested that one means of dealing with the issue of evaluating efficiency in relation to different institutional arrangements is to view such institutions as comprising both transactions and administrative costs and then measure the relative efficiency of different institutional arrangements in terms of aggregate output as a ratio over the sum of production, transactions and administrative costs. This suggests a broader version of economic evaluation than that which is conventionally used.

This chapter provides one explanation of why PBMA in practice has on occasions broken down. PBMA however can be applied in numerous different types of institutional settings and therefore the feasibility of the solutions offered can vary. Nevertheless, the general issues of implementation have wide applicability across PBMA settings because they relate to a common theme of managerial incentives.

The solutions proffered borrow heavily from the NI literature. The key feature of this literature is that it characterises institutions in terms of transactions costs and operates within the utility maximisation framework. It can be argued however that there is

more to institutions than simply issues of cost and that they reflect a range of other quantitative as well as qualitative variables. Furthermore managers may not always act in a manner which maximises their budgets, nor indeed expected utility. A richer understanding of the make up and behavioural characteristics, the motivations of individuals and the constraints imposed offer yet more promising solutions to the practical issues of resource allocation in health care. To a large extent, these issues can be dealt with through empirical analysis (see chapter 6), inevitably pushing at the limits of conventional economic theory and venturing into other fields. In the next chapter further application of the concepts of NI is explored through the examination of the role of credible commitments in public sector governance.

A perspective on the analysis of credible commitment and myopia in health sector decision making

5.1 Introduction

In this chapter, particular emphasis is given to the role of one form of institutional adaptation, credible commitment, in facilitating long-term decision making about resource allocation in health care. Again, it draws mainly upon NI theory, in particular PCT. It is based on Jan (2002).

Effective policy making involves specifying not only what needs to be done but also, what needs not to be done. It often entails what Offe (1993) refers to as 'self-limitation strategies'. Such strategies establish clear boundaries around decision making and, in turn, convey a perception of certainty to others. Their importance in this context is 'instrumental' because when done so transparently, they have the potential to influence the behaviour of parties both within and outside an organisation because they introduce an element of certainty and stability in the decision making environment. From an economic perspective, a credible commitment is a tool that can be invoked as a means of implementing such a strategy.

Within the institutionalist literature, a credible commitment is viewed as a potentially important policy lever of the State (Shepsle, 1991; North, 1993). For instance, it has been used as an explanation for how industry policy has been instrumental in facilitating the economic development of nations such as Germany and Japan (Fukuyama, 1996). It has also been suggested that the establishment of a constitution limiting the powers of the Crown was effective in securing individual property rights and was thereby instrumental in providing the impetus for economic development in England (North and Weingast, 1989).

In this chapter, the role of public sector commitment in health care policy and decision making is examined. As a starting point, it is necessary to recognise the potentially diffuse and conflicting interests to which public sector decision making is subject and the potential for individual incentives faced by decision makers to conflict with one another as well as with the broader objectives of an organisation. This view is consistent with an institutionalist / public choice approach. In contrast to the conventional framework of health economic analysis, this perspective brings the institutional context of decision making (of which these types of incentives potentially play a significant part) within the scope of analysis (Fusfeld, 1980; Rutherford, 1996). To date, the economic analysis of public sector decision making in health care has been dominated largely by evaluation and priority setting studies and, as such, has been highly normative (being based on assumed objectives of efficiency and equity). From this perspective, the decision making process in practice is usually portrayed as a 'black box' (Dixit, 1996). While economics is fundamentally about examining choice within constraints, the conventional perspective employed in these studies has tended to characterise such constraints purely in terms of resources and excludes those of an institutional nature. Thus, the positive insights into decision making gained from conventional health economic analysis have been limited because these wider sets of constraints are assumed away. This shortcoming is manifest perhaps most significantly in the lack of inroads health economic analysis has had on policy (Alban, 1994; Maynard and Bloor, 1995; Ross 1995; Hoffmann et al, 2000).

The problem examined in this chapter is the tendency, in some cases, for decision making in the public sector to favour choices that yield short-term gains i.e. myopic decision making. Symptomatic of this is the so-called 'short-termism' that has characterised health policy-making - at least in Australia (Donato and Scotton, 1999). In addition to its influence over the formulation of health policies, such short-termism can also undermine the implementation of strategic policy initiatives particularly when they impose up-front opportunity costs on key players.

It is posited here that a possible reason for such myopic decision making in practice is a lack of credible commitment by organisations within the public sector (although these arguments may also have relevance to private sector organisations). Section 5.2

defines the notion credible commitment. In section 5.3, the rationale is presented for why myopic decision making may occur. This is done through the presentation of two models of economic behaviour, prisoners' dilemma and co-ordination games.

Credible commitment can facilitate co-operation and co-ordination and thereby address the incentives problems highlighted in these types of games. This argument is presented in section 5.4. In section 5.5, some policy measures that can be viewed as forms of credible commitment are presented. Finally, some conclusions are contained in section 5.6.

5.2 Credible commitment

A commitment can be defined as an undertaking by one party to another to perform a certain task in the future. It is credible when the party receiving the commitment has good reason to believe that the other will not break that commitment i.e. it is verifiably credible *ex ante* and enforceable *ex post*.

Such belief can arise for one of two reasons: motivationally or imperatively (Shepsle, 1991). A commitment is motivationally credible when the individual offering it is not subject to diverging *ex ante* and *ex post* incentives. In other words, his or her incentive to keep to the commitment is just as strong at the time it is due to be carried out as it was when originally made. Schelling (1960) gives the example of a hostage trying to convince his captor that, if released, he will not turn him in to the police. Such a commitment is not motivationally credible because, upon release, the hostage then has no incentive to keep the promise. (The captor, realising this beforehand, has no option but to kill his hostage to avoid being identified!)

A commitment is imperative, on the other hand, if the individual is bound in such a way that it is not possible to renege on it. An example is of Ulysses binding himself to the mast of his boat in order to remove the possibility of being lured by the sirens (Elster, 1979; Shepsle, 1991; Offe, 1993). Anyone who has had the experience of crossing a busy main road in somewhere like Hanoi would know that the best strategy for avoiding oncoming cyclists is not to dodge and weave but to commit imperatively to a certain course by looking straight ahead (*not* at the oncoming traffic) and proceeding at a steady pace.

By signalling such commitment, parties bind themselves to a certain course of action in future. They thereby 'seek to disable...discretion in order to expand their opportunities' (Shepsle, 1991). Having commitments in place is important if the task at hand requires the organisation of the efforts of more than one party. The more parties involved in this task, the more visible these commitments need to be. Numerous institutional arrangements can be devised to secure such commitments ranging from formal contracts and financial incentives through to various informal measures such as reputation or custom.

When there is the likelihood that the parties involved in a particular activity have potentially differing or conflicting interests and where decisions of one party affect the welfare of the other(s), then this problem of managing the decision making of individuals can be viewed in game theoretic terms. More specifically, it is relevant to situations where individuals' best interests may not be consistent with group interests. These represent instances of non-zero sum games in which collectively optimal outcomes are achieved through some form of either co-operation or co-ordination across individual players. These forms of economic behaviour can be formally modelled in terms of prisoners' dilemma and co-ordination (mixed-motive) games.

5.3 Models of economic behaviour: prisoners' dilemma and co-ordination games

Prisoners' dilemma

This type of game is perhaps the best-known model of economic behaviour and one that has occupied the attention of not only game theorists but also other areas of social sciences. As mentioned in chapter 2, prisoners' dilemma games formalise the problem of co-operation between ostensibly self-interested parties. Co-operation is required in instances where it is necessary for individuals to make decisions that are at odds with their immediate personal interests but, in doing so, are able to facilitate the achievement of outcomes that are collectively optimal. The potential for the breakdown of co-operation in these types of games occurs because of the gains to be had from defecting and thus the exploitation of any goodwill that has been generated. The rational expectation of such breakdown *ex ante*, in turn, prevents co-operation from developing. The likelihood of co-operation, however, is increased if such games

can be repeated indefinitely because this extends the scope for the punishment of aberrant behaviour (Luce and Raiffa, 1975). Opportunities for free riding in organisational or group settings, in effect, resemble prisoners' dilemma problems played out on an n-person scale (Olson, 1965) and are sometimes referred to as 'the collective choice problem' (Olson, 1965; Ostrom, 1990), 'the tragedy of the commons' (Hardin, 1968) or the problem of 'common pool resources' (Ostrom, Gardner and Walker, 1994).

The previous chapter explored the prisoners' dilemma in resource allocation, particularly in relation to program budgeting and marginal analysis (PBMA) (see also Jan, 2000). One of the problems identified in the application of PBMA is that its implementation often entails a change in the culture that surrounds the allocation of resources. It creates an explicitly competitive environment for funds in which there are identified 'winners' and 'losers'. The assigned managers of each of the programs are required to submit information regarding the likely impacts of an increase and of a decrease of \$X in their existing budgets. When individual managers have reason to doubt the veracity of submissions provided by other managers, the potential exists for such exercises to break down. In this institutional environment, each program manager is unable to commit credibly to providing an accurate evaluation. This situation results from the conflict between the individual objectives of each manager to maximise his/her budget and the expectation that each manager will promote broader organisational objectives by providing, in good faith, information that might then be used to cut his/her budget.

Similar problems can occur in other budgetary systems such as global budgeting. These may arise when the funding body is unable to commit to *not* bailing out those programs that have overspent. As a consequence, the co-operation implicit in remaining within budget breaks down if individual managers believe that others are likely to defect.

In these instances it is apparent that, in the absence of appropriate commitments from relevant decision makers, these types of institutional environments encourage myopic decision making. They lead to situations where decision makers are faced with

decisions that place their individual interests at odds with what is required from them in order to implement the relevant policy initiative successfully.

Not only however can these incentives lead to the failure of policy implementation, in the health sector they can also encourage myopic *policy making*. For example this type of problem has been posited as a reason why representative governments, in the absence of appropriate constitutional restrictions, have a tendency to run budget deficits (Brennan and Buchanan, 1985). It has also been used to explain the incentives for governments to pursue policies of privatisation rather than long-term investment in their capital stock (English, 1999a; 1999b; Jan and Mooney, 1999). The common principle underlying these examples is that they relate to a lack of constitutional commitment to a policy direction that would validate or reinforce decisions made with a view to long-term benefit. In these cases, policy making tends to be based on short-term outcomes with little regard for inter-generational costs.

Co-ordination games

Co-ordination (or 'mixed motive') games involve instances when collectively optimal outcomes are achieved if individual parties can match their decisions with one another. Each player, in this type of game, has the option of adopting one of two strategies - independent or co-ordinated - and can maximise his/her payoff by co-ordinating his/her choice with that of the other(s). The problem here is not about overriding individual incentives to defect as in the prisoners' dilemma case - it is about players communicating their intentions to one another and coming to agreement (tacit or otherwise) as to what strategy they choose. This type of problem can be formalised in terms of co-ordination or mixed motive games.

More than one equilibrium strategy is usually available in this type of game. Each one, however, is characterised by differing distributive consequences. The difficulty is then largely about achieving initial collective agreement as to the strategy adopted. Co-ordination therefore lies in the process of institutionalising patterns of decision making understood, and agreed to initially, by all participants. A failure to co-ordinate across settings in the implementation of these measures can result in net losses to all parties. This is complicated often because individual parties will have an interest (possibly clashing with those of other parties) as to *which* equilibrium strategy is

employed. Examples of where this type of co-ordination may be necessary are in the adoption of information systems across hospitals, establishment of clinical practice guidelines and various accreditation systems. In each case, the various players have a strong collective interest in co-ordinating their decisions but at the same time may not be neutral as to which of the options is adopted (given that some parties may have sunk costs in certain options in anticipation of their adoption). Once an option is decided upon and implemented by a particular party, switching can only be done at significant cost. As a consequence, there is a strong interest in co-ordinating decisions at the outset.

Co-ordination of this nature can be initiated unilaterally if one of the parties credibly commits to one of the options. By one party signalling such commitment, other parties can be persuaded to follow even though they would have a *prima facie* preference for another option. This is because the gains from co-ordinating by selecting the less favoured option outweigh those of not co-ordinating by selecting the favoured option. For example, a hospital could credibly commit to an information system by investing heavily in its implementation. This could persuade others to follow if there are significant gains to be had from co-ordinating such systems. When co-ordination such as this fails to occur spontaneously, it can be facilitated through the intervention of a third party. In this case, a governing body can establish a co-ordinated strategy to which individual players would commit. Since the degree of credibility of such a commitment is dependent on the extent to which the governing body is able to verify and enforce it, the State in some form, due to its executive and legislative power, is often required to perform this role.

5.4 Co-operation and co-ordination in decision and policy making

As indicated in the previous section, the capacity of public sector organisations to manage the decision making of different individuals can often be subject to problems in achieving co-operative solutions to prisoners' dilemma / collective action problems or, alternatively, effective co-ordination in situations that resemble mixed strategy games. Although not all policy making is subject to the pay-off structures of these types of games, the extent to which co-ordination and co-operative strategies are likely to be required in practice has been suggested by many to be high (Ullman-

Marggalit, 1978; Axelrod, 1988; Schotter, 1988; North, 1992b; Ostrom, Gardner and Walker, 1994; Hargreaves Heap and Varoufakis, 1995). As indicated earlier, resource allocation and priority setting decisions in particular, often take place within the institutional context of prisoners' dilemma or collective action problems.

The problem of achieving co-operation in these settings occurs when individual decision makers face a variety of options ranging from those that yield immediate benefits to those of potentially more strategic value but with longer term outcomes. The relative payoff to the decision maker of each of these choices (which is likely to diverge from the payoffs as viewed from an organisational perspective) is a function of the institutional context in which such a decision is made. The decision maker's incentive to select the longer term option is related to the perceived certainty that the strategy on which it is based will still be in place when the gains are expected to occur, assuming that he or she is risk averse, since the value of the long-term outcomes would be diminished if the strategy underlying it were to be abandoned. In other words, the decision maker would need to be assured that in making a strategic decision, the rug will not subsequently be pulled out from under him / her. This means that the decision is influenced by the perceived level of commitment by the organisation to such a strategy. The lower the level of commitment the greater the risk of such a strategy being abandoned, the higher the perceived discount rate and thus the more attractive the short-term option. An example of this type of dilemma is commonly seen in the type of shorter-term decision making that occurs in various ministries prior to elections.

The problem of co-ordination on the other hand is about a lack of a shared understanding across such decision makers as to the collectively optimal strategy. In such an institutional setting, co-ordination is difficult to achieve even though it may be in the interests of individual players. To address this requires communication between parties (tacit or otherwise) over the options to be selected. This may mean that one party would need to commit to a strategy that can form the basis for co-ordination. As indicated earlier, a failure for this to arise unilaterally (and spontaneously) could mean the imposition of explicit rules of co-ordination by a third party such as the State.

The role for public sector organisations in cases of both potential co-operation and co-ordination can be to provide commitment through a statement or signal of intention as to future courses of action. Whether individuals will act in good faith in response to these commitments determines whether they are 'effective'. Although the 'credibility' of such commitments in a game theoretic sense can be important in determining the extent to which they are 'effective', it is not a necessary condition. In practice, non-credible commitments can often trigger desired responses, for instance in institutional settings characterised by high trust between parties (or 'social capital'). While acknowledging the importance of these latter forms of commitment, the focus of this chapter is on those that are credible.

Viewing the issue in these terms can therefore assist in the task of transforming the institutional framework of decision making from that of a 'one shot game' to that which is less atomistic. It enables the gains from co-operation and co-ordination to be achieved by bringing to bear on present decisions what may occur in the future. A credible commitment therefore acts as a device through which players/decision makers place a stake in future outcomes because it links the consequences of current actions with potential long term gains.¹²

¹² To illustrate how such commitments can be employed, parallels may be drawn with the way individual transactions are approached differently by both buyers and sellers in economic markets when buyers have imperfect information. This is, in effect, a 'one-sided prisoners' dilemma game' (Kreps, 1990) where the seller has the choice between exploiting a customer and reaping a large one-off profit or not exploiting and relying on repeat business with smaller profit margins. The seller, through measures such as the conspicuous investment in advertising and other sunk costs (such as fittings), can signal credible commitment. These would indicate to others that he/she has too much to lose from engaging in opportunistic behaviour (Nelson, 1974). In these circumstances, credible commitment acts as a tool enabling a seller to signal his/her intentions and, based on which, a potential buyer can act. Alternatively, in situations where such commitments fail to arise spontaneously, the state could commit the seller to certain behaviour by introducing laws that would protect the consumer. Both of these forms of credible commitment, by linking current transactions with those that may occur in future, enable mutually advantageous outcomes between the two parties to be achieved. Importantly, the effectiveness of such commitments is reliant on how well the behaviour of the seller can be monitored and enforced.

As indicated, because of the potential gains from co-operation and co-ordination, there is the possibility that, in practice, credible commitments in decision making arise spontaneously. However, where the threat of exploitation in prisoners' dilemma situations or the incentive / communication barriers to co-ordination are insurmountable without third party intervention, then there is a potential role for the State in establishing a framework in which parties can credibly commit to certain actions. An effective commitment of this nature provides a perception (real or otherwise) of stability and predictability in the decision making environment, on the basis of which other parties are able to initiate activities in good faith. As a consequence, measures that effectively provide such commitment are often not implemented primarily for such reasons and instead occur as a by-product of other objectives (see for instance, the constitutional measures discussed in the next section). It is this role in facilitating certain forms of behaviour by altering the institutional setting in which decisions are made that can be seen as the real value of such commitments (or 'instrumental value' – see chapter 3).¹³ From a normative viewpoint, an appreciation of this value is relevant for evaluating the institutional measures that create such commitments since they relate to the potential gains to be achieved from co-operation or co-ordination. The next section provides some examples of various policy measures that provide some form of credible commitment.

5.5 Forms of credible commitment in the public health care sector

Credible commitment can occur in numerous ways but, as indicated earlier, tends to fall into two categories, motivational and imperative. In this section various health policy measures that can be interpreted as forms of credible commitment are discussed.

¹³ This is not meant to be presented as an argument for uncritical public sector commitment i.e. commitment for commitment's sake. Inertia and commitment are opposite sides of the same coin. While the benefits of commitment are in extending the possibilities for decision making, it needs to be acknowledged that the rhetoric of institutional commitment can also be used to stifle change and therefore needs to be evaluated critically.

Imperative

At a macro level, a 'constitutional' approach to policy development is one way of establishing some form of credible commitment in the health care sector. This entails the drawing up of a 'constitution' that sets out the guiding principles on which health policy will be set (Mooney and Wiseman, 1999). The approach has been argued previously to be a way in which health care policy can be made more in line with the values of the community. The importance of such a constitution is that it would be drafted as an embodiment of such values (Longley, 1996; Mooney and Wiseman, 1999). In this chapter, the role of a constitution should be seen more in terms of its instrumental value. The emphasis here is less about the actual content of such a document or about how it was drafted. Its value would be seen in its role in binding decision making and decision makers to a consistent and visible set of principles, thereby providing relevant stakeholders with the appropriate stable institutional environment to pursue long-term as well as short-term objectives. This form of constitution (based in constitutional economics, see Vanberg 1994) has no legal basis. It is a values or principles statement against which decision makers can be held accountable. As with constitutions more generally, a necessary requirement is that they are difficult to change and thereby transcend political and economic cycles. The instrumental value of such a document, as defined here, would be lost if this were in any way compromised.

In the absence of such a constitution, policy making can be restricted to a time horizon determined by the timing of the next change of government. By imperatively committing decision makers to certain sets of principles codified within a constitution, the potential conflict between organisational and individual interests is to some extent addressed. This is because not only of the imperative on decision makers to make decisions within a certain prescribed framework but it is also more likely that the expected gains from long-term decision making can come to fruition in a stable environment. Longley (1996) in particular has highlighted the lack of a constitutional framework underlying the provision of health services in Britain as being responsible for 'incremental' and 'reactive' policy making that bears little relationship to any coherent set of values.

Long-term contracting could be seen as another means of establishing credible commitment in a health policy setting. Health care contracting however is often incomplete (i.e. contracts are unable to cover for all possible contingencies) and indeed Dawson and Goddard (1999) have argued that such incompleteness is a source of significant transactions costs. If significant, this can undermine the commitment value of a contract. To the extent that such contracts do provide certainty in relationship between contractors, they have the potential to establish certain imperative, credible commitments over extended periods. By legally binding parties to the terms and conditions contained in various agreements, there is thereby greater scope to build other activities around these contracts. Perhaps one good example is in the area of research and development where long-term funding arrangements for various organisations are likely to encourage research that bears fruit over a longer time horizon. Another example, although not strictly based on contracts in the legal sense, is that a budget holding provider, such as a GP, may be more willing to invest in, say, health promotion measures if there is certainty over the long-term about the population he/she will service and that such fundholding arrangements will not be disturbed.

