PERSPECTIVES ON WOLF'S THEORY OF NONMARKET FAILURE

Brian Dollery

July 1994

UNE Working Papers in Economics No. 11

Editor John Pullen

Department of Economics
University of New England
Armidale
New South Wales 2351
Australia

ISSN: 1321 - 9081

ISBN: 1 86389 204 4

Perspectives on Wolf's Theory of Nonmarket Failure

Brian Dollery*

Modern welfare economics has been centrally concerned with both identifying and elaborating the necessary and sufficient conditions for the efficient operation of market processes. The development of thought in this area spawned a complex classification system for cataloguing generic instances of inefficient market outcomes known as the theory of market failure (Bator, 1958). This theory allowed policymakers to compare observed market processes with their idealised counterparts, and prescribe government intervention should any marked divergence be present. Until the 1960's no parallel investigation existed into any equivalent conditions necessary for efficient policy implementation. Accordingly, policymakers proceeded on the implicit, if untenable, presumption that public policy intervention was invariably optimal. As Buchanan (1983, p.16) has noted "to the theoretical welfare economists, markets 'failed' in the allocative process; 'ideal' government was assumed to be the alternative".

Since then the development of a more coherent perspective on the nature of government has taken several overlapping forms. Firstly, public choice theory represents a comprehensive explanation for collective failure by extending the methodology of *homo economicus* to the formulation and application of public policy. Secondly, a derivative literature exists on the economic analysis of bureaucracy, and the phenomenon of bureaucratic failure (see, for example, Borcherding (1977), Breton and Wintrobe (1982), Downs (1967), Dunleavey (1991), Migué and Bélanger (1974), Niskanen (1971), Tullock (1974), and Von Mises (1945). And thirdly, an explicit theory of government failure has been constructed by Wolf (1979a; 1979b; 1983; 1987; 1989) in a conscious effort to provide a conceptual analogue to the theory of market failure.

The present paper is exclusively focussed on major developments in this third area. The paper itself is divided into four main parts. Section 1 briefly reviews the central thrust of Wolf's theory of nonmarket failure, and attempts to distinguish it from the mainstream public choice approach. Section 2 examines Le Grand's (1991) critique and extension of the theory of government failure. Criticisms and amendments to Wolf's

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* Senior Lecturer, Department of Economics, University of New England, Armidale NSW 2351, Australia. I should like to thank Charles Wolf for his insightful substantive comments on an earlier version of the paper. I also gratefully acknowledge the contribution made by participants at the session on public finance at the 1993 Conference of Economists, Murdoch University, Perth, Western Australia.

model advanced by Peacock (1980), Williamson (1989), and Vining and Weimer (1991) are analysed in Section 3, and some additional observations are offered in Section 4. The paper ends with some brief concluding remarks in Section 5.

1. Wolf's Theory of Nonmarket Failure

Wolf's theory of nonmarket failure represents a deliberate attempt to provide a countervailing analytical apparatus to established arguments based on familiar notions of market failure. Thus Wolf (1987, p.43) himself notes that his theory seeks "...to redress the asymmetry in the standard economic treatment of the shortcomings of markets and governments by developing and applying a theory of 'nonmarket' - that is, of government failure - so that the comparison between markets and governments can be made more systematically, and choices between them arrived at more intelligently". Moreover, Wolf is at pains to differentiate his theory from public choice approaches to the phenomenon. Claiming an intellectual lineage stemming from McKean (1964), Wolf (1987, p.44) stresses that "... a complete theory of non-market failure requires more than is provided by public choice alone". At least three factors purportedly distinguish the Wolfian model from its public choice counterparts (Wolf, 1989, pp.5-6). Firstly, various institutional features characteristic of nonmarket failure are apparently either disregarded or not satisfactorily dealt with in conventional public choice theory. Secondly, "public choice theory ignores the role of organisational inertia, tradition, and 'standard operating routines' as contributors to nonmarket failures" (Wolf, 1989, p.5). And thirdly, a comprehensive theory of nonmarket failure apparently needs to go beyond the traditional concerns of public choice theory with government processes, and include other nonmarket organisations such as charities, universities, and so forth.