Legislation is another means by which credible commitment can be imperatively instituted. Shiell and Chapman (2000) provide an example which examines the inability of individual restaurants through self-regulation to credibly commit to banning smoking, despite evidence suggesting that such bans, on the whole, would be popular with consumers. The problem identified in this instance was due to the gains each could derive from defecting and thus a reluctance by each individual to move first. Their study provides an example of where an imperative commitment invoked through public health legislation can facilitate collectively optimal outcomes that could not be achieved through self-regulation.

Strategies such as those outlined here, by establishing certain forms of commitment, effectively reduce the rate of discount on long-term decision making. This, in turn, enables the inclusion of these long-term objectives credibly into the reward structures of individual decision makers. It facilitates some degree of motivational commitment through what is essentially an imperative measure. The flow-on from this is that parties outside the decision making bureaucracy (e.g. private medical practitioners,

hospitals, universities, insurance funds and pharmaceutical companies), in recognising the commitment of government, are then also likely to reduce the discount rate on the expected benefits arising from their long-term decisions. This leads to a yet more highly valued performance of those both within and outside these public sector organisations. An example of this is in relation to research and development into possible vaccines for HIV, malaria and tuberculosis by pharmaceutical companies. At present the incentives for such research are low. Kremer (2000) suggests that this form of private sector activity can be facilitated by strengthened commitments from governments and agencies such as the World Bank to maintaining appropriate market conditions for the sale of these products in developing countries. The notion of 'improved performance' as used here, however, is not based on any normative criterion. Indeed the court action brought by 39 major pharmaceutical companies against the South African government over the protection of patents for HIV drugs illustrates that the conditions that might allow improved private sector performance are not necessarily compatible with wider social objectives such as equity or health maximisation (McGreal, 2001).

Motivational

Motivational commitment measures are essentially about fashioning appropriate incentives on decision makers for them to maintain a specified course of action. Perhaps the starkest example of how these can be achieved is to tie remuneration to certain performance criteria. The importance of such measures in this context is instrumental if they provide stakeholders with the certainty that the individuals to whom these performance targets have been given are committed to the performance of certain tasks and/or achievement of certain goals. Likewise, measures such as clinical budgeting, irrespective of whether they are ultimately effective in promoting greater efficiency, can be important for their instrumental role in delineating responsibility and establishing accountability. These can, from the point of view of relevant stakeholders, also improve the commitment of organisations to certain activities. It is necessary to recognise however that the effectiveness of such measures is, in turn, reliant on the commitment of organisations to fulfil these performance agreements. This can pose difficulties particularly in some developing countries where managers of state enterprises might be unconvinced of the willingness and ability of their governments to honour such contracts (Shirley and Xu, 1998). These

authors highlight three methods by which governments in these countries can signal credible commitment in these contracts: i. provide a 'costly signal' at the outset i.e. some heavy up-front investment in specific use assets that will render reneging (effectively defection) costly; ii. initial steps are explicitly taken to signal commitment e.g. ensuring that the first year bonus payment of a long-term performance contract is honoured in a timely fashion; and iii. providing some recourse to enforcement by some third party such as the World Bank. They found that deficiencies in the contracting environment, including the lack of credibility of government commitments to honouring contracts, was associated with poor organisational performance as measured by total factor productivity. These examples illustrate that credible commitment in practice is unlikely to be able to be invoked unilaterally and that such measures are often only effective within the context of a network of reciprocating commitments.

5.6 Conclusion

The tendency for myopic decision making is seen in this chapter to be a response to various incentives that are often faced by decision makers. A barrier to strategic or longer-term decision making is the incentive compatibility problems that can be characterised formally in terms of the prisoners' dilemma and co-ordination games. In addressing these problems of institutional design, it has been argued that credible commitment at an organisational level can be instrumental in facilitating the necessary co-operation or co-ordination. The failure of such commitments to arise spontaneously can indicate a role for third party intervention, particularly by the State. Although the focus of this chapter is in providing a framework for analysis rather than immediate lessons for policy, a number of policy tools were nonetheless posited as forms of credible commitment in public sector decision making e.g. long-term contracts, health service constitutions. Recognition of the role of credible commitment in facilitating long-term / strategic decision making has the potential to improve not only the performance of, or opportunities available to, government organisations but also those organisations and individuals outside of the public sector who base their decisions on stable public sector institutions.

In practice, decision making is based on a wide set of institutional variables. As a consequence, broader 'sociological' factors such as trust and altruism also play a role in influencing decision making. It is possible too for individuals to honour commitments that are not credible and indeed do so at sometimes significant personal cost.

This chapter however has focused on decision making as an economic process. Individual decision makers do undeniably respond to economic incentives (although they also respond to other institutional factors). There are therefore insights that can be offered through such a perspective. This is a point that is often overlooked in health policy and, perhaps surprisingly, health economic analysis. In this chapter the focus has been on establishing a framework for examining those incentives. To date, health economic analysis has had quite a low impact on policy making. By framing the incentive problems in the manner set out here, the expectation is that it will contribute to a more comprehensive and accurate account of the policy process and, as a result, lead ultimately to more effective formulation of policy responses. This is even more likely should such framing be incorporated into policy.

Further analysis of the role of such initiatives in health sector decision making is undertaken in chapter 8. The next three chapters however constitute the second part of the thesis, building on the conceptual framework established in the first part and applying that to the various health sector case studies.

**A holistic approach to economic evaluation: a case study of an
Aboriginal community controlled midwifery program in Western
Sydney¹⁴**

6.1 Introduction

This chapter provides an application of the holistic, institutionalist-based approach to economic evaluation, as developed in chapter 3, to the evaluation of an Aboriginal community controlled health program. It builds on a notion of social value initially developed in the OI literature by examining those aspects of care that entail some degree of institutional change. As indicated in section 3.3, important dimensions associated with the valuation of institutions are: 1. procedural as opposed to simply consequential aspects of change; 2. instrumental as opposed to simply consumption value; and 3. context, in terms of both time and place.

In relation to this case study, two areas where evidence of such change were examined were firstly, in relation to possible changes in the capacity of the clients of the service to access not only health care but the broader network of available social services which, in turn, is a function of the level of information and confidence held. Secondly, it also relates to some of the broader changes in the organisational links between the service and other mainstream social services. As shown in this study, data pertaining to these variables can provide significant insights into the role such programs play within a community, particularly when collected alongside

¹⁴ This study is based on a paper submitted for publication in Journal of Health Services Research and Policy and is co-authored with Stephen Conaty, Rosalind Hecker, Mark Bartlett, Sheilah Delaney and Tony Capon. The evaluation was funded by the NHMRC and received ethical approval through the Western Sydney Area Health Service Ethics Committee and the Daruk Aboriginal Medical Service.

conventional clinical and cost data. In essence they reveal issues related to the institutions i.e. the rules of the game that surround the delivery of health services. This has special relevance to indigenous community controlled programs of this nature where some of these aspects of change seem to correspond closely with their stated aims.

The Daruk Aboriginal Medical Service is a community controlled health service, established in 1987 and based in Mt Druitt in the outer western suburbs of Sydney. The service, in addition to providing basic primary care, runs a number of specific programs conducted independently and in collaboration with other local organisations, such as Nepean Hospital and Emu Plains Prison. The midwifery program has been in operation since 1990 and services the local Aboriginal population of around 12,000. It is staffed by a full-time female Aboriginal health worker, a non-Aboriginal midwife and two female GPs. The main activities of the program include regular antenatal check-ups for clients, booking-in to hospital, transport, home visits, labour support and delivery, hospital visits, management of high risk pregnancies in the community in consultation with a specialist medical team, assistance with infant feeding and provision of cultural awareness sessions with local hospital staff.

Aboriginal perinatal and maternal outcomes were poor in the period prior to the funding of the Daruk antenatal midwifery program by the National Women's Health Program in 1990. In New South Wales perinatal mortality was two to three times higher than non-Aboriginal Australians; maternal mortality was six times higher; and Aboriginal clients were more than twice as likely to attend antenatal clinics for the first time only after 20 weeks (Westley-Wise, 1994).

An important debate in relation to the role of community-controlled services is the possible concern about whether they duplicate those delivered by mainstream providers (National Aboriginal Community Controlled Health Organisations, 1997). This issue has implications for their perceived value for money. In addressing this issue, however, it is important that the potential differences between community control and alternative mainstream services are identified and valued. In this respect, the notions of cultural appropriateness and the holistic concerns of such programs

need to be teased out and then taken into account. These relate very much to the institutional base of the program.

Community control of health services is viewed as central to the provision of appropriate and effective health care to indigenous populations in Australia (National Aboriginal Health Strategy Working Party, 1989; Fagan, 1991; National Aboriginal Community Controlled Health Organisations, 1997). The community control movement in Australia is around 30 years old and has similarities with those in the United States, Canada and New Zealand. In Australia, the notion of community control involves services that are 'initiated, planned and managed by local Aboriginal communities aiming to deliver high quality, holistic and culturally appropriate health care' (National Aboriginal Community Controlled Health Organisations, 1997). There are at present over one hundred such services operating in Australia providing mainly primary health care. Their activities need to be viewed against a background of poor education, low income, unemployment, racial discrimination, low self-esteem and a general lack of social support networks (National Aboriginal Health Strategy Working Party, 1989; Reid and Trompf, 1991; Saggors and Gray, 1991; Houston, 2001). Consequently, the focus is generally on not only achieving health gain but contributing towards the amelioration of wider social problems.

In undertaking this study, it was recognised that the focus on quantifiable health gains in conventional methods of economic evaluation potentially poses significant limitations when applied to the evaluation of community controlled health programs. An evaluative framework was adopted that combined quantitative and qualitative methods that sought to assess the broader institutional aspects of change that might arise from the program based on the conceptual framework and notion of social value presented in chapter 3 and Jan (1998).

The next section (6.2) outlines the methods used in this study. Following this, section 6.3 sets out the results. Section 6.4 contains a discussion of the significance of both these results and the framework used in this study. Following this, some conclusions are provided in section 6.5.

6.2 Methods

In reporting on the methods used in this study, it becomes apparent that in moving to this more holistic, institutionalist-based form of economic evaluation what in essence is needed is not to abandon the valuation tools of conventional economic evaluation but to add to them. In reporting the study dimensions below it will be apparent that that is what has happened in this instance. It is thus relevant to report on the whole of this study and not just the new features introduced by the adoption of this different paradigm.

6.2.1 Cost analysis

The cost of the service was separated into two components: net direct health sector costs and downstream costs. Net direct health sector costs covered the costs of running the program minus the cost savings to two surrounding centres as a result of Daruk clients not using other services. These data were obtained through an analysis of annual financial statements and discussion with staff at these other centres i.e. Nepean and Blacktown Hospitals.

Downstream costs refer to those incurred by the health service indirectly as a result of the patient using the program. Downstream cost savings were estimated by the difference between the health service resources consumed by Daruk patients and those consumed by Aboriginal women who delivered at Nepean Hospitals but did not use Daruk. (No comparison was made with the relatively small number of patients delivering at Blacktown.) These data were obtained from medical records and included costs of hospitalisations, medications and diagnostic tests. All costs were measured in 1997 Australian dollars. Personnel costs were derived from hospital salary scales and the Medicare Benefits Schedule (Commonwealth Department of Human Services and Health, 1995). Hospitalisation costs were based on AN-DRG cost weights (Commonwealth Department of Health and Family Services, 1996b), the cost of diagnostic tests drawn from the Medicare Benefits Schedule and the cost of pharmaceuticals from the Pharmaceutical Benefits Schedule (Commonwealth Department of Health and Family Services, 1997).

6.2.2 Quantitative outcome indicators

The data for this component of the study were drawn both from the Midwives Data Collection (a database compiled by the New South Wales Department of Health from data returns from midwives) and a review of medical records for women giving birth at Nepean or Blacktown Hospitals between 1 October 1990 and 31 December 1996. A comparison between clients of Daruk and women identified as Aboriginal who delivered at Blacktown and Nepean Hospitals between 1990 and 1996 but did not use the Daruk service ('non-clients') was made on the basis of the following variables: gestational age at first visit; number of antenatal visits; whether routine antenatal tests were undertaken; birthweight; and perinatal survival.

6.2.3 Qualitative methods

A participatory style of evaluation was used to enable Aboriginal women to define the problems and actively participate in the research process. Although the general framework for analysis involved comparing outcomes and experiences with and without the Daruk service, the themes explored, particularly in the focus groups, were responsive to direction from the Aboriginal women. The emphasis in this analysis was to tease out the various aspects of change brought about by the implementation of the program from the perspectives of those individuals whose views were elicited.

The data were drawn from six focus groups with Aboriginal women who accessed the Daruk antenatal program (these generally took between 1.5 and 2.5 hours), 35 semi-structured interviews with key stakeholders from Aboriginal and mainstream health services and four meetings with Daruk program providers. These were conducted, tape recorded and transcribed by an independent researcher who was employed as a project officer on the study (RH – see footnote 14). The focus groups were drawn from a purposeful sample of Aboriginal women from three groups: women who had antenatal care with a mainstream service before 1990 (prior to the program's inception) and then subsequently used the Daruk service after 1990; mothers of women who used the service; and women who had antenatal care with the Daruk program only. Sixty-three questionnaires were also distributed opportunistically to women in the first and third categories (although not during the focus groups) and to

Aboriginal women who used Nepean and Blacktown Hospitals – again exploring their general experiences in antenatal care.

Text units were manually coded. Content from all these sources was analysed for emergent themes (Bowling, 1997). Validation involved triangulation across the alternative data sources used in the study. Furthermore multiple perspectives on the data were sought both through the use of more than one researcher in the analysis and through participant verification of data.

6.3 Results

6.3.1 Costs

The running costs of the program were \$120,281 per year – covering three fulltime positions, vehicle lease, telephone and postage.

The service saw, on average, 42 clients per year during the study period. To determine the potential cost savings to other centres, it was assumed that each of the women would have used the antenatal services available at the centre at which they eventually delivered. This means that 78% of these clients would have used the Nepean service (33 clients), 11% the Blacktown service (4.5 clients) and 11% of women would have delivered elsewhere (4.5 clients).

In discussions with staff at Nepean, an increase in caseload of 33 clients per year would have necessitated additional staff input from a medical officer, midwife, Aboriginal liaison officer, social worker and psychologist. These additional requirements would cost \$45,867 per year.

The nine clients at Daruk who would otherwise have presented at other centres would have been treated within existing resources.

The net direct health sector costs were estimated by subtracting the cost savings to other centres (\$45,867 p.a.) from the program running costs (\$120,281 p.a). Therefore annual net health sector costs were \$74,414 (or \$1,772 per patient - see table 6.1).

Table 6.1. Net direct health sector costs

Item	A\$ per year
Program running costs	120,281
<i>Less</i>	
Cost savings to other centres.	45,867

Net direct health sector cost	74,414
Net cost per patient (42 per year)	1,772

6.3.2 Downstream health service costs

Table 6.2 indicates that the downstream health sector costs of the service at Daruk were \$507 per client lower than for clients of Nepean. The main reason for this difference is that average length of stay was lower at Daruk than Nepean (3.85 days vs 5.05) with bed day cost by far the most significant downstream cost item.

Table 6.2. Average downstream health sector cost saving per patient.

Cost item	Daruk	Nepean	Difference	Unit Cost (A\$)	Cost difference (A\$)
1. Length of stay (days)	3.85	5.05	-1.20	508.92	-611
2. Antenatal visits	9.84	6.60	-6.60	20.00	-132
3. GP visits	8.22	1.32	+6.90	24.50	+169
4. RMO visits	0.05	0.20	-0.15	15.00	-2
5. Registrar visits	0.01	0.58	-0.57	15.00	-9
6. Obstetrician visits	1.25	0.71	+0.54	25.00	+14
7. Cardiologist visits	0.01	0	+0.01		0
8. D&A counsellor	0.01	0	+0.01		0
9. Endocrinology	0.02	0.01	+0.01		0
10. Social worker	0	0.01	-0.01		0
11. Diagnostic tests					+61
12. Pharmaceutical					+3
Total					-507

6.3.3 Quantitative outcome indicators

Gestational age of first antenatal visit was 17.2 weeks compared with 21.2 weeks at Nepean and 19.9 weeks at Blacktown; there were higher mean numbers of antenatal

visits at Daruk than Nepean (10.5 vs 5.5) and a higher rate of clients attending routine tests (94% vs 71%) at Nepean and 84% at Blacktown (table 6.3).

Table 6.3: Measures of antenatal attendance for Daruk clients vs non-client Aboriginal women who delivered at Nepean and Blacktown Hospitals

	Daruk n = 185	Nepean n = 105	Blacktown n = 90
Mean gestational age in weeks at first visit	17.2	21.2 (p<0.01)*	19.9 (p<0.02)
Mean antenatal visits	10.5	5.5 (p<0.01)	9.5 (p<0.2)
Attended routine antenatal test	94%	71% (p = 0.001)	84% (p = 0.02)

* All p values are for comparison with Daruk.

The proportion of infants with birthweights less than 2500 grams for clients of Daruk delivering at Nepean Hospital was 12% which is the same rate for Aboriginal non-clients delivering at that hospital. At Blacktown Hospital, for Daruk clients there were no infants reported with birthweight under 2500 gms during the study period while 7% of Aboriginal non-clients had infants under 2500 grams. There were no perinatal deaths for Daruk clients delivering at Nepean hospital (zero out of 174) and 2% (5 out of 219) perinatal deaths for Aboriginal non-clients. There was one perinatal death for Daruk clients delivering at Blacktown Hospital (1/29) and 6/259 deaths in non-Daruk clients. None of these differences in mortality were statistically significant (table 6.4).

Table 6.4: Selected perinatal outcomes of Daruk clients vs non-client Aboriginal women who delivered at Nepean and Blacktown Hospitals

	Delivered at Nepean Hospital		Delivered at Blacktown Hospital	
	Daruk % (n)	Non-Daruk % (n)	Daruk % (n)	Non-Daruk % (n)
Birthweight < 2500 gms	12 (21/174)	12 (27/219)	0 (0/29)	7 (19/259)
Perinatal survival	100 (174/174)	98 (215/219)	97 (28/29)	98 (253/259)

6.3.4 Qualitative evaluation

The following themes emerged describing differences in care before and after the Daruk service became available in 1990.

(a) Before Daruk:

Hospital service providers commented that Aboriginal women frequently did not attend antenatal care, complications of pregnancy were missed, and outcomes were sometimes poor.

'before the program (Daruk) Aboriginal women were fairly non-compliant with antenatal care - we'd see them late in pregnancy - sometimes not at all - we'd have lots of problems because they didn't get antenatal care - the conditions were quite blown out by the time they fronted to the hospital - quite a few lost babies or had very sick babies - eclamptic ladies would be basically sitting on the doorstep by the time they came in!'

The responses that Aboriginal women gave to account for problems in the past were

characterised by five closely related themes: lack of relationship with hospital staff; inadequate communication between hospital staff and Aboriginal women; problems of accessibility; problems related to alienation and racism; and the disempowering nature of hospital care for Aboriginal women.

The issue most frequently discussed by Aboriginal women revolved around the impersonal nature of hospital systems and their lack of connection with hospital staff. For example:

'I went to x hospital - only one session and I couldn't handle it - I didn't talk to no-one over there - I walked out - I felt so strange.'

Communication was also felt to be inadequate:

'they told me I was breech and then I was out the door - didn't give me any information - I felt like the next person was waiting to come in - I went home and talked to me mum but she didn't know much - they cracked a mental when I didn't go up for X ray - but I didn't know.'

Some Aboriginal women found hospital clinics inaccessible either because they had no means of transport or because they found it very difficult to wait for long periods at the antenatal clinic with their children.

'it was hard the waiting - the travelling - had to wait about four hours.'

'I missed a lot of antenatal classes because it was hard to get transport with my children.'

Prior to the employment of Aboriginal Liaison Officers in mainstream services, Aboriginal women admitted to hospital for pregnancy complications rarely saw another Aboriginal person. This was seen to be quite an alienating experience.

'I felt isolated from support - in hospital they wouldn't let any of my people in.'

It appears that some hospital staff demonstrated racist attitudes and acted insensitively towards Aboriginal women.

'they say, 'we got an Abo' in last night - how many parts are you? - you're pretty for an Aboriginal.'

Some Aboriginal women reported that their experiences within the hospital system decreased their sense of worth and left them with feelings of inferiority.

'they'd talk down to you - they don't make you feel comfortable.'

'I always thought of myself as dumb' (in hospital).

Some of these themes were echoed in comments from hospital staff.

'indigenous women felt discriminated against a bit - they would come into a crowd of people at antenatal clinics and just were not good at coming back.'

'if they (Aboriginal women) feel that the male doctor is superior to them they don't come back.'

(b) After the commencement of Daruk:

From focus groups and interviews held with the Aboriginal women who used Daruk antenatal service, seven related themes were identified in their account of the positive experience of the Daruk antenatal service. They were relationship and trust, accessibility, flexibility, clear and appropriate information, continuity of care, empowerment, and family centred care.

An ongoing relationship of trust and the support and personalised care they felt they received from members of the antenatal team were clearly important.

'Daruk knows your background - they know your needs.'

'...you feel at home at Daruk - you can talk about any problems that you have.'

Many women highlighted the importance of what they perceived to be the non-judgemental approach to providing care at Daruk.

'...you don't have to explain yourself - don't have to feel defensive.'

The Daruk program was seen to be more accessible for many Aboriginal women than mainstream services because it provides a transport service, waiting time is usually shorter, and it provides an informal childcare arrangement.

'transport makes it easier - if there wasn't no transport I wouldn't go for antenatal checkups.'

'you always know that you can rely on someone to look after your children - you know they're in good hands - whereas at the hospital you can't get no-one to mind your kids.'

Another possible source of value was the flexible and proactive approach often taken to seeing the client. The Aboriginal health worker and midwife, it was reported, would often meet the women in their homes, shopping centres or at other meeting places.

'I rang one time to say I couldn't come to antenatal checkup because I didn't get off work till 5pm - so they waited till I could get there.'

The program was seen by some to provide information in a style that suited individual women's needs.

'Daruk tells you what you want to know.'

Although the program is known as an antenatal program, it also provides care during labour and the postnatal period. This continuity aspect was also seen to be valuable.

'it's that follow through they have at Daruk - not only for their pregnancy - they know they can ring up here anytime if they've got problems and that - C and E (the midwives) are not just here for that clinic - they give them support for other problems that are going on in their life too.'

Through their association with the antenatal program, many Aboriginal women reported greater self-confidence and enhanced self-esteem.

'they (Daruk) did give me confidence - I talk to them about something I'm worried about and they explain it in a different way and tell you how to go about it - and I feel alright then and I'll do it like that.'

With a service of this nature, it is often not possible to provide care in isolation from the social problems in which many of the women live.

According to one staff member at Daruk,

'kids and women are at the butt end of a much larger social problem - some of the mums we're seeing now, they're stressed, they're being bashed.'

One grandmother gives this account,

'Men go off drinking. Don't help the girls. Mothers are supporting new mothers where fathers should be.'

Finding themselves in a position of trust, the service providers are often then needed in a social support role.

'how many can go to antenatal and get support for domestic violence? - these girls do that - they're more like social workers.'

Many of these themes were also repeated by staff at Nepean Hospital where most of the women give birth.

'E uses a certain language the women understand - they can relate to it - they seem to understand and accept things a lot better if it's in their terminology.'

In contrast, there were also accounts given by some of the Aboriginal women who chose to use mainstream antenatal services in preference to Daruk. To some, there is some stigma associated with a service predominantly for the Aboriginal population. Some also perceived that it was a service for the disadvantaged and, particularly to those who clearly did not belong in this category, this meant it was irrelevant to their needs:

'I don't use Daruk because I'm a professional person. I've been in private health funds all my life.'

6.4 Discussion

This study is a holistic economic evaluation, based on institutionalist methods, of an Aboriginal community controlled health service using quantitative and qualitative methods. Although the use of qualitative data in economic evaluation is in itself not new, the institutionalist approach presents a framework in which to identify, categorise and value the ostensibly disparate variables that can be seen as institutional. While it is likely that such variables might otherwise enter into analysis through alternative paradigms, institutionalism provides a systematic basis in theory for linking them to a specifically defined social context. Institutionalism for instance has no monopoly on notions of empowerment and patient information. Its

contribution instead is in the way it incorporates them into a concept of reality. This is important in attempting to build a coherent picture of the world as opposed to a gathering of assorted snapshots of its various parts.

The role of economic evaluation is to examine 'value for money' and thereby promote explicit consideration of resource scarcity and opportunity cost in decision making. In the context of this study, value is defined more broadly than is conventionally the case because it encompasses ongoing changes to the institutional setting in which such services are delivered e.g. change in the way individuals make decisions, in how they relate to health service staff, how they access services – both health and to some extent other social services - and their confidence in their own decision making.

In terms of costs, it was found that initial outlays for this particular program were to some extent offset by the potential downstream cost savings to the health sector. Overall, the cost to the health sector (less downstream cost savings) was modest – around \$1,200 per client.

There was some evidence that the program was 'effective' in terms of a number of intermediate measures such as gestational age of first visit, number of antenatal visits and whether the patient attended routine antenatal tests. These measures were all better for Daruk women compared with other Aboriginal women giving birth in the same hospitals. Although far from conclusive, there is some evidence of a link between these variables and optimal birth and postnatal outcomes (Coria-soto, Bobadillo and Notzon, 1996; Gissler and Hemminki, 1994; Xu et al, 1995; Sikorski et al, 1996; Villar et al, 2002). To some extent this finding is unsurprising because of the attention paid to regular and frequent contact with women in the antenatal period. In contrast there were no detected differences in birthweight and perinatal survival between the two groups, but it is difficult to draw conclusions from this result. There are several problems with the primary comparison made between Aboriginal women using the Daruk antenatal service and Aboriginal women using mainstream antenatal service. Firstly, there was anecdotal evidence that Daruk clients were more socially disadvantaged than Aboriginal women using mainstream services. This is in part to be expected. Aboriginal women who are confident and employed are less likely to have need of a service like Daruk; the Daruk service probably selects women who are more

likely to benefit from their highly tailored service. Also the Aboriginal women who used the service were predominantly from the Daruk tribal group which has lands in the greater western area of Sydney. Importantly Aboriginal women from different groups who may have moved to Sydney for employment or other reasons may be less inclined to use Daruk services and have less need of them. It is possible, therefore, that Aboriginal women who use Daruk are poorer, less educated and more likely to be on social security. These details could not be systematically recorded for Aboriginal women who did not use Daruk so this question could not be answered from the data. However, given the likelihood of differing baselines, the finding that Daruk clients have similar perinatal outcomes may therefore reflect an improvement attributable to the service. A possibly more useful comparison may be with perinatal outcomes before and after the start of the Daruk program, but data available prior to 1990 was limited. In addition, under-reporting of Aboriginality within the Midwives Data Collection, estimated to be in the order of 40%, also potentially biased the results, although the likely direction of this bias is unclear.

These difficulties in detecting quantifiable change in health status therefore emphasise the importance of the qualitative component of the study. The results here indicate that the service was valued in terms of the less conventional forms of health service outcomes such as social support and procedural aspects of care, including the perceived non-judgmental and sympathetic manner in which it was delivered. There is evidence to suggest also that the program effected ongoing change in the way women made decisions regarding health services through enhancing their self-esteem and the provision of information. In addition, at an organisational level, the service was effective in forging links with other service providers within the general community through various cultural awareness initiatives. These broader dimensions of value relate to the core aims of community controlled services more generally and consequently require some consideration by decision makers in the debate over the funding of such programs. Furthermore, as discussed in section 3.6 the importance of community control of health services and its place within the movement for Aboriginal self determination needs to be viewed against the historical background of dispossession and colonial dependence and its ongoing legacy of poor health and social disadvantage (National Aboriginal Health Strategy Working Party, 1989; Bartlett and Legge, 1994).

Because of the more extensive and heterogeneous evidence base involved in economic analysis of this type, straightforward comparisons of cost-effectiveness ratios or deferral to simple cost-effectiveness algorithms are not appropriate. Therefore in judging whether the outlay involved in running the program represents good value for money, the values driving the decision making process need to be acknowledged and brought into play. This is because determining value for money requires comparison with other areas of potential spending and, in turn, over potentially different types of outcomes, population groups and cultural settings. The aim of this type of study is not to supersede the inherent value judgements required to make these decisions. Rather, a more holistic form of evaluation such as this enables the decision maker to better understand what it is he / she is purchasing for a certain expenditure.

An important explanation for the difference between conventional economic methods and this holistic approach is that they attribute different roles to health services. In effect, conventional approaches are 'asocial' because the subject of analysis (a health service) is viewed essentially in terms of a production function – i.e. a generic relationship where a set of inputs are combined to generate a set of often homogeneous outputs. This broader approach seeks to capture the 'instrumental value' of such services i.e. their contribution to the broader functioning of the wider community – as developed in chapter 3 (Tool, 1977; 1979; Hickerson, 1987; Samuels, 1995; Jan, 1998). It was shown that this idea holds particular resonance within the context of Aboriginal health where the problems of poor health are only understood fully against a background of factors such as poverty, dependence, culture and racism (Reid and Trompf, 1991; Sagers and Gray, 1991).

6.5 Conclusion

The most interesting aspect of this evaluation was the importance of the qualitative evaluation and the way in which it captured some of the added value of the program including significant aspects of institutional change. In this study it was shown that a holistic, institutionalist-based approach can capture many of the valuable aspects of community controlled services that tend to be overlooked with conventional cost-

effectiveness criteria. The consideration of both provides a broader view as to whether such programs represent 'value for money' and ultimately, a more comprehensive evidence base for decision making.

A politico-economic analysis of decision making in the funding of health service organisations¹⁵

7.1 Introduction

As discussed in chapter 4 in the context of PBMA, resource allocation is often, in practice, a highly politicised issue. This chapter documents the processes involved in deliberation over changes in funding arrangements across various health service organisations in Australia known as Divisions of General Practice. The aim is to address some of the 'political' constraints encountered in such decision making. It draws on concepts from NI as well as psychology, management and political science and is based on Jan, Dommers and Mooney (2002).

Economic analysis can provide useful insights into priority setting in health care. From a normative perspective, conventional economic analysis is often used within a framework in which social objectives such as efficiency and equity are built into the decision making process. In principle, these objectives can be promoted through the use of such tools as program budgeting and marginal analysis, option appraisal and economic evaluation.

¹⁵ The funding for this study was provided by the General Practice Branch, Australian Commonwealth Department of Health.

One relatively common method of priority setting involves the establishment of resource allocation formulae. Such formulae are used to determine *ex ante* allocations from a global budget shared across numerous recipients such as hospitals, geographical regions, health clinics or departments within a health facility. These allocations are typically made on the basis of factors such as need (however defined) and various other characteristics of the population being serviced (such as size, socioeconomic status or gender). In general, these formulae provide transparency in decision making and certainty in terms of future funding levels. They can, however, also be problematical from an economic perspective because they are not always consistent with the principle of decision making at the margin.

Nonetheless, there is scope within such formulae for the inclusion of economic principles as shown in the use of various resource allocation formulae particularly in the UK and Australia (Resource Allocation Working Party, 1976; Carr-Hill and Sheldon, 1992; NSW Health Department, 1996; Resource Allocation and Funding Team, 1999). For instance, various weightings for social disadvantage can be used as measures to promote vertical equity (Mooney, 1996; Mooney and Jan, 1997). Also, initiatives to employ the notion of 'capacity to benefit' as a measure of need can be viewed as attempts to align resource allocation with the principles of cost-benefit analysis (Steele, 1981).

Health economic analysis in this area of priority setting has been undertaken largely from a *normative* perspective. It has focused on informing decision makers about how to achieve specified (and often postulated and assumed by the analyst) objectives. As mentioned previously, the uptake of economic analysis within health service decision making has been low (Alban, 1994; Maynard and Bloor, 1995; Ross, 1995; Hoffmann et al 2000) and it has been argued that the explicitness of normative economic analysis can reinforce its unpalatableness from the point of view of decision makers (Coast, 1997; Ham and Coulter, 2001). This low uptake perhaps reflects the lack of emphasis given to the *positive* economic analysis of decision making. There has been a dearth of research into the question of what the factors are in practice that influence the decision making process. That these may differ from the objectives that are often assumed in economic analysis can provide insights into why it has failed to have much penetration in practice.

This chapter focuses on the politico-economic issues in negotiating with the various competing interests involved in a case study of general practice organisations in Queensland, Australia. The underlying issue of concern was that proposed alterations to existing funding arrangements were expected to create 'winners' and 'losers' and therefore a consensus would require some participants to act against what could be seen as their self-interests. Addressing this potential incentive compatibility problem required the creation of the 'right' institutional environment (through goodwill or otherwise) to enable some form of settlement regarding the appropriate solution (and, by implication, funding levels between organisations). The objective of the study was, in the face of competing interests, to come to agreement over recommendations for addressing the perceived under-funding of some of these organisations.

The next section reviews briefly some of the literature on deliberative group decision making, particularly where members of the group have opposing interests - as is often the case when addressing resource allocation problems (7.2). Section 7.3 sets out the background to the case study reported in this chapter. Section 7.4 documents the process of consultation and negotiation with relevant stakeholders to formulate recommendations that would address the funding inequities that existed. In section 7.5, the methodological implications, particularly in undertaking health economic analyses, are explored. Finally some conclusions for future research are drawn (7.6).

7.2 Deliberative group decision making

In general, a potentially significant impediment to the implementation of resource allocation decisions of this nature is that they are framed as one-shot, zero-sum games. This diverges from variable sum games (such as the prisoners' dilemma and co-ordination games) described in previous chapters. This initiative was not associated with any change in the total level of funding and, within such an institutional setting, winners and losers emerge from each of the available options. Furthermore, there is little opportunity for the losers from each option to re-coup short-term losses over repeated plays. As in this study, where decisions have to be unanimous and are seen to be 'one-off' rather than ongoing, major constraints on group decision making emerge since potential losers can always exercise their right to

veto.¹⁶

Alternative ways of framing the problem can provide avenues for getting around this potential impasse. This entails transforming the 'rules of the game' - or at least the way they are perceived - from those of a one-shot, zero-sum game to those which may be more conducive to consensus and, in turn, implementation. Within a group decision making setting, this property has been referred to a 'super-optimum solution' or a 'win-win policy' (Nagel, 2002). This involves strategies that bring into consideration the expectations of individual players by influencing their perceptions of what constitutes gains or losses. Such strategies rely on decision making being a cognitive process where problem framing and perceptions play significant roles (Kahneman, Knetsch and Thaler, 1991). In order to abate seemingly drastic losses to some parties, they can also involve substantial modification of the options. An example of how decision making can be transformed in this way involves the debate over welfare reform and the often-viewed political stand-off between those who do and those who do not advocate cut-offs on payments for the unemployed. In addressing this problem, Golembiewski (2002) proposes reorienting this debate to allow for the inclusion of provisions that promote a greater sense of mutual gain such as options for training and education of the unemployed.

The key to succeeding with this strategy lies in a process of mutuality and, in particular, in the encouragement of 'regenerative interaction' between participants based on certain characteristics - 'openness', 'trust', 'ownership and control' amongst participants - as opposed to 'degenerative interaction' which centres on conflicting rather than mutual interest (Golembiewski, 2002).

Such measures, in fostering consultation and inclusiveness, can also introduce an element of perceived procedural justice into the deliberative process. This is particularly important when it involves significantly opposing interests (or a lack of

¹⁶ Depending on the value position one adopts, however, the inherent conservatism embodied in the unanimity decision rule need not be seen as problematical and indeed underlies fundamental economic criteria for social choice such as Pareto efficiency (Rowley and Peacock, 1975) and the notion of consensus within the constitutional framework proposed by Buchanan and Tullock (1965).

'outcome correspondence') amongst participants (Thibaut and Walker, 1975) – as is generally the case with resource allocation decisions. Susskind and Cruikshank (1987) emphasise the importance of these procedural issues and, in particular, the need for consensus-building, particularly when such opposing interests are present.

'Agreement on fair criteria for handling a zero-sum situation can enhance the prospects for successful implementation of whatever outcome is reached' (Susskind and Cruikshank, 1987).

Such arguments are supported by evidence from the psychology literature that suggests that perceptions of procedural justice can have significant influence over individuals' preparedness to accept potentially 'unfair' distributive outcomes (Brockner and Wiesenfeld, 1996; van den Bos et al., 1997; Ployhart and Ryan, 1998; Varekamp et al, 1998). Thus, ultimately, these procedural characteristics can play a major role in the implementation of economic priority setting initiatives. This is particularly so when such decisions are constrained by the incentive compatibility problem described above.

In contrast to this present study, where no assumption is made as to any intrinsic value that could be attached to a deliberative process, the notion of deliberation¹⁷ has been posed elsewhere as part of a normative criterion for the achievement of democratic decision making (Fishkin, 1991; Fearon, 1998; Dryzek, 2000). This stance has increasingly been adopted within the political science literature and is seen to address a core dilemma of existing electoral processes within Western democracies, namely, the choice between eliciting the uninformed, but representative views of a mass electorate or the more informed, but unrepresentative views of elites.

Fishkin (1991) suggests that this is rather a 'false dilemma' and proposes, in the context of US presidential campaigns, the use of the results of deliberative polls as opinion leaders in the lead up to voting. Such polls would entail eliciting the voting intentions of a representative sample of the population which has been given the opportunity to discuss the main policy issues with delegates from each party. This

¹⁷ Deliberation here refers to some form of group discussion rather than private contemplation (Fearon, 1998).

process thus aims to address the question of how the electorate would vote if they were well informed and thereby get around the dilemma posed above.

A similar normative viewpoint of deliberation within decision making is also apparent in a study involving a series of focus groups in which members of the public were asked to address issues of equity in resource allocation within health care (Cookson and Dolan, 1999; Dolan, Cookson and Ferguson, 1999). Significantly, there was found to be some divergence between those views that were gathered at the initial meeting ('uninformed') and those gathered later in the process ('informed'), and on this basis, an argument was made for the wider use of deliberative methods in health service rationing.

7.3 Background to study

This project was an exercise in priority setting in general practice in Queensland, Australia. It involved possible changes to a funding formula that has been used since 1993 to allocate resources nationally across Divisions of General Practice. These Divisions of General Practice are local networks of general practitioners that were established and largely funded by the Australian federal government 'to link GPs (doctors) at the local level with all levels of Government, local hospitals, community based service providers... consumers and other medical bodies'. In particular, 'their role is to improve the quality and efficiency of general practice services' (Australian Commonwealth Department of Health and Aged Care, 1998).

In Queensland there is wide variation in the size and demographic characteristics of the twenty Divisions. In terms of size, for example, one of the Queensland Divisions has nearly 800 GPs, whilst the smallest has only twelve. In terms of funding, four Divisions receive in the order of \$1 million per year and six receive less than \$400,000 per year (average \$570,000). Such differences in size of Divisions are a function of the historical alliances amongst GPs rather than any 'natural' pre-existing organisational boundaries.

The project was undertaken under the auspices of the Queensland Divisions of General Practice (QDGP) – an umbrella body that represents the twenty Divisions at a state level. It was motivated by a concern about inequities in existing funding arrangements. Many of the smaller Divisions felt that the funding they received was not adequate to allow them to undertake important program activities i.e. barely sufficient to ‘keep their doors open’ (referred to as ‘marginal’ Divisions). By comparison, some of the larger Divisions, due to their greater allocations and economies of scale, were able to undertake often quite extensive programs such as financially supported GP education and training. As mentioned earlier, the aim of the project was to address the perceived funding shortfall experienced by the ‘marginal’ Divisions, whilst recognising that there were no immediate prospects of overall funding being increased. The process of negotiating possible changes of this nature was undertaken through consultation involving a series of committee meetings, workshops and surveys in which all parties were given the opportunity to contribute.

The existing formula used by the federal government to determine the annual allocation to each Division comprised two components: ‘infrastructure’ and ‘service funding’. It was based on a number of variables: population, patient numbers, rurality, numbers of Aborigines and Torres Strait Islanders and socioeconomic status. The weightings attributed to each of these variables in the formula were established during its initial development in 1993 and were based on consultations between the federal government and GP representatives.¹⁸

In addition to the review of this formula, non-formula based options were also considered. These included postcode exchange (changing divisional boundaries), consolidation of Divisional activities (such as payroll and other administrative services) and amalgamation (the joining of two or more Divisions). These other options were principally aimed at improving the capacity of smaller Divisions to achieve economies of scale. Consequently these measures were less likely to require losses in funding to be sustained by any one Division, although they would require significant structural change within those that were marginal.

¹⁸ The details of the formula can be obtained from the author upon request but are not, in the context of this chapter, immediately relevant.