The theory of nonmarket failure itself mirrors the orthodox methodology followed in the theory of market failure by seeking to attribute various kinds of nonmarket failure to peculiarities in underlying "demand" and "supply" conditions. Wolf (1979, p. 117/118) stresses such methodological parallels, and argues that "just as some types of incentive encourage market failure, so too incentives influencing particular non-market organisations may lead to behaviour and outcomes that diverge from ones that are socially preferable, according to the same criteria of preferability as those for markets -efficiency and distributional equity". Moreover, in response to the question of why certain patterns of nonmarket failure manifest themselves, he hypothesises that "the answer lies in the distinctive supply and demand characteristics that differentiate non-market outputs from market outputs" (Wolf, 1979, p.118).

Wolf (1989, pp. 51-55) identifies four basic attributes of nonmarket supply. Firstly, he argues that "nonmarket outputs are often hard to define in principle, ill-defined in practice, and extremely difficult to measure as to quantity or to evaluate as quality" (Wolf, 1989, p. 51). Accordingly, inputs generally become a proxy measure for output. Secondly, Wolf postulates that nonmarket outputs are generally produced by a single public agency often operating as a legally constituted monopoly. The resultant lack of competition makes any meaningful estimates of economic efficiency difficult, and consequently serves to obscure allocative and productive efficiencies. Thirdly, Wolf (1989, p. 52) argues that "technology of producing nonmarket outputs is frequently unknown, or if known, is associated with considerable uncertainty and ambiguity", and consequently may exacerbate economic inefficiencies. Finally, Wolf proposes nonmarket production activity is usually characterised by the lack of any "bottom-line" evaluation mechanism equivalent to profit or loss for appraising success. Moreover, there is often no specified procedure for terminating unsuccessful production.

Wolf (1989, pp. 39-50) identifies five basic "conditions" of nonmarket demand. In the first instance Wolf (1987, p. 55) postulates that "... an increased public awareness of market shortcomings" has lead to a reduced tolerance of them, and consequently heightened public desire for state intervention. A second characteristic attributed to the demand for nonmarket activity resides in "political organisation and enfranchisement" (Wolf, 1988, p.40), and the resultant increases in the effectiveness of special interest groups in the political process. Thirdly, maximising politicians and bureaucrats are rewarded for propagating interventionist "solutions" to perceived social "problems" without reference to the costs of implementation. Fourthly, the demand for nonmarket activity is further enhanced by the "high time-discount of political actors" (Wolf, 1989, p.40) due to relatively short electoral periods of office experienced by politicians in most representative democracies. An important outcome of these constitutional arrangements is a higher rate of time discounting amongst politicians as compared with society at large, and a resultant emphasis on current rather than future costs and benefits. The final "condition" of nonmarket demand identified by Wolf (1989, p.41) is "... the decoupling between those who receive the benefits, and those who pay the costs, of government programmes". Wolf argues that decoupling occurs in two different forms. On the one hand, "microdecoupling" arises when the benefits of collective action accrue to a particular group, whereas the costs of such action are dispersed amongst all groups. On the other hand, "macrodecoupling" occurs where the benefits of collective action are shared by all groups, but the costs of this action are concentrated on some specific group.

These various peculiarities in the nature of nonmarket demand and supply form the foundation of Wolf's theory of government failure and the resultant taxonomy of nonmarket failure. Moreover, the structure of arguments intrinsic to this theory deliberately replicates the logic of the theory of market failure. Wolf (1979a, p.115) puts the matter thus:

> "The supply and demand characteristics of the nonmarket sector are fundamental to the theory of nonmarket failure. They provide a basis for formulating a typology of nonmarket failure analogous to that which already exists for market failure. In both cases, the 'failures' - whether market or nonmarket - are evaluated against the same criteria of success: allocative efficiency and distributional equity judged according to some explicit social or ethical norm".