7.4 The process and methods

The process involved in undertaking these deliberations was designed to be both consultative and participatory. Given the potential for conflicting interests, one of the key principles driving this project was 'Divisional ownership'. Its implementation entailed a number of steps comprising (in chronological order) the establishment of three working groups including representatives from the Divisions, a survey of the Divisions, the preparation and circulation of a discussion paper outlining various funding options, a follow-up survey of Divisions and a final report with recommendations. Throughout, a number of meetings of the working groups, as well as workshops involving all the Divisions, were held.

The methods therefore involved a process of deliberative group decision making whereby participants were asked to consider issues beyond their own localised interests. These were seen as important means by which responsibility for arriving at solutions to the resource allocation problem could, in some way, be shifted to the Divisions themselves. Such a consensual approach was necessary given the veto each participant could exercise over potential reforms.

Working groups

As indicated above, the review of the funding formula was part of a larger project to improve the capacity of marginal Divisions to undertake program activity. The specific aim of the funding review was to consider options for altering the formula in a way that would increase the funding base of such Divisions. This review was carried out by a Funding Issues Reference Group (FIRG) comprising mainly representatives of the thirteen Divisions and was overseen by external consultants (including the author), facilitators and in some respects impartial arbitrators - although some of the feedback from the consultations revealed, perhaps naturally, some suspicion regarding impartiality.

In addition to this, two other groups comprising representatives of the Divisions, QDGP and the Commonwealth Department of Health and Aged Care (DHAC), were established to examine other avenues for increasing the capacity of the marginal

Divisions. The first of these was the Core Business Interest Group (CBIG) whose remit was to define and determine the 'core business' of Divisions and, in addition, to indicate how much it would cost to provide such core business. The rationale for this was to establish a benchmark set of core activities. The other working group was the marginal Divisions group (MDG). It comprised those six Divisions that identified themselves as such. This group had existed prior to this project and had, in effect, been responsible for its initiation.

An important objective in establishing these working groups was that the process of deliberation would be seen to be both transparent and inclusive. Importantly, each of these groups was given specific tasks which participants could clearly see were related to the objectives of the exercise.

Initial meetings of the working groups

At an initial meeting of the MDG, the problems of 'marginality' were identified by the participants and broken down to eight main factors. These were: lack of purchasing power/economies of scale; lack of access to specialist staff; lack of GP ownership/input; lack of corporate governance skills among Divisional boards; lack of access to strategic activity; lack of capacity to pursue non-core activities/proposals; lack of collaboration between Divisions (cultural/personal); and cross-border flows (i.e. the funding levels received by some of the Divisions did not account for the additional patient loads caused by such flows).

As a result of discussions at this meeting, three options for resolving these problems were put forward for further investigation and debate:

- A. Centralised 'group buying' arrangements such as: auditing, vehicles, insurance, telecommunications, travel, legal, software, hardware, furnishing, data warehousing, business services, printing, human resource services, education services, investment options
- B. Amalgamation or collaboration
- C. Funding formula review (analysis of weightings and base grants)

Survey 1

The first survey was drafted by the external consultants and the project manager from QDGP and circulated to all the Divisions. It comprised a set of questions asking Divisions to indicate:

- their total level and breakdown of annual funding received from the federal government as allocated through the formula;
- the type of activities required to maintain a bare minimum level of operation within their division (i.e. 'keeping their doors open') and their annual cost;
- the type of program activities (i.e. those extra activities above those required simply to 'keep the doors open') that were actually being run and their annual cost;
- the implications for their activities if \$50,000 per year were taken away and the implications if \$50,000 per year were added;
- the sources of any extra funding; and
- their views about how the formula could be changed.

The general aim of this survey was to gain some indication of where possible inequities lay in the funding across Divisions. The secondary aims were to foster a consultative process and to provide the Divisions with an understanding of the nature of the funding problem from a global perspective i.e. to give a potentially different perspective from that based on the localised interests of individual organisations.

Asking Divisions to specify the impact of a change in funding level (of + or - \$50,000) was one means by which the costs and benefits of changes in current activities could be identified. Such responses, when reported back to the Divisions (see below in discussion section) offered a potential evidence base for decision making because they entailed explicit acknowledgement of the opportunity costs of changes to the existing arrangements.

There were thirteen responses (65%) to this survey. The respondents generally represented a mixture of both marginal and non-marginal Divisions, as did the non-respondents and thus there did not appear to be any obvious evidence of response

bias. It was found that the average amount of funding Divisions required to 'keep their doors open' was in the vicinity of \$350,000 per year. However, the wide range of values given (from \$180,000 to \$635,000) and no discernible relationship between the type of Division and the level of valuation given suggested likely definitional inconsistencies amongst respondents in terms of what they saw as the core requirements of running a Division.

In response to the question that dealt with the Divisional impact of gaining or losing \$50,000, the smaller Divisions commonly responded to the first hypothetical scenario (gaining \$50,000) by indicating that they would hire more staff, take out vehicle leases to travel to outlying areas, and offer more practice support services – particularly in information technology. The larger Divisions generally indicated that they would consolidate or undertake more strategic work.

With respect to the second hypothetical (losing \$50,000), most Divisions indicated that they would cut down on population health services or programs. Some smaller Divisions reported that they would become unsustainable under such a scenario. The larger Divisions indicated that they would most likely cut down on administrative staff, GP services, and/or strategic initiatives. One respondent did not answer this question and indeed resisted the view that resource allocation could be cut by suggesting that it was not feasible to examine funding by comparing activities (opportunity costs) across Divisions in this way. It was argued that the value of an activity is dependent on the stage of development reached by a particular Division and therefore such changes were not directly comparable across Divisions.

The survey also asked Divisions to identify ways in which the present funding formula could be improved. Some of these possible changes were subsequently modelled and presented in a discussion paper (see below) and put forward for debate.

Discussion paper and feedback

Following the survey, a discussion paper was circulated across all Divisions outlining the details of the existing formula, the existing allocations across Divisions, an outline of the responses to the first survey and six options for altering the formula. The six

options entailed various changes to the weightings applied within the funding formula. Five entailed a reallocation from larger Divisions to marginal / smaller Divisions and one entailed the opposite.

Explicitly identified in this discussion paper was how much each of the twenty Divisions in Queensland would gain or lose under each option. The aim again was to highlight the opportunity costs of any proposed changes in funding and the financial impact this would have on the parties taking part in the formulation of these recommendations. In addition to its circulation across all Divisions, the paper was presented to a meeting of the FIRG.

Several larger Divisions felt that whilst smaller Divisions clearly required additional funding, the larger Divisions should not be financially penalised for their 'efficiency' and ability to achieve economies of scale. This view was ratified as a principle of FIRG, perhaps surprisingly, with little debate. However, the rationale represented the prevailing belief that any 'state based' process which required Divisions to adopt collectively a consensus position around options that generated funding losses for some Divisions was highly unlikely to be successful. There was also the more pragmatic recognition that if, at a national level, only a small number of Divisions were affected by the problem of marginality, then any subsequent national consensus based funding formula change would be similarly difficult to achieve. Given this view, the FIRG focused on other options including the reshaping of Divisional boundaries, amalgamation and consolidation of activities.

Survey 2

A second survey, again sent to all the Divisions, was conducted in the wake of feedback received from the discussion paper. In particular, it sought greater clarity in the question of what constituted the 'core activities' and their associated costs.

Following reminders, twelve responses were received (60%) from this survey. The most significant finding from this survey was that, on average, respondents felt that the cost of undertaking what they defined as 'core' activities was \$400,000 per year. At that time, there were six Divisions receiving funding less than that amount.

Final FIRG meetings

In its final meetings, the FIRG adopted the view that, in the absence of other changes to Divisions' funding, those in receipt of funding below a \$400,000 threshold could regard themselves as 'marginally viable' over the longer term.

These meetings, however, also reconfirmed the principle that any change in the funding formula should 'disturb as little as possible' the existing funding arrangements for the 'non-marginal' Divisions. This was supported with a view to protecting the efficiency gains that some of the (larger) Divisions were able to achieve through economies of scale and 'critical mass'.

The FIRG endorsed the view that marginal Divisions should be encouraged to amalgamate where this was felt to be appropriate, as this form of consolidation would improve their efficiency. It was identified, however, that the current incentives to amalgamate were inadequate since, for example, two amalgamating Divisions would effectively lose one of their base grants (or 'flagfall' component) of \$50,000.

In the final recommendations, there was a strong view that potential losses to 'non-marginal' Divisions be avoided. The emphasis in these recommendations was for further investigation of options that would entail restructuring within the marginal Divisions along with financial incentives for doing so. These were options that prior to this project were seen to be politically unacceptable due to the perceived onus they placed on the marginal Divisions to bear the full burden of reform.

Following submission of these recommendations, the federal body (DHAC) agreed to extend this review to a national level and in particular to examine further these recommendations.

7.5 Discussion

This project was an attempt to undertake a consultative decision making process over possible changes in funding arrangements across Divisions of General Practice. The use of an allocation formula over a number of years had institutionalised a pattern of funding that resulted in a hierarchy of better-and poorer-funded Divisions. The lessons from this study derive mainly from the processes by which deliberations to alter this existing pattern of resource allocation were carried out. It deals therefore with decision making process across parties in which individual interests differ. The significance of the exercise therefore lies not only in the final recommendations but in the *process* of how the decisions were made.

Ultimately, the consultative process was unable to come up with an agreed recommendation for specific changes to the formula. Given that no additional funding overall was offered by the federal government, this outcome could have been anticipated, as any change would create winners and losers.

One of the important implications of this process however was that it initiated a degree of change in the relationship between Divisions by exposing some of the opportunity cost issues of this reform process. This could be seen for example in the way in which surveys were used in this study. Given the self-reported nature of these data, the likelihood of disparities in definition of various terms and possible incentives for gaming, the relevance of the data per se to the formulation of actual recommendations was likely to be limited. (While evidence of gaming could not be tested, the first survey did uncover some degree of disparity over definition of terms.)

In retrospect, the main value of these surveys lay in providing a means of conveying to participants the nature of the choices involved – in effect setting out the ‘rules of the game’ to participants (relating to the secondary objective set out earlier). The surveys thus formed a key tool by which participants were confronted with the global constraints that were likely to impact on decision making. Furthermore, this process was iterative whereby respondents were made to reflect as a group on their responses and to some extent attempt to justify them. As a result, participants were pushed into considering issues that, from the point of view of their own short-term interests,

would not necessarily have entered into consideration. It did not force them to abandon self-interest. Instead, it enabled them to be more sophisticated in their pursuit of it by bringing to bear the external constraints that determined whether an option was feasible.

The effect of this was, as mentioned earlier, to bring to the forefront a number of other options such as amalgamation and consolidation. Prior to the undertaking of this exercise, these would have been less acceptable to the marginal Divisions. This indicates that the process of consultation instilled a sense of procedural justice that may have offset some of the antipathy that would have otherwise been generated with the distributive outcomes associated with the final recommendations. In addition, new avenues for increasing Divisional capacity not previously explored such as corporate governance training were initiated as a result of this project.

In general, the process of consultation exposed explicitly to all parties the wider implications of increasing funding to the marginal Divisions i.e. the losses sustained by the other (larger) Divisions. It thus cast light on not only the opportunity cost of such an initiative but also the political realities of the situation – particularly to those who were behind such proposed reallocations. This outcome therefore created an environment where all parties were pushed into working around these constraints. Without such consultation there would have been little requirement for the Divisions to empathise with the type of choices that would have confronted an autonomous decision maker. Decision making in such a context would be rendered a zero-sum game (i.e. where there are clear winners and losers) because measures to encourage stakeholders to look beyond their localised, short-term interests would not have been in place. As a consequence, when the implementation of such decisions would require the support of all stakeholders, it would most likely have failed because some (i.e. potential ‘losers’) would have had a clear interest in maintaining the status quo.

As indicated earlier, the uptake of economic analysis in health sector priority setting has been low. One explanation is that such analysis has tended to maintain a solely normative focus. This has meant that there has been little emphasis on developing an understanding of the broader realities of actual decision making. In particular, the implications of broader political constraints have often been left out of the analysis or

assumed away. The approach taken in this study draws to a large extent on an institutionalist perspective whereby decision making is viewed more broadly as a function of not only a narrow set of objectives and resource constraints (as in conventional forms of analysis) but also the institutional setting in which such decisions are made (Gruchy, 1947; Fusfeld, 1980; North, 1992a; North, 1992b; Rutherford, 1996; Coase, 1998). This provides, among other things, a broader appreciation of the incentive compatibility of various initiatives as explored in chapter 4 and Jan (2000). In the case of the proposed funding change studied in this paper, it provided a more useful guide to decision making than would have been the case if the analysis had focused solely on conventional issues of cost-effectiveness and equity. It brought into consideration the relevant political or institutional constraints that would have undermined any proposed reallocation of resources to the marginal Divisions. By addressing these wider constraints, the process was ultimately about achieving what Williamson (1999) refers to as 'remediableness'.

To improve the implementation of health economic analysis, therefore, the onus is on health economists to negotiate some of these political realities of decision making. Economics has an important role to play in informing this type of decision making because it is fundamentally about examining choice within constraints. (In the context of this study and the one presented in chapter 4, an important constraint can be characterised as that imposed by individuals' willingness to participate.) This study indicates that the use of stakeholder consultation and participation in decision making can be important institutional measures that improve the prospect of implementation by providing more realistic (or 'remediable') policy recommendations.

7.6 Conclusion

This study did not examine policy making per se. It involved a project that formulated a set of recommendations that ultimately *could* inform policy. (It was established at the outset that any recommendations would not automatically lead to changes in the formula but rather form the basis of a national review.) Nevertheless, the message that comes out has significant implications for policy making. This is because it deals with the more general issue of group decision making. In the context of this study, such decision making took place against a background of competing interests and therefore

the challenge was in formulating a set of recommendations that would be acceptable to all concerned. This involved a process of extensive consultation and reflection amongst concerned parties and highlights the importance of procedural justice in group decision making. Such a process altered the institutional setting from that of a perceived zero-sum game to one in which a wider set of options was brought into consideration, the feature of which was that they did not separate as starkly the winners and losers. The process effectively allowed the underlying political constraints that would have otherwise seriously undermined decision making to be made explicit and, in turn, negotiated.

This has major implications for, among other things, the implementation of resource allocation decisions. Because health economic analysis has tended to be largely normative, there has generally been a lack of appreciation of why such decision making sometimes 'fails'. To a large extent, studies of this nature - that examine economic decision making *within* its institutional context - can provide greater insight into why such failure occurs and ultimately provide a more realistic basis for decision making.

Why does economic analysis in health care not get implemented more? Towards a greater understanding of the rules of the game¹⁹

8.1. Introduction

This chapter attempts to bring together some of the major issues surrounding health service decision making, particularly regarding resource allocation and priority setting and the institutional context in which such decisions are made. It draws on some of the concepts, particularly in relation to the agency relationship in health care, the collective action problem and incentive compatibility presented in chapters 4, 5 and 7, to address the general question of why the results of economic analyses in health care often fail to be implemented.

This chapter and the previous one differ in one important respect from the studies presented in chapters 4 and 5. In the latter, decision making is characterised as a variable sum game since the total amount available to all decision makers is dependent on whether they co-operate or co-ordinate with one another. In contrast, in the study in the previous chapter and the situation characterised in this, the prospect of such gains are initially not apparent and from the point of view of individual players, any change is seen as a zero-sum redistribution. In this context, there are necessarily winners and losers created from a shift from the status quo. The implications of this for appropriate institutional design are thus explored.

¹⁹ This chapter originated as a paper presented during a special session at the 2001 International Health Economics Association Conference. The session focussed specifically on the issue of implementation. Since that presentation it has, in successively more developed form, been presented in seminars at the London School of Hygiene and Tropical Medicine, the University of Sheffield, Shandong Medical University and the University of Colombo.

The general topic of why the results of research fail to be implemented is of course not unique to the discipline of health economics. Indeed within the health and medical literature a number of commentators have highlighted this seemingly general problem of putting research into practice (Lomas, 1997; Klein, 2000; Walshe and Rundall, 2001). Recognition of this issue is apparent in the paradigmatic shift in recent years toward evidence-based medicine and decision making in health care (Sackett and Rosenberg, 1995; Davidoff et al, 1995; Klein, 2000; Walshe and Rundall, 2001).

One of the often posited advantages of health economic analysis in this respect is the close relationship it bears to 'real' decision making because of its explicit consideration of resource constraints (Donaldson, 1995; Ubel, 2000). Furthermore, by taking into account issues of scarcity, opportunity cost and the margin, its proponents argue that it provides a 'rational' and transparent basis for resource allocation. Despite initiatives in Australia, the UK and Canada (among others) to institutionalise economic evaluation within a formal policy framework, recent evidence suggests that the uptake of economic analysis has, in general, been low (Alban, 1994; Maynard and Bloor, 1995; Ross, 1995; Hoffmann et al, 2000).

There are a number of possible reasons for this low uptake. For example, it could be posited that decision makers do not properly understand the concept of resource scarcity and its implications. This argument is put forward extensively by Ubel (2000) in his discussion of how the idea of rationing is resisted by many sections of the medical profession. As a result of this possible lack of understanding, decision makers are unable to make choices in such a way that will allow for the optimisation of various objectives. The barrier in this case is in getting these individuals to think in economic terms. Alternatively, it could be argued that uptake is low because the perceived quality of such analyses is poor (Hoffmann et al, 2000). Ultimately, explanations such as these place emphasis on measures of a 'technical' nature, such as 'informing' the decision maker about the role of economic analysis, dissemination, better data, refinement of technique, greater clarity of objectives and improving quality control (and, by implication, greater standardisation of practice).

Although these reasons for low uptake may have some validity, there has been little exploration – particularly by health economists themselves – of whether, the problem is more fundamental and based on a misunderstanding of the way in which in practice, decisions are made. In other words, the focus of much economic analysis in health care tends to be normative and entails addressing only the issue of how to achieve a set of *assumed* objectives, typically efficiency and sometimes equity (how ever defined). There is surprisingly little health economic analysis that attempts to unpack this process to determine the objectives and interests that actually drive, but also potentially undermine, decision- and policy-making.

The basis for this chapter is recognition that public sector organisations are not monolithic in terms of what motivates their decision making and, as a consequence, individual managers might have differing interests. In some instances, these may conflict – both with other decision makers and with broader organisational objectives. Faced with a set of choices that involve balancing personal interests with the objectives of the organisations in which they are employed, the possibility arises that decision makers may not act as perfect agents. Furthermore, decision makers are often subject to multiple influences e.g. pressure exerted on health authorities in their priority setting often comes from numerous directions including national and regional targets, professional opinion, research evidence and the public (Robinson, 1999). Adopting this perspective means allowing for self-interest to enter into decision making within an organisational setting. The tendency has been, particularly in priority setting and economic evaluation studies, to assume perfect agency at this level, thus assuming away potentially significant constraints on implementation and focusing solely on the normative analysis. In contrast, the framework used in this chapter attempts to analyse rather than assume the nature of this agency relationship.

By opening the ‘black box’ of decision making in this way, there is a greater prospect of gaining insights that will improve the implementation of economic analysis. In the next section, the question of why economists should be concerned with implementation is discussed (8.2). In section 8.3, the institutional context of decision making is set out. This provides an overview of ‘the rules of the game’ on which decision making on the resource allocation / priority setting problem in health care is explored. This will be followed, in section 8.4, by a presentation of a framework for

addressing this type of problem. Finally, some conclusions are provided in section 8.5.

8.2 Why should health economists be concerned with implementation?

If the aim of undertaking health economics research is to inform decision making about resource allocation, then it seems reasonable that such research is judged, at least to some extent, by its actual impact on such decision making. To many non-academic health economists, to whom the boundary between decision making and evaluation is probably less relevant than it is for their academic counterparts, this point may seem self-evident.

That health economists should *not* be concerned with implementation is an argument generally predicated on an assumption of a clear divide between what is defined as 'research' and what is 'implementation', and the consequent division of responsibilities this entails between researcher and policy-maker.

There are two perspectives from which one could make this argument. Firstly, from the viewpoint of the policy-maker, it could be posited that decisions are made on the basis of a multitude of factors and therefore there is no reason to believe that economics should hold any primacy over other methods, disciplines or criteria. Posing the question of why economic analysis fails to be implemented therefore can assume an economic imperative in decision making that may not be warranted. Put another way, to pose the question of why economic analysis does not translate into practice overlooks or, at least, subordinates the other factors managers might take into account in their decision making.

The second concern, perhaps more likely to originate from within the health economics profession, is based on the notion that the role of health economics is simply to inform rather than to participate in decision making about resource allocation. Addressing the question as to whether research is implemented is thus seen to be a 'political' task and as a consequence, outside the responsibilities (and possibly competence) of the researcher.

Both points of view tend to regard the analysis of implementation as a form of advocacy and possibly therefore as 'unscientific'. The basis of this chapter, however, is to examine implementation as a *subject of research* without making any value judgement as to its desirability as an *objective*. Instead, it involves extending the use of economic tools and methods to gaining a better understanding of the implementation process through the use of a positive analysis of decision making. The framework adopted is based on recognition that economic theory is relevant beyond the narrowly defined problem of resource allocation, as is conventionally addressed in economic evaluation and priority setting studies. This tends to be constructed as a problem of maximising some objective, usually health gain, subject to a budgetary constraint. A broader framework entails recognising that other types of constraints, typically labelled 'political', may in practice also bear upon decision making and, importantly, be amenable to economic analysis.

8.3 The institutional context of decision making

A feature of conventional forms of economic evaluation is that estimates of cost-effectiveness or cost-benefit are often presented without consideration of these other 'extra-economic' constraints. These relate to some of the factors that can undermine the agency relationship between decision maker and the organisation. In particular, the focus in this chapter is on the incentive structures typically faced by decision makers, although some of the less formal institutional characteristics that sometimes prevail such as norms and conventions, are also acknowledged.

Conventional forms of normative economic analysis tend to be insensitive to the influence of these wider constraints upon decision making because they are often presented in a way that overlooks institutional context. While cost-benefit and cost-effectiveness ratios may indicate, in an ideal world, where money could be most efficiently spent, they do not reflect the non-monetary constraints on decision making that could nonetheless undermine the process of carrying out such allocations. One consequence as suggested throughout the thesis, is that while such analyses may indicate whether a program or initiative is more cost-effective or cost-beneficial, they do not attempt to demonstrate whether incentives on various players within the system are compatible with implementation and sustainability.

The starting point for the argument presented here is the recognition that within a resource constrained environment, decisions that alter the status quo inevitably create 'winners' and 'losers'. Indeed, even in situations of expanding budgets, the allocation of 'new resources' can often lead to the perception that those who have not gained as much as others have instead 'lost'. Another way of viewing these losses may be in terms of 'deprivation disutility' (Mooney and Lange, 1993). The 'losers' in these types of situations invariably will resist change. By implication, such change imposes costs on two potentially crucial groups of decision makers. The first group are those individuals who are expected to 'lose' from this process. Their role as 'decision maker' would be predicated on some right of veto. Clearly, highly restrictive conditions are imposed on decision making in instances where consensus or co-operation across all parties is required - as is the case often in program budgeting and marginal analysis exercises (see chapter 4 and Jan, 2000) and in the example presented in the previous chapter. A less restrictive condition might entail a majority-voting rule, in which case this problem of implementation is less acute but, as indicated in chapter 2, majority voting can lead to arbitrary outcomes based on the ordering in which options are presented (Romer and Rosenthal, 1979).

A second group of decision makers would be the managers responsible for implementing the resulting shift in resources. The costs to this group would be less tangible but nonetheless significant if there were a requirement to maintain working relations with those parties identified in this process as the 'losers'. Put simply, they relate to a lack of willingness to 'accept... responsibility for what may be an unpopular decision' (Ham and Coulter, 2001). In these circumstances, the explicitness of economic analyses and its emphasis on opportunity costs can compound this problem by identifying more clearly where the losses from decision making lie (Coast, 1997; Ham and Coulter, 2001). The influence of these costs of decision making can thus be reflected in resistance to change and a degree of inertia in policy-making. Furthermore, they can lead to a form of 'implementation bias' whereby decisions that impose costs on groups with greater voice tend, all else being equal, not to be implemented (and vice versa). This type of decision making problem was illustrated in recently proposed initiatives in Australia to shift hospital funding away from historically better-funded geographical areas. Although these proposals reflected

long-term changes in population and population need, they were ultimately undermined by strong media and stakeholder opposition (Haas, Hall and Chinchén, 2001).

The costs described above in this second category can be characterised as decision costs and differ slightly from the notion of transactions costs as that expression is generally used in the institutionalist literature and throughout this thesis. Transactions costs tend to result from the presence of two important conditions (often, though not always within the context of market transactions) namely, bilateral dependency and incomplete contracting which, in turn, provide the scope for opportunistic forms of rent seeking between parties (Williamson, 1998). Decision costs as described above, however, are more inherently 'human' and are associated with a natural aversion to making difficult or uncomfortable decisions. They could conceivably be incurred even with perfect information and no scope for opportunism.

In instances such as this, where the decisions of individual parties influence the well-being of others, the problem of resource allocation can be viewed from a basic game theoretic perspective. Decision making of one party, given this interdependence, is seen to be conditional on the perceived motives of others. As indicated in the previous chapter, major problems of implementation can arise when the resource allocation problem occurs as a one-shot, zero sum game. This implies that the gains for any one party are directly offset by losses to others and, furthermore, that the decisions made in the present are independent of future consequences i.e. it is seen as a 'one-off' initiative.

In these situations, the benefits of implementing such economic initiatives, typically viewed as the efficiency gains to the organisation resulting from changes in the way resources are allocated, are diffuse. Therefore, even if there are such ensuing gains in allocative efficiency, decision making can be perceived as a zero sum game if there is no explicit link made between those made in the present with possible increases in overall allocation in the future. Such links can be either explicit, say in terms of contractual agreement, or alternatively based on some informal understanding – in the case of the latter, less likely to be credible if decision making is seen to be 'one-off'.

The basis of the problem is that these efficiency gains take on public good characteristics insofar as no one individual or group necessarily has property rights over them. This type of institutional setting provides little incentive for the individual manager to implement resource allocation decisions of the type described above given the potential personal decision costs in doing so and ostensibly, a lack of personal stake in the outcomes of greater organisational efficiency. Usually, the supply of public goods of this type is subject to prisoners' dilemma type problems of free riding (as discussed in chapters 4 and 5) – the solution to which involves some form of co-operation across all players to enable some collective gain (see also Jan, 2000; Jan, 2002). Here, the decision making problem differs fundamentally in one respect i.e. in relation to how the property rights over the gains from any potential co-operation are shared. The absence (real or perceived) of a link between present actions of individual players and future payoffs cuts off potential gains from co-operation to individual players and thus renders it a zero sum decision problem. In these instances, decision making is viewed as solely redistributive.

The challenge, in practice, therefore lies in altering the setting to one that is more conducive to implementation. As indicated earlier, there is no reason why public sector managers have an interest in organisational efficiency (Moe, 1990). The extent to which he or she does in practice is a function of the institutional setting and, from an institutionalist perspective, a question for evaluation.

8.4 A framework for altering the institutional setting?

As indicated above, the problem can be characterised in the following manner: priority setting and resource allocation decision making can often create a perceived zero sum game across decision makers and thus be subject to incentive compatibility problems. In the face of potentially adverse incentives, how then does one encourage co-operation amongst players?

One way may be to appeal simply to the goodwill of individuals. Aside from possibly being naïve, this type of solution from an economic perspective poses significant methodological challenges because it entails behaviour that can ostensibly be labelled irrational. Nonetheless, there is increasing recognition, particularly within the

institutionalist literature, that various informal institutions can facilitate co-operative decision making with resultant economic benefits in terms of reduced transactions costs (Ostrom, Gardner and Walker, 1994) and in the context of the issues raised in this chapter, may also reduce decision costs.

In the study of decision making in the previous chapter, a consultative process, involving various meetings and procedures for information feedback, were found to be institutional measures that could effectively promote some co-operation amongst health sector decision makers. In these circumstances it was both the informal relations between decision makers and importantly the perceived degree of procedural fairness embodied in decision making that was instrumental in determining how well any such co-operative outcome could be sustained amongst players (Jan, 2002).

In circumstances such as these, co-operation is held together by norms of behaviour that appeal more to a sense of shared values rather than simply mutual self-interest but ultimately also have significant economic value. Two such norms where economic implications have keenly been examined in recent years have been the institutions of trust (Fukuyama, 1996) and reciprocity, and the resultant relationship of the latter to the notion of social capital (Putnam, 2000). Such variables have tended to escape the gaze of health economists possibly because conventional economic theory alone provides little by way of normative guidance on how they could be created and fostered.

The more direct way of addressing the agency problem entails altering the payoff structure so that the implementation of such initiatives are made consistent with the personal objectives of decision makers. As mentioned above, players often lack a personal stake in these gains since they occur in public good form and thus create a zero sum game. Addressing this problem through incentives would entail some form of 'gain-sharing' where individual decision makers are consequently given a stake in the realisation of efficiency / equity gains. In practice this might include financial or non-financial incentives factored into the reward structure of managers. This measure would aim both to increase the absolute size of the pie and to achieve a more efficient distribution of property rights. In effect, it transforms the institutional setting into a positive sum game in as much as the payoffs to players, in aggregate, are potentially

increased through the type of decisions they make. Much of the literature on agency is about designing appropriate reward structures in this way that will encourage utility maximising agents to make decisions that will promote the interests of the principal (Pratt and Zeckhauser, 1985; Strong and Waterson, 1987). In general they aim to achieve Pareto efficient contracts in which both parties 'win' i.e. where the agent is remunerated to at least the level that will compensate him/her for the costs incurred in carrying out the contract and where there are expected residual gains to the principal. Other conditions for ensuring appropriately designed gain-sharing arrangements are that they are properly monitored and performance accurately attributed (Goddard, Mannion and Smith, 2000). Clearly investment in appropriate information systems is also important in this respect.

Repetition is another important instrument for co-operation – and one that complements the gain sharing property. In repeated positive sum games, the prospects of co-operation are increased because, in turn, the likelihood of any one player recouping short-term losses in future is reinforced and that deviations from it can be punished in following rounds. The key in this situation is establishing appropriate conditions to enable this type of game to be played out – or by letting 'the future cast a shadow' over current actions (Axelrod, 1984). In the context of the resource allocation decision highlighted earlier, such repetition can promote co-operation because constant returns to scale within competing program areas cannot generally be assumed in practice. An inefficient program in one period may subsequently be efficient in another (and vice versa) and thus the identity of a loser in one round will not necessarily be the same in subsequent rounds. The limitation of this principle would be in relation to resource allocation initiatives based on equity since gains or losses are much more pre-determined and foreseeable (e.g. initiatives based on geographical equity in resource allocation more transparently highlight future resource allocation patterns than those based on efficiency).

The measures for transforming the nature of this type of game from that of a one shot to a repeated game take different forms and can be either implicit or explicit. These can occur, say, in the form of various long-term contracts or, more implicitly, through clear signals of future behaviour such as investment in specific-use assets or sunk costs such as advertising. From a game theoretic perspective, the important

distinction, as discussed in chapter 5, is whether a commitment of this nature is credible (i.e. verifiable ex-ante and enforceable ex-post) (Dixit, 1996) but as mentioned, some ostensibly non-credible commitments based on certain social norms can effectively act as a signal of intention and thus have significant economic implications.

Given that the types of institutional measures to address the agency problem outlined above can create mutually beneficial outcomes and thus be Pareto efficient, they might, as indicated previously, evolve without any direct policy intervention. For instance, a gain-sharing arrangement between decision makers and the organisation could feasibly be initiated and sustained voluntarily by the parties concerned since they might recognise that there is scope for both to gain. Third party intervention, however, would be required if informational shortcomings, transactions costs or prisoners' dilemma / free-rider problems impose significant barriers to the establishment of such conditions.

Ultimately, the aim of these types of incentive measures is to get around the problem of satisfying the interests of all decision makers (or most of them, depending on the nature of the voting rule) during the process of implementation – which entails altering each party's share of a hypothetical pie. The measures available involve both increasing the overall size of this pie (gain-sharing) and giving parties some prospect of offsetting immediate losses with possible future gains, such as through the implementation of various forms of credible commitment. This insight represents the application of the well-known 'Folk Theorem' (Kreps, 1990) in game theory and is not particularly remarkable. It is the problem of establishing the conditions for which, in practice, this type of game can be played out that is an area in which more research could be focused. The institutional measures set out above represent some examples of how the rules of the game can be transformed to facilitate better co-operation although their generalisability is likely to be subject to various background factors such as the existence of countervailing incentives and prevailing norms and customs. The interaction of economic incentives and social norms is often complex and not always well understood (Frey and Oberholzer-Gee, 1997; Le Grand, 1997; Lindbeck, 1997). For instance, it has been suggested that the establishment of economic incentives for ostensibly altruistic behaviour, such as blood donations, can 'crowd

out' rather than reinforce prevailing norms of altruism (Frey and Oberholzer-Gee, 1997; Titmuss, 1970 and for a contrasting view see Solow, 1971; Arrow, 1972)²⁰. This, to some extent, is supported by recent studies cited in chapter 2 on health service reforms and the deleterious influence of the competitive pressures created by such reforms on existing norms of co-operation (Goddard and Mannion, 1998; Palmer, 2001; Allen, 2002).

Therefore while incentive compatibility is likely to be a significant consideration in terms of how well such co-operation binds, the acknowledged significance of perception and non-rationalistic norms of behaviour also highlights the need to explore decision making from disciplinary perspectives outside economics. There is some, albeit limited, evidence that decision making that is inclusive, involving consultation and information sharing, is likely to foster a sense of procedural justice and be conducive to co-operation. However, the establishment of economic incentives needs to be done in recognition of the potential effect they may have in altering the culture of decision making. It is the analysis of these institutional characteristics therefore that allows implementation as a topic to fall within the compass of economic analysis and correspondingly brings in an added perspective to the formulation and evaluation of policy responses to this issue.

8.5 Conclusion

This chapter has focused on some of the potential incentive constraints that hamper the implementation of economic initiatives. Although incentives are generally recognised as 'economic' variables, there has been surprisingly little consideration within the health economics literature of how incentive compatibility can have a bearing on policy implementation. As discussed, failure of implementation can occur, particularly in resource allocation, through a mismatch of incentives that arise when personal costs are incurred by decision makers and the gains materialise in a public good form. Implementation can therefore be facilitated by co-operation amongst players. This, in turn, can be achieved by transforming the institutional context of

²⁰ On the other hand, in some circumstance economic imperatives and social norms may be mutually reinforcing. As argued by Arrow (1974) most economic transactions require some degree of trust.

decision making from that of a one shot zero sum game to a repeated positive sum game.

In spite of the importance of incentive compatibility, co-operation also often occurs in the face of adverse incentives. There is evidence to indicate that economic incentives provide only a partial account of decision making and that social norms such as trust, goodwill and reciprocity can facilitate co-operative behaviour. In this respect, issues of procedural justice and individuals' perception and expectations of how decisions are to be made play a large role in instituting various forms of co-operation. In creating incentives for behaviour, however, recognition also needs to be given to the consequences they may have for the potentially fragile existing network of norms.

The main aim of this chapter, however, has been to highlight the limitation how conventional forms of economic analysis have been used in priority setting. The focus of such analysis has been largely on providing normative solutions to resource allocation problems. While not underplaying this potentially important role, the implementation of these solutions frequently relies on possibly unrealistic assumptions about the actual decision making process. In effect, there is the assumption of perfect agency. In this chapter, a framework for the positive analysis of this process is provided that allows for incentive compatibility constraints to enter into decision making and thus the possibility for policy non-implementation. Within this framework there is also space for recognising that certain forms of co-operation can be institutionalised without necessarily ensuring incentive compatibility but that the measures required to establish them are dependent on a broader understanding of the other prevailing institutions that influence decision making. Such building blocks for analysis are important in designing appropriate policy measures and ultimately tackling, in practice, the problem of implementation.

Conclusions

This thesis has explored the use of institutionalist perspectives in the economic analysis of health sector resource allocation problems. As indicated in the earlier chapters, the role of institutions in influencing the conduct, structure and performance of the health care system has been little explored within the health economics literature. Although institutionalism is making significant inroads into health economics analysis, by and large, the nature of institutions tends to be assumed rather than examined. This leaves open for greater investigation many potentially important economic issues in the health sector.

The conclusions from this thesis can broadly be classified in terms of their potential contributions to firstly, economic evaluation and secondly, the analysis of health sector decision making and hence health sector policy making. These categories, however, are not necessarily mutually exclusive. A major development of the thesis is the building of a framework for evaluation that seeks to determine not only the more immediately discernible benefits of a program but also the way various actors interact with one another (and within that interaction their decision making behaviour). The latter helps to create a climate where implementation of the results of any economic evaluation becomes more likely. The first part of this chapter sets out the main conclusions that have relevance to the economic evaluation of health services. The second part includes other conclusions that have relevance to the analysis of decision making. Throughout this chapter, the links between decision making and evaluation and the implications for further research and policy are highlighted.

9.1 Evaluation

The traditional aim of economic evaluation is to determine the cost-effectiveness / cost-benefit of alternative courses of action. It provides the information base on which

efficiency in resource allocation is pursued. One of the limitations of such evaluation, as explored in this thesis, is that it generally considers only a very limited set of variables, typically cost and a health outcome variable of interest. Although there is a growing literature that has identified and attempted to incorporate ‘non-health benefits’ into such evaluation, little research has been carried out into the analysis of institutional change within the health sector. Typically, the variables of interest within economic analysis are severely restricted by assuming that ‘all else is equal’ (*ceteris paribus*) or deemed irrelevant. This can make conventional economic evaluation seem somewhat divorced from the real world of health service policy making.

The implications of the assumptions built into conventional economic evaluation are that such evaluation overlooks the impact of a program or intervention on exogenous variables - most notably, the prevailing institutional structure. In this thesis, the potential contribution of institutionalism to economic evaluation was examined in two areas. The first entailed a critique of notions of ‘social value’ or ‘benefit’ that underpin conventional forms of economic evaluation and the incorporation of a broader notion of ‘value’ based on OI. The second contribution is at more of a policy level in the investigation of how such institutionalism increases the probability of program implementation.

9.1.1 Evaluation – broader notions of social value

Health care programs, through the institutionalist perspective, not only generate health gains but influence the way in which individuals and groups interact with one another. As indicated at the outset, institutions are the rules that govern the conduct of individuals and groups within a community and the implementation of health programs can impact upon such rules. That such change is of potential value to society forms the premise on which an institutionalist framework for evaluation is established.

The instrumental value principle set out in chapters 3 and 6 provides a basis on which to evaluate institutional change in the health sector. In a health care context, it relates to three important dimensions that are overlooked in conventional forms of economic evaluation: procedural aspects as opposed to a concern solely with consequences of

care; the contribution of the service to the broader functioning of the community rather than simply health gain; and the importance of context, in both time and place.

The case study contained in chapter 6 illustrated how the operation of an Aboriginal community controlled midwifery service could be effective in promoting positive change in the institutional setting. In this study, there was some evidence to suggest that the program altered the relationship between the women who used the service and other service providers within the community. The institutional dimension of this program was thus identified in terms of its capacity to contribute 'instrumentally' to the broader functioning of that community by empowering women to access more readily not only this particular service but the network of social services that were available. Crucial aspects of institutional change resulting from this program were improvements in the level of information and confidence gained by women in their decision making and also the organisational links established with other service providers. This theme has strong resonance in Aboriginal health, particularly in relation to community controlled services where the expressed aims are not only to bring about improvement in health but to ameliorate some of the wider social problems of that population. Although, as mentioned, institutionalism holds no monopoly over the analysis of such variables, it does provide a framework in which they are linked to the broader functionings of the community and thus provides a coherent basis for identifying, categorising and valuing them.

In terms of implications for policy, this suggests that, in the debate over funding of health services, there needs to be a wider appreciation of the role of health services within the community. This is particularly relevant to indigenous community controlled health services but also applies to other services that require significant engagement with the community, particularly primary care and health promotion activities. In addressing questions of value for money, the evidence provided by these types of evaluations is less likely to be as conclusive as conventional cost-effectiveness or cost-benefit data. Holistic forms of economic evaluation will produce results that are multidimensional and, to some extent, qualitative. While they can provide policy makers with a more comprehensive picture of what it is that is being purchased for a particular outlay, they also pose significant challenges with respect to how policy makers can best use such information to aid their decision making and

how this might be articulated. It means that his or her values will need to be incorporated explicitly into the process when deciding between options, since the data from such institutionalist-based economic evaluations are unlikely to provide the same level of seemingly unambiguous guidance that more conventional analyses appear to promise.