Inclusive of distributional inequities, Wolf has developed a fourfold taxonomy of nonmarket failure. Firstly, and evidently by far the most important form of nonmarket failure (Wolf, 1979b, p.132) resides in "internalities and private goals". These refer to intraorganisational allocation and evaluation procedures which determine distributional outcomes for agencies and agency personnel alike, and accordingly constitutes part of their respective utility functions. Although both market and nonmarket firms must perforce employ an "internal version of the price system" for intrafirm resource allocation, market pressures ensure that the "internal standards" of market organisations are strongly linked to the "external price system", whereas nonmarket organisations may have internalities largely unrelated to optimal performance. This may mean that the actual behaviour of some public firm may diverge from its intended or ideal role. Thus, just as the problem of externalities in market failure arises from a predominance of private costs in private sector decisionmaking, so the problem of internalities in nonmarket failure stems from the ascendancy of private motives in public sector decisionmaking.

Secondly, "redundant and rising costs" represent another kind of nonmarket failure. In essence, Wolf argues that while market processes impose a relationship between production costs and output prices, this relationship is generally absent in nonmarket activity since revenues derive from nonmarket sources, like government tax income. Consequently, "where the revenues that sustain an activity are unrelated to the costs of producing it, more resources may be used than necessary to produce a given output, or more of the nonmarket activity may be provided than is warranted by the original market-failure reason for undertaking it in the first place" (Wolf, 1989, p.63).

The third type of nonmarket failure in the Wolfian taxonomy is termed "derived externalities". Derived externalities are the unintended and unanticipated side effects of government intervention designed to ameliorate perceived instances of market failure. Just as externalities generated in market relationships represent costs and benefits not considered by economic agents, so derived externalities in the nonmarket sphere "... are side effects that are not realised by the agency responsible for creating them, and hence do not affect the agency's calculations or behaviour" (Wolf, 1989, p.77). In common with market externalities, derived externalities may be both positive and negative.

In his classification of market failure Wolf includes "distributional equity" to the conventional categories of externalities and public goods, increasing returns to scale, and market imperfections, despite acknowledging the fact that most economists view market failures exclusively in terms of efficiency (Wolf, 1989, p.28). Accordingly, in order to maintain the symmetry of his typology of nonmarket failure with the orthodox theory of market failure, Wolf incorporates adverse distributional consequences as his final category of nonmarket failure. Whilst hypothesising that "... there is an identifiable process by which inequities can result from nonmarket activities ..." similar to inequalities flowing from nonmarket outcomes, Wolf (1989, p.84) nevertheless argues that nonmarket inequities characteristically occur in terms of power and privilege, whereas distributional market failures typically appear in income and wealth differences.

2. Le Grand's Critique and Extension

Le Grand (1991) argues that while Wolf's attempt at creating a theory of government failure conceptually analogous to the orthodox theory of market failure is undoubtedly an innovative step, various problems in the construction of this theory rendered it somewhat less influential than may otherwise have been expected. Thus, "... Wolf's analysis, although pioneering, was also in parts confusingly expressed and incorrectly formulated; it was also less than complete" (Le Grand, 1991, p.424). Le Grand's critique is focussed on the three non-distributional elements in Wolf's typology of nonmarket failure. The essence of this line of argument is as follows (Le Grand, 1991, p.431):

> "So one of Wolf's categories of government failure to achieve efficiency does not really stand up. The other two do refer to distinct and important phenomena; but they are not always expressed in a manner that captures the essence of the problems involved. The confusion arises from the absence of any distinction

between the different ways in which the government can intervene in the economy, a distinction that is crucial, for there are different reasons (several of which are not mentioned by Wolf) why government intervention might 'fail' in each case".

In the first instance, Le Grand (1991, pp. 428-429) attacks Wolf's specification of the problems posed by the "disjunction between costs and revenues". His argument is two-fold. Firstly, many forms of state activity do possess explicit relationships between costs and income, not least public utilities in water, power, and the like. And while nationalised enterprises of this kind are often inefficient, these inefficiencies cannot be ascribed to a nonexistent "disjunction between costs and revenues". Secondly, Le Grand disputes the significance of cost-revenue relationships *per se* for organisational efficiency. The argument here appears to centre on the nature of organisational hierarchies, and the efficiency problems these pose for public and private firms alike. In sum, "... the question is not really one of the disjunction between revenues and costs as such, but the impact of any disjunction that may exist on the incentives of the relevant agents" (Le Grand, 1991, p.429).