The case study in chapter 6 involved a significant degree of qualitative analysis. Institutional analysis of this nature is amenable to a 'storytelling' approach because it is about the way in which individuals or groups are influenced by institutional change. Such responses are not necessarily predictable given their multi-dimensional nature and the likelihood of incomplete information. This means that the accounts of the relevant individuals or groups are more subjective and captured better through surveys or group discussions which are less structured than would normally be the case in economic evaluation data collection. Research into incorporating such approaches within economic evaluation studies remains at an embryonic stage. However, one of the potential difficulties with their application is that such data may be collected in an ad hoc fashion. In ascertaining what it is that a particular health service achieves, conventional economic evaluation, unlike institutionalism, provides only a limited explanation for how some of the variables that might be examined (e.g. non-health outcomes) fit into a broader picture of reality. This suggests that institutionalism can provide an important conceptual framework on which the use of both quantitative and qualitative methods in health economics can be based.

9.1.2 Evaluation of implementation

Another dimension to economic analysis is implementation. An important determinant as to whether a program is implemented is whether it provides appropriate incentives to relevant agents (and as such it overlaps with some of the issues raised in later in 9.2). Chapters 4 and 8, in particular, set out the framework through which institutionalist analysis can be used to examine incentive compatibility and thus provide insights into the implementation and sustainability of health programs. As indicated in the analysis of PBMA in chapter 4, certain initiatives may be more cost-effective / cost-beneficial but they will probably not be implemented or sustained if the incentives on relevant agents are incompatible. A case study using

PBMA to demonstrate this potential conflict was pertinent given that, in principle, it is a process for allocating resources on the basis of cost-benefit criteria.

The analysis of implementation and sustainability provides an additional dimension to the functions of economic evaluation. It goes beyond the examination of a conventional measure of efficiency and, by considering explicitly the institutional environment in which the program is to function, gives some insight into why some programs (whether more cost-effective or otherwise) might 'fail'. By bringing into consideration issues of incentive compatibility, an element of decision analysis is introduced into the economic evaluation.

Although incentives are not the only determining factor in relation to implementation and sustainability, it is difficult to envisage a program being sustained in the long term when it is not in the interests of key stakeholders. In terms of policy relevance, ensuring incentive compatibility therefore should be viewed with no less importance than currently ascribed to cost-effectiveness ratios and could, furthermore, be a major avenue for future health economics research.

9.2 Decision and policy making

To date, the economic analysis of decision and policy making within the health sector has largely been normative. Through such tools as economic evaluation and PBMA, the emphasis has been on informing decision making as to how to achieve assumed objectives such as efficiency and equity. Analysis of whether such objectives accord, in practice, with those of individual decision makers is mostly lacking. It is generally assumed that the potential for mismatch between these individual interests and organisational objectives can be overlooked. As a consequence, it is perhaps not surprising that there is much evidence that the uptake of economic analysis in actual decision and policy making is low. One of the key aims of this thesis therefore has been to develop a framework for the positive analysis of policy and decision making in health care. It is about ascertaining the actual objectives of decision makers and those of relevant organisations, determining whether there is any mismatch in objectives / interests between stakeholders and, as a consequence, addressing the question of why certain public sector initiatives may 'fail'. Conversely it allows

consideration of issues that might allow greater chances of 'success' in implementing appropriate programs.

As indicated, institutions are the rules that govern the way in which individuals, groups and organisations interact within a society. Individuals respond to incentives. Factors such as the management culture of organisations, the values of individuals and the regulatory environment shape these incentives but also potentially influence decision making in their own right. Institutional structure thus has a major influence over decision making. Within the conventional choice theoretic framework, institutions are viewed typically as fixed. Because changes that may occur to the constraints are not within the scope of such analysis, there is in a sense an incompleteness about the way in which decision making is usually conceptualised. An institutionalist perspective entails broadening the analysis to enable the investigation of change in the wider constraints on decision making (typically NI) or loosening the rationality assumption to allow non-utility maximising forms of behaviour to enter into consideration (typically OI, although this is beginning to be embraced by NI and, as indicated in the literature review, some of the health economics literature on organisation and governance).

There are a number of ways in which institutional change can be represented and thus interpreted. Within the NI literature, transactions costs are central to the comparative analysis of institutional structure. Transactions costs analysis is founded on the normative position that 'efficient' institutional arrangements are those that offer transactions costs minimising solutions. Such costs are incurred by participants engaging in economic transactions although this type of analysis has been extended to incorporate other forms of transaction such as political ones. They arise, for instance, when buyers purchase products in a market where there are significant information asymmetries. Such costs are incurred when the buyer takes measures to ensure that he /she will not be cheated or incur losses due to unforeseen circumstances. Institutional adaptations such as consumer protection laws and vertical integration of firms can be viewed as changes to the conditions or 'rules' by which the transaction takes place and, in these instances, lower the costs of transacting.

This framework for analysis originates in the industrial organisation literature and has subsequently been broadened to explain the evolution of political and other forms of social institutions. In health care, it has relevance to situations where the implementation of programs or various policy decisions alters the institutional environment in which decisions are subsequently made. In chapter 4, it was argued that the implementation of PBMA projects can change the prevailing decision making culture and create an institutional environment in which the interests of potential winners and losers come to bear more heavily in the decision making calculus. Such change can diminish the level of trust and goodwill amongst participants that, in turn, can generate transactions costs. The potential for such costs to enter into consideration and ultimately contribute to the breakdown of such initiatives is not explicitly considered in conventional analyses of initiatives such as PBMA. The usual assumption is that economic evaluation data enable resources to be shifted 'frictionlessly' to those program area which are, at the margin, most cost-beneficial. An analysis of transactions costs enables this assumption to be relaxed. It considers the possibility that the PBMA transactions costs can contribute to the breakdown of such initiatives because they effectively diminish the potential gains accruing to any one player within this exercise and thus 'distort' decision making accordingly. (In addition, such costs can also have social welfare implications by offsetting the realisation of allocative efficiency gains that would result from a shift in resources from an ostensibly less cost-effective to a more cost-effective program.)

This finding which is consistent with NI theory suggests that alterations in the institutional setting can have significant ongoing consequences for the subsequent levels of transactions costs and that such costs can, in turn, alter the relative costs of various options. In this sense, it 'distorts' decision making simply because it leads to choices that are at odds with those that would occur in a transactions costs-free world.

This has significant implications for policy. For example it suggests that decisions to implement market based reforms and to pursue greater competition in health care can alter the possibly fragile existing culture of decision making and, in turn, have adverse economic consequences. This is borne out elsewhere in some of the studies contained in the review in chapter 2, where increases in the level of transactions costs were found to follow in the wake of market based reforms in health care. This was because

the reforms compromised various forms of co-operation that had previously been sustained on trust and that had effectively contained such costs.

Where there are conflicting individual and collective interests, decision making can be conceptualised in game theoretic terms. In relation to the PBMA problem, they were seen to resemble prisoners' dilemma-type problems. Indeed as indicated in chapters 4 and 5, the pervasiveness of these types of situations within the context of public sector decision making has been well documented within the public choice literature. They relate to free-riding that affects, in the main, large organisations. They occur because the benefits collectively of certain initiatives often occur in public good form i.e. they are indivisible and non-excludable. This can diminish the personal incentives on participants to initiate and carry out relevant activities particularly when these activities involve some personal cost.

As these problems of incentive incompatibility can be viewed in this way, game theory can provide some insights into their resolution. As indicated in chapter 4, solutions to prisoners' dilemma problems are more likely to be achieved under certain conditions: when there are a small number of participants, the game continues indefinitely and participants have good information about one another. This has tangible policy implications for the design of PBMA initiatives. Some of those suggested are the establishment of a common information base in which cost-effectiveness / cost-benefit data are submitted, the use of formal instruments such as contracts so that the initiative is in operation over an extended period and restrictions over the scale of such exercises.

The institutional characteristics of decision making can instead sometimes resemble co-ordination games. In these instances, individual parties have an incentive to match their decision making. The barrier to such co-ordination tends to be related more to communication of intention rather than, as in the prisoners' dilemma, the threat of exploitation. Various forms of credible commitments can also be effective in these circumstances – as was shown in chapter 5. These facilitate co-ordination by enabling one party to signal clearly future courses of action. Examples of such forms of commitment in practice include health care constitutions, the use of long term contracts and investment in specific use assets.

Game theory and the rationalistic model of human behaviour it embodies, are, however, also limited in their explanation of decision making. 'Non-rationalistic' behaviour such as various norms and conventions tend to be socially embedded and need to be teased out in moving toward a more complete picture of the institutional environment. Chapter 7 provided a case study that examined the process of decision making that surrounded a proposed change in funding arrangements across various parties. Although it was found that a game theoretical perspective was useful in shedding some light on the nature of the incentives faced by decision makers, a deeper understanding of the existing 'culture' surrounding decision making was important in further explaining and, in some way, altering the behaviour of participants. In terms of the implications for policy, a number of factors were found to be helpful in sustaining the co-operation necessary to facilitate decision making not ostensibly consistent with self-interest. These factors included inclusiveness and collegiality which, in turn, were seen to promote a sense of procedural justice amongst participants.

Another important aspect of institutional design with respect to decision and policy making explored in this thesis was the notion of credible commitment. A commitment is an undertaking (implicitly or explicitly) from one party to another that he/she will in future undertake a particular course of action. It is credible when it is verifiable *ex ante* and enforceable *ex post* i.e. the party receiving the commitment has no reason to believe that it will be broken. The signalling of commitment is often important in economic and political decision making – not least because it lowers transactions costs – through measures such as contracts, reputation, advertising and, more generally, in the creation of goodwill.

It was argued that credible commitment can also be important in examining the institutional setting of public sector, health service decision making. One of the problems sometimes posited in relation to existing decision making (at least in Australia) is that it is myopic i.e. focusing largely on short term issues and neglecting those problems that may have major significance over the long term. It was suggested in chapter 5 that part of this problem is that the incentives on decision making within the existing policy environment are not necessarily conducive to long term objectives.

This is because the interests of managers are often dictated by short term imperatives - notably those created by the political cycle. Against this background it can be contrary to the interests of decision makers to pursue, for instance, projects that yield long term payoffs, particularly when investment in such projects is required up front. This again brings into view issues of institutional design. In particular, it is about altering the balance of incentives to enable, where appropriate, the long term to enter into the decision making calculus.

As with PBMA, insights from game theory can again be useful in addressing these issues. Certain institutional adaptations were proposed in chapter 5 as a means of signalling credible commitment. These measures include the use of a constitutional framework, long term contracting and various forms of health legislation. These, from the point of view of the individual manager, can encourage more long term decision making because he /she is less likely to be concerned about the possibility of, in future, 'having the rug pulled out from underneath'. Such stability in the policy making environment can encourage decision making that takes into consideration longer term outcomes and which can thus be made more compatible with organisational objectives. In terms of policy implications, such considerations need to be borne in mind when considering changes that may alter the prevailing 'rules of the game'.

This theme of incentive compatibility was also explored in chapter 8, specifically in relation to the general question of why the results of economic priority setting initiatives sometimes fail to be implemented. In particular, the chapter highlighted some of the characteristics of the institutional setting, such as the one-off nature of such decisions and the tendency for them to be framed as zero-sum games which then impose costs on those decision makers required to implement such initiatives. It is suggested that in addressing these problems of agency, the realignment of incentives is important but attention needs to be given also to prevailing norms and conventions. This is because their interaction has been found to be complex and not always predictable in a manner consistent with prevailing economic theory e.g. there is some evidence of economic incentives 'crowding out' various norms which are ostensibly consistent with them. Therefore, decision making/transactions costs and a lack of

credible commitment can be viewed as explanation of an institutionalist nature that help explain why certain policy initiatives 'fail'.

Much of the conceptual development in this thesis draws directly on the various schools of thought which fall under the banner of institutionalist. Institutionalism is a broad approach to economic analysis incorporating numerous diverse perspectives, not all of which have been studied in this thesis. An institutionalist perspective provides an important dimension to the economic analysis of the health sector. It can contribute insights into numerous areas such as the analysis of decision and policy making, program evaluation and priority setting. These contributions are in both normative and positive analyses. Institutionalism enables questions to be addressed which conventionally have been deemed to lie outside the scope of economic analysis and, in turn, to provide a more comprehensive evidence base for policy makers. Furthermore, such analyses can, as shown in the thesis, be undertaken through the use of not just quantitative but also qualitative methodologies.

It is hoped that one legacy of this work is that it will promote, within the health economics community, further exploration into the insights that can be gained from an institutionalist perspective and in turn promote policy making that is informed by a more comprehensive evidence-base and which is more explicit about the values on which it is based. It is further hoped that as a result, this will lead to an increased probability that the results of such institutionalist-based economic evaluations will have a greater probability of being implemented and have a greater impact on health policy than their more conventional counterparts have had to date.

References

- Alban, A. (1994). The role of economic appraisal in Denmark. *Social Science & Medicine*, 38, 12, 1647-52.
- Alchian, A.A. (1965). Some economics of property rights. *Il Politico* 30, 4, 816-29.
- Alchian, A.A. (1977). *Economic Forces at Work*. Liberty Press, Indianapolis.
- Alchian, A.A. and Demsetz, H. (1972). Production, information costs, and economic organization. *American Economic Review* 62, 777-795.
- Allen, P., Crosson, B., Roberts, J.A., Archibald, K., Crawshaw, S. & Taylor L. (2002). The use of contracts in the management of infectious disease related risk in the NHS internal market. *Health Policy* 59, 3, 257-81.
- Allen, P. (2002). A socio-legal and economic analysis of contracting in the NHS internal market using a case study of contracting for district nursing. *Social Science and Medicine* 54, 2, 255-66.
- Amin, S. (1974). *Accumulation on a World Scale : A Critique of the Theory of Underdevelopment*. Monthly Review Press, London.
- Arrow, K.J. (1951). *Social Choice and Individual Values*. Wiley, New York.
- Arrow, K.J. (1963). Uncertainty and the welfare economics of medical care. *American Economic Review* 53, 941-73.
- Arrow, K.J. (1972) Gifts and exchanges. *Philosophy and Public Affairs* 1, 2, 343-362.
- Arrow, K.J. (1974). *The Limits of Organization*. Norton, New York.
- Arrow, K.J. (1985). The economics of agency. In *Principals and Agents: The Structure of Business*, eds. J.W. Pratt and R.J. Zeckhauser, pp. 37-51. Harvard Business School Press, Boston, Massachusetts.
- Ashton, T. (1998). Contracting for health services in New Zealand: a transaction cost analysis. *Social Science and Medicine* 46, 3, 357-67.
- Atkinson, G. (1995). Efficiency versus equity: a false dichotomy ?. In *Institutional Economics and the Theory of Social Value: Essays in Honor of Marc R. Tool*, ed. C.M.A. Clark, pp. 85-96. Kluwer Academic Publishers, Norwell, Massachusetts.
- Australian Bureau of Statistics (1997). *1994 National Aboriginal and Torres Strait Islander Survey*. *Social Atlas*. Australian Bureau of Statistics, Canberra. ABS Catalogue 4155.0.

Australian Commonwealth Department of Health and Aged Care (1998). *General Practice: Changing the Future Through Partnerships*. Report of the General Practice Strategy Review Group, AGPS, Canberra.

Axelrod R. (1984). *The Evolution of Co-operation*. Penguin Books, London.

Axelrod, R. (1988). The problem of co-operation. In *The Theory of Market Failure: A Critical Examination*, ed. T. Cowen, pp. 237-254. George Mason University Press, Fairfax, Virginia.

Ayres, C.E. (1952). *The Industrial Economy*. Houghton Mifflin, Boston.

Banks, D.A. (1996). Transactions cost economics and its applications to health services research. *Journal of Health Services Research and Policy*, 1, 4, 250-52.

Bartlett, B. and Legge, D. (1994). *Beyond the Maze. Proposals for More Effective Administration of Aboriginal Health Programs*. NCEPH Working Paper Number 34, National Centre for Epidemiology and Population Health, Australian National University, Canberra.

Bartlett, W., Roberts, J.A. and Le Grand, J. (1998). A Revolution in Social Policy. The Policy Press, Bristol.

Barzel, Y. (1989). *Economic Analysis of Property Rights*. Cambridge University Press, Cambridge.

Bator, F. (1958). The anatomy of market failure. *Quarterly Journal of Economics* 72, 351-79.

Ben-Zion, U. and Gafni, A. (1983). Evaluation of public investment in health care: Is the risk irrelevant? *Journal of Health Economics* 2, 2, 161-165.

Bergson, A. (1938). A reformulation of certain aspects of welfare economics. *Quarterly Journal of Economics* 52, 310-34.

Berle, A.A. and Means, G.C. (1932). *The Modern Corporation and Private Property*. Harcourt, New York.

Berwick, D.M. and Weinstein, M.C. (1985). What do patients value? Willingness to pay for ultrasound in normal pregnancy. *Medical Care* 23, 881-93.

Black, D. (1948). On the rationale of group decision making. *Journal of Political Economy* 56, 23-34.

Black, D. (1958). *The Theory of Committees and Elections*. Cambridge University Press, Cambridge.

Bookalill, P. (1996). *Infant Ear Screening Project*. Twelve Month Report, New England Division of General Practice, Armidale, NSW.

- Bossert, T. (1998). Analyzing the decentralization of health systems in developing countries: decision space, innovation, and performance. *Social Science and Medicine* 47, 1513-27.
- Bossert, T. and Beauvais, J. (2002). Decentralization of health systems in Ghana, Zambia, Uganda and the Philippines: a comparative analysis of decision space. *Health Policy and Planning* 17, 1, 14-31.
- Bowling, A. (1997). *Research Methods in Health: Investigating Health and Health Services*. Open University Press, Buckingham.
- Brennan, G. and Buchanan, J.M. (1985). *The Reason of Rules: Constitutional Political Economy*. Cambridge University Press, Cambridge.
- Brockner, J. and Wiesenfeld, B.M. (1996). An integrative framework for explaining reactions to decisions: interactive effects of outcomes and procedures. *Psychological Bulletin* 120, 2, 189-208.
- Buchanan, J.M. (1995). Rights, efficiency, and exchange: the irrelevance of transactions cost. In *The Legacy of Ronald Coase in Economic Analysis, Vol. 2*, ed. S.G. Medema, pp. 175-190. E. Elgar, Aldershot.
- Buchanan, J.M. and Tullock, G. (1965). *The Calculus of Consent. Logical Foundations of Constitutional Democracy*. Ann Arbor Paperbacks, University of Michigan.
- Calabresi, G. (1968). Transactions costs, resource allocation, and liability rules – a comment. *Journal of Law and Economics* 11, 67-68.
- Calabresi, G. and Bobbitt, P. (1978). *Tragic Choices*. Norton, New York.
- Carr-Hill, R. and Sheldon, T. (1992). Rationality and the use of formulae in the allocation of resources to health care. *Journal of Public Health Medicine* 14, 2, 117-126.
- Chadwick, E. (1842). *Sanitary Condition of the Labouring Population in Great Britain*. Edinburgh University Press, Edinburgh (1965).
- Cheung, S.N.S. (1969). *A Theory of Share Tenancy*. University of Chicago Press, Chicago.
- Cheung, S.N.S. (1996). Roofs or stars: the stated intents and actual effects of a rents ordinance. In *Empirical Studies in Institutional Change*, eds. L.J. Alston, T. Eggertsson and D.C. North, pp 224-243. Cambridge University Press, New York.
- Coase, R. (1937). The nature of the firm. *Economica* 4, (13-16), 386-405.
- Coase, R. (1960). The Problem of Social Cost. *Journal of Law and Economics* III, 1-40.

- Coase, R. (1984). The new institutional economics. *Journal of Institutional and Theoretical Economics* 140, 229-231.
- Coase, R. (1988). The nature of the firm: influence. *Journal of Law, Economics and Organization* 4, 1, 33-47.
- Coase, R. (1998). The new institutional economics. *American Economic Review* 88, 2, 72-89.
- Coast, J. (1997). Rationing within the NHS should be explicit. The case against. *British Medical Journal* 314, 1118-1122.
- Coast, J. (1999). The appropriate uses of qualitative methods in health economics. *Health Economics* 8, 4, 345-53.
- Commons, J.R. (1931). Institutional economics. *American Economic Review* 21, 648-657.
- Commons, J.R. (1950). *The Economics of Collective Action*. MacMillan, New York.
- Commons, J.R. (1968). *The Legal Foundations of Capitalism*. University of Wisconsin Press, Madison.
- Commonwealth Department of Health and Family Services (1996a). *Sharing Good Tucker Stories. A Guide to Aboriginal and Torres Strait Islander Communities*. Commonwealth Department of Health and Family Services, AGPS, Canberra.
- Commonwealth Department of Health and Family Services (1996b). *Australian Casemix Report on Hospital Activity 1994-95*. AGPS, Canberra.
- Commonwealth Department of Health and Family Services (1997). *Schedule of Pharmaceutical Benefits*. AGPS, Canberra.
- Commonwealth Department of Human Services and Health (1995). *Medicare Benefits Schedule Book*. AGPS, Canberra.
- Cookson, R. and Dolan, P. (1999). Public views on health care rationing: a group discussion study. *Health Policy* 49, 63-74.
- Coria-soto I., Bobadilla J. and Notzon F. (1996). The effectiveness of antenatal care in preventing intrauterine growth retardation and low birth weight due to preterm delivery. *International Journal of Quality Health Care* 8, 1, 13-20.
- Craig, N., Parkin, D. and Gerard, K. (1995). Clearing the fog on the Tyne: programme budgeting in Newcastle and North Tyneside Health Authority. *Health Policy* 33, 2, 107-125.
- Croxson, B. (1998). From private club to professional network: an economic history of the Health Economists' Study Group, 1973-1997. *Health Economics* 7, suppl 1, S9-45.

- Croxson, B. (1999). *Organisational Costs in the New NHS. An Introduction to the Transaction Costs and Internal Costs of Delivering Health Care*. The Office of Health Economics, London.
- Culyer, A.J. and Evans, R.G. (1996). Mark Pauly on welfare economics: normative rabbits from positive hats. *Journal of Health Economics* 15, 243-251.
- Davidoff, F.B., Haynes, B., Sackett, D. and Smith, R. (1995). Evidence-based medicine. *British Medical Journal* 310, 1085-6.
- Dawson, D. (2001). Organisational economics. In *Studying the Organisation and Delivery of Health Services. Research Methods*, eds. N. Fulop, P. Allen, A. Clarke and N. Black, pp 125-39. Routledge, London and New York.
- Dawson, D. and Goddard, M. (1999). Long-term contracts in the NHS: A solution in search of a problem? *Health Economics* 8, 709-720.
- De Borda, J.C. (1781). *Memoire sur les Elections au Scrutiny*. Histoire de l'Academie Royale des Sciences, Paris.
- De Soto, H. (1989). *The Other Path: The Invisible Revolution in the Third World*. Harper & Row, New York.
- Delbridge, A., Bernard, J.R.L., Blair, D., Peters, P. and Butler, S. (1992). *The Macquarie Dictionary (2nd edition)*. Macquarie University, NSW Australia.
- Demsetz, H. (1964). The exchange and enforcement of property rights. *Journal of Law and Economics* 7, 11-26.
- Demsetz, H. (1967). Toward a theory of property rights. *American Economic Review* 57, 2, 347-359.
- Diesing, P. (1972). *Patterns of Discovery in the Social Sciences*. Routledge & Kegan Paul, London.
- Dixit, A. (1996). *The Making of Economic Policy: A Transaction Cost Politics Perspective*. MIT Press, Cambridge, MA.
- Dolan, P., Cookson, R. and Ferguson, B. (1999). Effect of discussion and deliberation on the public's views of priority setting in health care: focus group study. *British Medical Journal* 318, 916-919.
- Donaldson, C. (1995) Economics, public health and health care purchasing: reinventing the wheel? *Health Policy* 33, 2, 79-90.
- Donato, R. and Scotton, R. (1999). The Australian health care system. In *Economics and Australian Health Policy*, eds. G. Mooney and R. Scotton, pp. 20-39. Allen and Unwin, Sydney.

- Dranove, D. and White, W.D. (1987). Agency and the organization of health care delivery. *Inquiry* 24, 405-415.
- Drummond, M.F., O'Brien, B., Stoddart, G.L. and Torrance, G.W. (1997). *Methods for the Economic Evaluation of Health care Programme* (2nd Ed.). Oxford University Press, Oxford.
- Dryzek, J.S. (2000). *Deliberative Democracy and Beyond*. Oxford University Press Oxford.
- Dugger, W.M. (1992). *Underground Economics. A Decade of Institutional Dissent*. M.E Sharpe, Inc, Armonk, New York.
- Eggertsson, T. (1990). *Economic Behaviour and Institutions*. Cambridge University Press, New York.
- Elster, J. (1979). *Ulysses and the Sirens: Studies in Rationality and Irrationality*. Cambridge University Press, Cambridge.
- Elster, J. (1989a). *The Cement of Society*. Cambridge University Press, Cambridge.
- Elster, J. (1989b). Social norms and economic theory. *Journal of Economic Perspectives* 3, 4, 99-117.
- English, D. (1999a). Health plan 'could cost \$23m a year'. *Northern Territory News*, March 11, 1999.
- English, D. (1999b). Govt scraps plan to privatise hospitals. *Northern Territory News*, March 19, 1999.
- Evans, R.G., Barer, M.L., and Marmor, T.R. (1994). *Why Are Some People Healthy and Others Not? The Determinants of Health of Populations*. Aldine de Gruyter, New York.
- Evans, R.G. and Stoddart, G.L. (1990). Producing health and consuming health care. *Social Science and Medicine* 31, 347-63.
- Fagan, P. (1991). Self determination in action. In *The Health of Aboriginal Australia*, eds. J. Reid and R. Trompf, pp. 400-401. Harcourt Brace Jovanovich, Sydney.
- Fearon, J.D. (1998). Deliberation as discussion. In *Deliberative Democracy*, ed. J. Elster, pp. 44-68. Cambridge University Press, Cambridge.
- Ferguson, B. and Keen, J. (1996). Transaction costs, externalities and information technology in health care. *Health Economics* 5, 1, 25-36.
- Fishkin, J.S. (1991). *Democracy and Deliberation. New Directions for Democratic Reform*. Yale University Press, New Haven and London.

- Flynn, R. and Williams, G. (1997). *Contracting for Health: Quasi-Markets and the National Health Service*. Oxford University Press, Oxford.
- Forder, J. (1997). Contracts and purchaser-provider relationships in community care. *Journal of Health Economics* 16, 5, 517-42.
- Forder, J. (2000). Mental health: market power and governance. *Journal of Health Economics* 19, 6, 877-905.
- Forder, J. and Netten, A. (2000). The price of placements in residential and nursing home care: the effects of contracts and competition. *Health Economics* 9, 7, 643-57.
- Frank, A.G. (1996). *Latin America: Underdevelopment or Revolution. Essays on the Development of Underdevelopment and the Immediate Enemy*. UMI Books on Demand, Ann Arbor.
- Frank, R.H. (2000). *Microeconomics and Behaviour*. McGraw-Hill, New York.
- Freeman, P. (1994). Health promotion for Aboriginal communities. *World Health Forum* 15, 25-28.
- Frey, B.S. and Oberholzer-Gee, F. (1997). The cost of price incentives: an empirical analysis of motivation crowding-out. *American Economic Review* 87, 4, 746-755.
- Fuchs, V. (1974). *Who Shall Live? Health, Economics and Social Choice*. Basic Books, New York.
- Fukuyama, F. (1996). *Trust: The Social Virtues and the Creation of Prosperity*. Penguin, London.
- Furubotn, E.G. and Pejovich, S. (1972). Property rights and economic theory: a survey of the recent literature. *Journal of Economic Literature* 10, 1137-1162.
- Fusfeld, D.R. (1980). The conceptual framework of modern economics. *Journal of Economic Issues* 14, 1-52.
- Galbraith, J.K. (1967). *The New Industrial State*. Houghton Mifflin, Boston.
- Gehlen, A. (1980). *Man in the Age of Technology*. Columbia University Press, New York.
- Gissler, M. and Hemminki, E. (1994). Amount of antenatal care and infant outcome. *Social Biology* 42, 3-4, 175-84.
- Goddard, M. and Mannion, R. (1998). From competition to co-operation: new economic relationships in the NHS. *Health Economics* 7, 105-119.
- Goddard, M., Mannion, R. and Smith, P. (2000). Enhancing performance in health care: a theoretical perspective on agency and the role of information. *Health Economics* 9, 95-107.

- Golembiewski, R. (2002). Two super-optimum solutions in a cutback mode. In *Handbook of Public Policy Evaluation*, ed. S.S. Nagel, pp. 47-57. Sage Publications, Thousand Oaks.
- Gordon, W. (1990). The role of Tool's social value principle. *Journal of Economic Issues*, 24, 879-86.
- Granovetter, M. (1985). Economic action and social structure: the problem of embeddedness. *American Journal of Sociology* 91, 3, 481-510.
- Gray, D., Saggars, S., Drandich, M., Wallam, D., and Plowright, P. (1995). Evaluating government health and substance abuse programs for indigenous peoples: a comparative review. *Australian Journal of Public Health* 19, 567-572.
- Grief, A. (1989). Reputations and coalitions in medieval trade: evidence on the Maghribi traders. *Journal of Economic History* 49, 857-82.
- Grief, A., Milgrom, P. and Weingast, B.R. (1994). Coordination, commitment and enforcement: The case of the Merchant Guild. *Journal of Political Economy* 102, 745-77.
- Grossman, M. (1972). On the concept of health capital and the demand for health. *Journal of Political Economy* 80, 223-55.
- Gruchy, A.G. (1947). *Modern Economic Thought. An American Contribution*. Prentice-Hall, Inc., New York.
- Haas, M., Hall J. and Chinchin L.B. (2001). The moving of St Vincent's – a tale of two cities. *Medical Journal of Australia* 174, 93-96.
- Ham, C. and Coulter, A. (2001). Explicit and implicit rationing: taking responsibility and avoiding blame for health care choices. *Health Services Research and Policy* 6, 3, 163-169.
- Harberger, A.C. (1978). On the use of distributional weights in social cost-benefit analysis. *Journal of Political Economy* 86, 2, s87-120.
- Hardin, G. (1968). The tragedy of the commons. *Science* 162, 1243-48.
- Hargreaves Heap, S.P. and Varoufakis, Y. (1995). *Game Theory. A Critical Introduction*. Routledge, London.
- Harris, J. and Erin, C. (2002). An ethically defensible market in organs. *British Medical Journal* 325, 114-115.
- Hayek, F.A. von (1944). *The Road to Serfdom*. University of Chicago Press, Chicago.

- Hickerson, S.R. (1987). Instrumental valuation: the normative compass of institutional economics *Journal of Economic Issues*, 21, 1117-43.
- Higgs, R. (1996). Legally induced technical regress in the Washington salmon fishery. In *Empirical Studies in Institutional Change*, eds. L.J. Alston, T. Eggertsson and D.C. North pp. 247-279. Cambridge University Press, Cambridge.
- Hildred, W. and Beauvais, F. (1995). An instrumentalist critique of "cost-utility analysis". *Journal of Economic Issues* 29, 1083-1096.
- Hildred, W. and Watkins, L. (1996). The nearly good, the bad, and the ugly in cost-effectiveness analysis of health care. *Journal of Economic Issues* 30, 755-775.
- Hill, L.E. and Owen, D.W. (1984). The instrumental philosophy of economic history and the institutionalist theory of normative value. *Journal of Economic Issues* 18, 581-87.
- Hoffmann, C. and von der Schulenburg, J.M.G. on behalf of the EUROMET group (2000). The influence of economic evaluation studies on decision making. A European survey. *Health Policy* 52, 3, 179-192.
- Houston, S. (2001). *Cultural Security*. Discussion Paper, Health Department of Western Australia, Perth.
- Holmstrom, B. (1982) Moral hazard in teams. *Bell Journal of Economics* 13, 324-40.
- Howden-Chapman, P. (1993). Doing the splits: contracting issues in the New Zealand health service. *Health Policy* 24, 3, 273-86.
- Howden-Chapman, P. and Ashton, T. (1994). Shopping for health: purchasing health services through contracts. *Health Policy* 29, 1-2, 61-83.
- Hughes, D., Griffiths, L. and McHale, J.V (1997). Do quasi-markets evolve? Institutional analysis and the NHS. *Cambridge Journal of Economics* 21, 259-276.
- Hurley, J. (1998). Welfarism, extra-welfarism and evaluative economic analysis in the health sector. In *Quality and Inequality: What Care, Whose Costs, and Whither Health?* eds. M. Barer, T. Getzen, and G. Stoddart, pp. 373-395. John Wiley and Sons, Chichester, New York.
- Israel, B.A., Checkoway, B., Schulz, A. and Zimmerman, M. (1994). Health education and community empowerment: conceptualizing and measuring perceptions of individual, organizational, and community control. *Health Education Quarterly* 21, 149-170.
- Jan, S. (1998). A holistic approach to the economic evaluation of health programs using institutionalist methodology. *Social Science and Medicine* 47, 1565-1572.
- Jan, S. (2000). Institutional considerations in priority setting: Transactions cost perspective on PBMA. *Health Economics* 9, 631-641.

- Jan, S. (2002). A perspective on the analysis of credible commitment and myopia in health sector decision making. *Health Policy* (forthcoming).
- Jan, S., Dommers, E. and Mooney, G. (2002). A politico-economic analysis of decision making in funding health service organisations. *Social Science and Medicine* (forthcoming).
- Jan, S. and Mooney, G. (1999). *A Critical Review of Proposed Privatisation of Hospital Services in the Northern Territory*. Report to the Aboriginal Medical Services Alliance, Northern Territory (AMSANT), March 1999.
- Jan, S., Mooney, G., Ryan, M., Bruggemann, K. and Alexander, K. (2000). The use of conjoint analysis to elicit community preferences in public health research. A case study of hospital services in South Australia. *Australian and New Zealand Journal of Public Health* 24, 1, 64 – 70.
- Joskow, P.L. (1974). Inflation and environmental concern: structural change in the process of public utility price regulation. *Journal of Law and Economics*, XVII, 2, 291-327.
- Joskow, P.L. (2000). *Economic Regulation*. Edward Elgar, Cheltenham.
- Kahneman, D., Knetsch, J.L. and Thaler, R.H. (1991). The endowment effect, loss aversion and the status quo bias. *Journal of Economic Perspectives* 5, 193-206.
- Kaplan, A. (1964). *The Conduct of Inquiry. Methodology for Behavioral Science*. Chandler Publishing Company, San Francisco, California.
- Keaney, M. (1997). Can economics be bad for your health? *Health Care Analysis* 5, 4, 299-305.
- Klein, B., Crawford, R.G. and Alchian, A.A. (1978). Vertical integration, appropriable rents, and the competitive contracting process. *Journal of Law and Economics* 21, 2, 297-326.
- Klein, P. (1984). Institutionalist reflections on the role of the public sector. *Journal of Economic Issues* 18, 45-64.
- Klein, R. (2000). From evidence-based medicine to evidence-based policy? *Journal of Health Services Research and Policy* 5, 2, 65-66.
- Knight, F.H. (1924). Some fallacies in the interpretation of social cost. *Quarterly Journal of Economics* 38, 7, 582-606.
- Kreps, D. (1990). Corporate culture and economic theory. In *Perspectives on Positive Political Economy*, eds. J.E. Alt and K.A. Shepsle, pp. 90-143. Cambridge University Press, Cambridge.
- Kreps, D. and Wilson, R. (1982). Reputation and imperfect information. *Journal of*

Economic Theory 27, 2, 253-279.

Kremer, M. (2000). *Creating Markets for New Vaccines, Parts 1 and 2*. Commission on Macroeconomics and Health. A WHO commission examining the interrelations among investment in health, economic growth, and poverty reduction, Paris, 8-10 November 2000.

Kridel, D.J., Sappington, D.E.M. and Weisman, D.L. (1996). The effects of incentive regulation in the telecommunications industry: a survey. *Journal of Regulatory Economics* 9, 3, 269-306.

Kunitz, S.J. (1994). *Disease and Social Diversity. The European Impact on the Health of Non-Europeans*. Oxford University Press, New York.

Langlois, R.N. and Everett, M.J. (1994). What is evolutionary economics? In *Evolutionary and Neo-Schumpeterian Approaches to Economics*, ed. L. Magnusson, pp11-47. Kluwer, Boston.

Laurent, J. and Nightingale, J. (2001). *Darwinism and Evolutionary Economics*. Edward Elgar, Cheltenham.

Le Grand, J. (1997). Knights, knaves or pawns? Human behaviour and social policy. *Journal of Social Policy* 26, 149-169.

Lehrman, S. and Shore, K.K. (1998). Hospital vertical integration into skilled nursing: a rational approach to controlling transaction costs. *Inquiry* 35, 3, 303-14.

Levaggi, R. (1996). NHS contracts: an agency approach. *Health Economics* 5, 4, 341-352.

Libecap, G.D. (1996). Economic variables and the development of the law: the case of western mineral rights. In *Empirical Studies in Institutional Change*, eds. L.J. Alston, T. Eggertsson and D.C. North, pp. 34-58. Cambridge University Press, New York.

Lindbeck, A. (1997). Incentives and social norms in household behaviour. *American Economic Review* 87, 2, 370-377.

Livingston, M.L. (1987). Evaluating the performance of environmental policy: contributions of neoclassical, public choice, and institutional models. *Journal of Economic Issues* 21, 281-294.

Lomas, J. (1997). *Improving Research Dissemination and Uptake in the Health Sector: Beyond the Sound of One Hand Clapping*. CHEPA, McMaster University, Hamilton, Ontario.

Longley, D. (1996). *Health Care Constitutions*. Cavendish Publishing, London.

Luce, R.D. & Raiffa, H. (1957). *Games and Decisions. Introduction and Critical Survey*. John Wiley and Sons, New York.

- Luzar, J.E. (1987). Institutional change at a local level: pattern model analysis of Virginia's farmland retention policy. *Journal of Economic Issues*, 21, 605-615.
- McGreal, C. (2001). Shamed and humiliated - the drug firms back down. *The Guardian* Thursday 19 April 2001, 1.
- McKinlay, J.B. (1993). The promotion of health through planned sociopolitical change: challenges for research and policy. *Social Science and Medicine* 36, 109-117.
- Magnusson, L. (1994). *Evolutionary and Neo-Schumpeterian Approaches to Economics*. Kluwer, Boston.
- Mannion, R. and Smith, P. (1997). Trust and reputation in community care: theory and evidence. In *Changes in Health Care. Reflections on the NHS Internal Market* eds. P. Anand and A. McGuire, pp. 141-161. MacMillan Business, Basingstoke.
- Margolis, J. (1975). Comment. *Journal of Law and Economics* 18, 3, 645-659.
- Marshall, A. (1982). *Principles of Economics (8th ed.)*. Porcupine Press, Philadelphia.
- Maynard, A. (1994). Can competition enhance efficiency in health care? Lessons from the reform of the U.K. National Health Service. *Social Science and Medicine* 39, 10, 1438-45.
- Maynard, A. and Bloor, K. (1995). Help or hindrance? The role of economics in rationing health care. *British Medical Bulletin*, 51, 4, 854-68.
- Menger, C. (1892). On the origins of money. *Economic Journal* 2, 239-55.
- Milgrom, P. and Roberts, J. (1982). Predation, reputation and entry deterrence. *Journal of Economic Theory* 27, 2, 280-312.
- Mishan, E.J. (1971). Evaluation of life and limb: a theoretical approach. *Journal of Political Economy* 79, 687-706.
- Mobbs, R. (1991). In sickness and in health: the sociocultural context of Aboriginal well-being, illness, and healing. In *The Health of Aboriginal Australia*, eds. J. Reid and P. Trompf, pp. 292-325. Harcourt Brace Jovanovich, Sydney.
- Moe, T.M. (1990). The politics of structural choice: toward a theory of public bureaucracy. In *Organization Theory. From Chester Barnard to the Present and Beyond*, ed. O.E. Williamson, pp. 116-153. Oxford University Press, New York and Oxford.
- Monteverde, K. and Teece, D.J. (1982). Supplier switching costs and vertical integration in the automobile industry. *Bell Journal of Economics* 13, 321-328.
- Mooney, G. (1994a). What else do we want from our health services? *Social Science and Medicine* 39, 151-154.

- Mooney, G. (1994b). *Key Issues in Health Economics*. Harvester Wheatsheaf, Hemel Hempstead.
- Mooney, G. (1996). And now for vertical equity? Some concerns arising from Aboriginal health in Australia. *Health Economics*, 5, 99-103.
- Mooney, G. (1998). Beyond health outcomes: the benefits of health care. *Health Care Analysis* 6, 99-105.
- Mooney, G., Haas, M., Viney, R. and Cooper, L. (1997). *Linking Health Outcomes to Priority Setting, Planning and Resource Allocation*. Report to the NSW Department of Health on the Application of Program Budgeting and Marginal Analysis in NSW, Centre for Health Economics Research and Evaluation, Sydney.
- Mooney, G. and Jan, S. (1996). *Evaluation of Infant Ear Screening Project. Project Undertaken by New England Division of General Practice*. Department of Public Health and Community Medicine, University of Sydney, NSW.
- Mooney, G. and Jan, S. (1997). Vertical equity: weighting outcomes? Or establishing procedures? *Health Policy*, 39, 79-87.
- Mooney, G., Jan, S. and Wiseman, V. (1995). Examining preferences for allocating health gains. *Health Care Analysis* 3, 261-265.
- Mooney, G. and Lange, M. (1993). Antenatal screening: what constitutes 'benefit'? *Social Science and Medicine* 37, 873-878.
- Mooney, G. and Ryan, M. (1993). Agency in health care: getting beyond first principles. *Journal of Health Economics* 12, 125-135.
- Mooney, G. and Wiseman, V. (1999). A 'Constitution' for health care services. *Journal of Health Services Research and Policy* 4, 1.
- Mueller, D.C. (1979). *Public Choice*. Cambridge University Press, Cambridge.
- Musgrave, R. (1959). *A Theory of Public Finance*. McGraw Hill, New York.
- Myrdal, G. (1972). Response to introduction. *American Economic Review*, May, 456-462.
- Myrdal, G. (1981). What is political economy? In *Value Judgement and Income Distribution*, eds. R.A. Solo and C.W. Anderson, pp 41-53. Praeger Publishers, New York.
- Nagel, S.S. (2002). *Handbook of Public Policy Evaluation*. Sage Publications, Thousand Oaks.
- National Aboriginal Community Controlled Health Organisations. (1997). *Inquiry into Indigenous Health*. House of Representatives Standing Committee on Family and

Community Affairs, Submission by NACCHO, 7 November 1997.
<http://www.naccho.org.au/Hor-subx2.html>

National Aboriginal Health Strategy Working Party (1989). *Report of the National Aboriginal Health Strategy Working Party*. AGPS, Canberra.

Nelson, P. (1974). Advertising as information. *Journal of Political Economy* 81, 729-754.

Nelson, R.R. and Sampat, B.N. (2001). Making sense of institutions as a factor shaping economic performance. *Journal of Economic Behavior and Organization* 44, 31-54.

Nelson, R.R. and Winter, S.G. (1982). *An Evolutionary Theory of Economic Change*. Belknap Press of Harvard University Press, Cambridge.

Newberry, G. (1996). *Setting Health Priorities: The Use of Programme Budgeting and Marginal Analysis by the Central Coast Area Health Service*. Gosford, Central Coast Area Health Service.

Niskanen, W.A. (1971). *Bureaucracy and Representative Government*. Aldine Atherton, Chicago.

Niskanen, W.A. (1975). Bureaucrats and Politicians. *Journal of Law and Economics* 18, 3, 617-643.

Nord, E., Richardson, J., Street, A., Kuhse, H. and Singer, P. (1995). Maximising health benefits versus egalitarianism: An Australian survey of health issues. *Social Science and Medicine* 41, 1429-1437.

North, D. (1990a). *Institutions, Institutional Change and Economic Performance*. Cambridge University Press, New York.

North, D.C. (1990b). A transaction cost theory of politics. *Journal of Theoretical Politics* 2, 4, 355-367.

North, D.C. (1992a). Institutions and economic theory. *American Economist* 36, 1, 3-6.

North, D.C. (1992b). Institutions. *Journal of Economic Perspectives* 5, 1, 79-112.

North, D.C. (1993). Institutions and credible commitment. *Journal of Institutional and Theoretical Economics* 149, 1, 11-23.

North, D.C. (1999). Where have we been and where are we going? In *Economics, Values and Organization*, eds. A. Ben-Ner and L. Putterman, pp. 491-508. Cambridge University Press, Cambridge.

- North, D.C. and Thomas, R.P. (1973). *The Rise of the Western World: A New Economic History*. Cambridge University Press, Cambridge.
- North, D.C. and Weingast, B. (1989). Constitutions and credible commitments: the evolution of the institutions of public choice in 17th Century England. *Journal of Economic History* 49, 803-832.
- NSW Health Department (1996). *Implementation of the Economic Statement for Health*. Structural and Funding Policy Branch, Policy Development Division, Sydney.
- Offe, C. (1993). Bindings, shackles, brakes: On self-limitation strategies. In *Cultural-Political Interventions in the Unfinished Project of Enlightenment*, eds. A. Honneth et al., pp. 63-94. MIT Press, Cambridge Mass.
- Ohsfeldt, R.L. and Gohmann, S.F. (1992). The economics of AIDS-related health insurance regulations: interest group influence and ideology. *Public Choice* 74, 1, 105-26.
- Olson, M. (1965). *The Logic of Collective Action. Public Goods and the Theory of Groups*. Harvard University Press, Cambridge, MA.
- Ostrom, E. (1990). *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge University Press, New York.
- Ostrom, E., Gardner, R. and Walker, J. (1994). *Rules, Games, & Common-Pool Resources*. University of Michigan Press, Ann Arbor.
- Palmer, N. (2001). *Influences and the Nature and Performance of Contracts for Primary Care: Case Studies from Southern Africa*. Ph.D. Thesis, London School of Hygiene and Tropical Medicine, London.
- Parsons, T. (1990). Prolegomena to a theory of social institutions. *American Sociological Review* 55, 3, 319-333.
- Peacock, S., Richardson, J. and Carter, R. (1997). *Setting Priorities in South Australian Community Health II: Marginal Analysis of Mental Health Services*. Research Report 14, Centre for Health Program Evaluation, Monash University, Melbourne.
- Peacock, S. and Edwards, D. (1997). *Setting Priorities in South Australian Community Health II: The Mental Health Program Budget*, Research Report 13, Melbourne, Centre for Health Program Evaluation, Monash University.
- Ployhart, R.E and Ryan A.M. (1998). Applicants' reactions to the fairness of selection procedures: the effects of positive rule violations and time of measurement. *Journal of Applied Psychology* 83, 1, 3-16.
- Poland, B., Coburn, D., Robertson, A., Eakin, J. and members of the Critical Social Science Group (1998). Wealth, equity and health care: a critique of a "population

health" perspective on the determinants of health. *Social Science and Medicine* 46, 785-798.

Posner, R.A. (1971). Taxation by regulation. *Bell Journal of Economics and Management Science* 2, 1, 22-50.

Posner, R. (1986). *Economics Analysis of the Law* (3rd Ed.). Little Brown, Boston.

Posnett, J. and Street, A. (1996). Programme budgeting and marginal analysis: an approach to priority setting in need of refinement, *Journal of Health Service Research and Policy* 1, 3, 1-7.

Pratt, J.W. and Zeckhauser, R.J. (1985). *Principals and Agents: The Structure of Business*. Harvard Business School Press, Boston, Mass.

Preker, A.S., Harding, A. and Travis, P. (2000). "Make or buy" decisions in the production of health care goods and services: new insights from institutional economics and organizational theory. *Bulletin of the World Health Organization* 78, 6, 779-790.

Propper, C. (1995). Agency and incentives in the NHS internal market. *Social Science and Medicine* 40, 12, 1683-90.

Putnam, R. (2000). *Bowling Alone. The Collapse and Revival of American Community*. Simon and Schuster, New York.

Raftery, J., Robinson, R., Mulligan, J. and Forrest, S. (1996). Contracting in the NHS quasi-market. *Health Economics* 5, 4, 353-362.

Randall, A. (1985). Methodology, ideology, and the economics of policy: why resource economists disagree. *American Journal of Agricultural Economics* 67, 1022-1029.

Rappaport, J. (1981). In praise of paradox: a social policy of empowerment over prevention. *American Journal of Community Psychology* 9, 1-25.

Rawls, J. (1971). *A Theory of Justice*. Harvard University Press, Cambridge.

Regan, D. (1972). The problem of social cost revisited. *Journal of Law and Economics* 15, 427- 437.

Reid, J. and Trompf, P. (1991). *The Health of Aboriginal Australia*. Harcourt Brace Jovanovich, Sydney.

Reinhardt, U. (1997). Abstracting from distributional effects, this policy is efficient. In *Quality and Inequality: What Care, Whose Costs, and Whither Health?*, eds. M. Barer, T. Getzen, and G. Stoddart, pp. 1-52. John Wiley and Sons, Chichester, New York

- Resource Allocation and Funding Team (1999). *Resource Allocation: Weighted Capitation Formulas*. <http://tap.ccta.gov.uk/doh/point.nsf/Publications?ReadForm>
- Resource Allocation Working Party. (1976). *Sharing Resources for Health*. HMSO, London.
- Rice, T. (1998). *The Economics of Health Reconsidered*. Health Administration Press, Chicago, Illinois.
- Robinson, J.C. (2001). Organizational economics and health care markets. *Health Services Research* 36, 1 pt2, 177-89.
- Robinson, J.C. (1993). Payment mechanisms, nonprice incentives, and organizational innovation in health care. *Inquiry* 30, 3, 328-33.
- Robinson, J.C. and Casalino, L.P. (1996). Vertical integration and organizational networks in health care. *Health Affairs* 15, 1, 7-22.
- Robinson, J.C. (1994). The changing boundaries of the American Hospital. *Milbank Memorial Fund Quarterly* 72, 2, 259-275.
- Robinson, R. (1999). Limits to rationality: economics, economists and priority setting. *Health Policy* 49,13-26.
- Romer, T. and Rosenthal, H. (1979). Bureaucrats versus voter: on the political economy of resource allocation by direct democracy. *Quarterly Journal of Economics* 93, 4, 563-587.
- Roomkin, M.J. and Weisbrod, B.A. (1999). Managerial compensation and incentives for-profit and nonprofit hospitals. *Journal of Law, Economics and Organization* 15, 3, 750-781.
- Ross, J. (1995). The use of economic evaluation in health care: Australian decision makers' perceptions. *Health Policy* 31, 103-110.
- Rothschild, M. and Stiglitz, J.E. (1976). Equilibrium in competitive insurance markets. *Quarterly Journal of Economics* 80, 629-49.
- Rowley, C.K. and Peacock, A.T. (1975). *Welfare Economics*. Martin Robinson, London.
- Rutherford, M. (1996). *Institutions in Economics. The Old and the New Institutionalism*. Cambridge University Press, Cambridge.
- Ruttan, V.W. (1995) Cultural endowments and economic development: implications for the Chinese economies. *China Economic Review* 6, 91-104.
- Ryan, M. (1995). *Economics and the Patient's Utility Function: An Application to Assisted Reproductive Techniques*. Ph.D Thesis, University of Aberdeen, Aberdeen.

- Sackett, D. and Rosenberg, W.M. (1995). The need for evidence-based medicine. *Journal of the Royal Society of Medicine* 88, 11, 620-624.
- Saggers, S. and Gray, D. (1991). *Aboriginal Health & Society. The Traditional and Contemporary Aboriginal Struggle for Better Health*. Allen and Unwin, St Leonards.
- Salkeld, G. (1998). What are the benefits of preventative health care health care? *Health Care Analysis* 6, 106-112.
- Samuels, W.J. (1995). The instrumental value principle and its role. In *Institutional Economics and the Theory of Social Value: Essays in Honor of Marc R. Tool*, ed. C.M.A. Clark, pp. 97-112. Kluwer Academic Publishers, Norwell, Massachusetts.
- Samuels, W.J. and Medema, S.G. (1995). Ronald Coase on economic policy analysis: framework and implications. In *The Legacy of Ronald Coase in Economic Analysis, Vol. 1*, ed. S.G. Medema, pp. 161-183. E. Elgar, Aldershot.
- Schelling, T.C. (1960). *The Strategy of Conflict*. Harvard University Press, Cambridge, MA.
- Schotter, A. (1981). *The Economic Theory of Social Institutions*. Cambridge University Press, Cambridge.
- Schotter, A. (1988). State-of-nature theory and the rise of social institutions. In *The Theory of Market Failure. A Critical Examination*, ed. T. Cowen pp. 147-178. George Mason University Press, Fairfax, Virginia.
- Schulze, W.D. and Howe, C.W. (1985). Observations on the frontiers and fringes of the neoclassical paradigm. *American Journal of Agricultural Economics* 67, 1035-1038.
- Schumpeter, J.A. (1950). *Capitalism, Socialism and Democracy*. New York: Harper and Row.
- Scott, A., Donaldson, C. and Scott, S. (1999). Programme budgeting and marginal analysis: pragmatism and policy. *Journal of Health Service Research and Policy* 4, 1, 1-2.
- Shabman, L. (1985). Natural resource economics: methodological orientations and policy effectiveness. *American Journal of Agricultural Economics* 67, 1030-1034.
- Shelanski, H.A. and Klein, P.G. (1995). Empirical research in transaction cost economics: a review and assessment. *Journal of Law, Economics and Organization* 11, 2, 335-361.
- Shiell, A. and Chapman, S. (2000). The inertia of self-regulation: a game theoretic approach to reducing passive smoking in restaurants. *Social Science and Medicine* 51, 1111-1120.

- Shiell, A. and Hawe, P. (1996). Health promotion, community development and the tyranny of individualism. *Health Economics* 5, 241-247.
- Shepsle, K.A. (1991). Discretion, institutions and the problem of government commitment. In *Social Theory for a Changing Society*, eds. P. Bourdieu and J.S. Coleman, pp. 245-263. Russell Sage Foundation, New York.
- Shirley, M.M. and Xu, L.C. (1998). Information, incentives, and commitment: An empirical analysis of contracts between government and state enterprises. *Journal of Law, Economics and Organization* 14, 358-378.
- Sikorski, J., Wilson, J., Clement, S., Das, S. and Smeeton, N. (1996). A randomised controlled trial comparing two schedules of antenatal visits: the antenatal care project=. *British Medical Journal* 312, 546-53.
- Simon, H. (1965). *Administrative Behavior*. Free Press, New York.
- Solow, R.S. (1971). Blood and thunder. *Yale Law Journal* 80, 2, 170 -183.
- Spence, A.M. (1973). *Market Signalling: Information Transfer in Hiring Related Processes*. Harvard University Press, Cambridge.
- Steele, R. (1981). Marginal met need and geographical equity in health care. *Scottish Journal of Political Economy*, 21, 186-95.
- Stigler, G. (1971). The theory of economic regulation. *Bell Journal of Economics and Management Science* 2, 1, 3-21.
- Stiles, R.A. and Mick, S.S. (1997). Components of the costs of controlling quality: a transaction cost economics approach. *Hospital Health Service Administration* 42, 2, 205-19.
- Stiles, R.A., Mick, S.S. and Wise, C.G. (2001). The logic of transaction cost economics in health care organization theory. *Health Care Management Review* 26, 2, 85-92.
- Stone, A., Levy, B. and Paredes, R. (1996). Public institutions and private transactions: a comparative analysis of the legal and regulatory environment for business transactions in Brazil and Chile. In *Empirical studies in Institutional Change*, eds. L.J. Alston, T. Eggertsson and D.C. North pp. 95-128. Cambridge University Press, New York.
- Strong, N. and Waterson, M. (1987). Principals, agents and information. In *The Economics of the Firm*, eds. R. Clarke and T. McGuinness pp. 18-41. Basil Blackwell, Oxford.
- Susskind, L. and Cruikshank J. (1987). *Breaking the Impasse: Consensual Approaches to Resolving Public Disputes*. Basic Books, New York.

- Syme, S.L. (1996). Rethinking disease: where do we go from here? *Annals of Epidemiology* 6, 463-468.
- Taylor-Gooby, P. (1996). The future of health care in six European countries: the views of policy elites. *International Journal of Health Services* 26, 2, 203-19.
- Thibaut, J. and Walker, L. (1975). *Procedural Justice. A Psychological Analysis*. John Wiley, New York.
- Tirole, J. (1994). The internal organization of government. *Oxford Economic Papers* 46, 1, 1-29.
- Titmuss, R.M. (1970). *The Gift Relationship*. Allen and Unwin, London.
- Tool, M.R. (1977). A social value theory in neoinstitutional economics. *Journal of Economic Issues* 11, 823-847.
- Tool, M.R. (1979). *The Discretionary Economy. A Normative Theory of Political Economy*. Goodyear Publishing Company, Santa Monica, California.
- Ubel P. (2000). *Pricing Life: Why It's Time for Health Care Rationing*. MIT Press, Cambridge Mass.
- Ullman-Margalit, E. (1978). *The Emergence of Norms*. Oxford University Press, New York.
- U.S. Department of Health and Human Services (1979). *Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention*. US Government Printing Office, Washington D.C.
- Van den Bos, K., Lind, E.A., Vermunt, R. and Wilke, H.A. (1997). How do I judge my outcome when I do not know the outcome of others? The psychology of the fair process effect. *Journal of Personality and Social Psychology* 72, 5, 1034-46.
- Vanberg, V.J. (1994). *Rules and Choice in Economics*. Routledge, London.
- Varekamp, I., Meiland, F.J., Hoos A.M. Wendte J.F., de Haes J.C. and Krol L.J. (1998). The meaning of urgency in the allocation of scarce health care resources; a comparison between renal transplantation and psychogeriatric nursing home care. *Health Policy* 44, 2, 135-48.
- Veblen, T. (1924). *The Theory of the Leisure Class*. George Allen and Unwin, London.
- Veblen, T. (1964). *Absentee Ownership and Business Enterprise in Recent Times*. Augustus M. Kelley, New York.
- Villar, J., Carroli, G., Khan-Neelofur, D., Piaggio, G. and Gülmezoglu, M. (2002). Patterns of routine antenatal care for low-risk pregnancy (Cochrane Review). In *The Cochrane Library*, 1. Update Software, Oxford .

- Viney, R., Haas, M. and Mooney, G. (1995). Program budgeting and marginal analysis. *NSW Health Bulletin* 6, 29-32.
- Walker, G. and Weber, D. (1984). A transaction cost approach to make-or-buy decisions. *Administrative Science Quarterly* 29, 66-87.
- Wallis, J.J. and North, D.C. (1986). Measuring the transaction sector in the American economy 1870-1970. In *Long Term Factors in American Economic Growth*, eds. S.L. Engerman and R.E. Gallman, University of Chicago Press, Chicago.
- Wallerstein, N. and Bernstein, E. (1994). Introduction to community empowerment, participatory education, and health. *Health Education Quarterly* 21, 141-148.
- Walshe, K. and Rundall, T.G. (2001). Evidence-based management: from theory to practice in Health Care. *Milbank Quarterly* 79, 3, 429-457.
- Weber, M. (1978) *Economy and Society*. University of California Press, Berkeley CA.
- Weingast, B.R. (1993). Constitutions as governance structures: the political foundations of secure markets. *Journal of Institutional and Theoretical Economics* 149, 286-311.
- Weingast, B.R. and Marshall, W. (1988). The industrial organization of Congress; or, why legislatures, like firms, are not organised as markets. *Journal of Political Economy* 96, 11, 132-163.
- Westley-Wise, V. (1994). Review of Aboriginal perinatal and maternal morbidity and mortality in New South Wales 1986-1991. *New South Wales Public Health Bulletin* 5, (Suppl 3), 1-55.
- Wicksell, K. (1997). *Selected Essays in Economics*. Routledge, London.
- Wilber, C.K. and Harrison, R.S. (1978). The methodological basis of institutional economics: pattern model, story telling, and holism. *Journal of Economic Issues* 12, 61-89.
- Williamson, O.E. (1971). The vertical integration of production: market failure considerations. *American Economic Review* 61, 2, 112-23.
- Williamson, O.E. (1975). *Markets and hierarchies: Analysis and antitrust implications*. Free Press, New York.
- Williamson, O.E. (1985). *The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting*. The Free Press, New York.
- Williamson, O.E. (1987). Transaction cost economics: the comparative contracting perspective. *Journal of Economic Behavior and Organization* 8, 617-625.

Williamson O.E. (1998). The institutions of governance. *American Economic Review* 88, 2, 75-84.

Williamson, O.E. (1999). Public and private bureaucracies: a transaction cost economics perspective. *Journal of Law, Economics and Organization* 15, 1, 306-342.

Wiseman, V., Mooney, G. and Stephenson, J. (1998). *An Economic Approach to Priority Setting in Health Care*. Social and Public Health Economics Research Group Discussion Paper 1/98, Department of Public Health and Community Medicine, University of Sydney, Sydney.

Xu, B., Jarvelin, M., Lu, H., Xu, X. and Rimpela, A. (1995). Maternal determinants of birth weight: a population based sample from Qingdao, China. *Social Biology* 42, 3-4, 175-84.

Zafirovski, M. and Levine, B.B. (1997). Economic sociology reformulated: the interface between economics and sociology. *American Journal of Economics and Sociology* 56, 3, 265-285.

- 8 JUL 2003

RARE BOOKS LIB

UNIVERSITY OF SYDNEY LIBRARY
0000000609230201