In some respects these criticisms may be misplaced. For example, the difficulties presented by the existence of public enterprises which raise revenues directly from the sale of output may not be fatal to the argument, depending on how nonmarket activity is defined. Wolf himself is unclear on the precise meaning he attaches to the nonmarket sphere. On the one hand, he explicitly observes that "the basis for distinguishing between the market and nonmarket is that market organisations derive their principal revenues from prices charged for output sold in markets *where buyers can choose what to buy as well as whether to buy*, whereas non-market organisations derive their principal revenues from taxes, donations, or other non-priced sources" (Wolf, 1987), p.53) (emphasis added). Although the italicised words appear to rule out monopolistic public sector utilities, like electricity and water companies, the latter part of the definition can be interpreted as excluding firms which receive most of their income from the sale of output. This impression is reinforced by Wolf's (1989, pp.38-39) fourfold classification of nonmarket activities, which specifies "regulatory services", like consumer protection agencies, " 'pure' public goods", such as national defence, "quasi-public goods", like education, and "administering transfer payments", such as social security, but does not obviously include revenue earning public sector organisations like power utilities and transport systems. On the other hand, Wolf often cites public firms of this kind as subsumed within the broad nonmarket sphere, especially in discussions of empirical magnitudes. For instance, he notes that "... some private sector projects in the market domain - for example, major construction projects and energy plants - have experienced even greater cost growth before completion than did public sector projects" (Wolf, 1989, p.66). In short, the question may not revolve around the impact of any cost/revenue disjunction on the incentives of economic agents within organisations, as Le Grand believes, but rather on the comparative advantages of market and nonmarket hierarchies in dealing with the problem.

Secondly, Le Grand criticises Wolf's formulation of "internalities and organisational goals", although he does concede that it refers to a "recognisable phenomenon". The essence of Le Grand's argument appears to echo earlier debates in the theory of the firm concerning the objectives of large corporations stemming from the separation of ownership from control (Berle and Means, 1932; Wildsmith, 1973). In particular, he argues that since this form of nonmarket failure is also evident in corporate structures, it forms part of the broader phenomenon of organisational failure common to both public and private hierarchies. Accordingly, the extent to which "internalities and organisational goals" thwart organisational efficiency depends largely on the environment in which the firm operates, rather than whether or not it is publicly owned. Thus, the form and not content of government intervention becomes crucial.

Thirdly, Le Grand denies the existence of "derived externalities" as a coherent category conceptually different from the conventional notion of externalities in market failure, despite Wolf's conviction that the two terms refer to analytically distinctive phenomena. Le Grand (1991, p. 431) argues that "overall, there seems no *a priori* reason for supposing that government organisations are likely to create more 'derived externalities' than private ones; and, if that is the case, these kind of externalities are as much a source of market as of government failure". Derived externalities are thus simply synonymous with externalities.

It is possible to respond to this argument in various ways. Firstly, Wolf himself has indicated that whilst there are important similarities between externalities in the market sector and derived externalities in the nonmarket sector, the two concepts are not conceptually identical. Wolf (1989, p. 77) puts the matter as follows:

> "The unanticipated side effects of nonmarket activities are similar, but not identical, to the externalities of market activities. Externalities in the market domain are side effects (whether anticipated or not) that producers cannot capture when they confer benefits or are obliged to pay when they impose costs. Derived externalities in the nonmarket domain are side effects that are not realised by the agency responsible for creating them, and hence do not affect the agency's calculations or behaviour".

Secondly, it is certainly true that market and nonmarket activities alike may have unintended side effects, and these side effects may well impose costs or benefits on individuals and organisations. But since virtually all actions have unintentional consequences in a world of imperfect foresight, the existence of such consequences cannot necessarily imply that externalities *per se* obtain, because "such indiscriminate coinage must have the inevitable result of reducing to zero the analytic power of the original concept" (Mishan, 1965, p.15). Thirdly, in its conventional neoclassical meaning, the term externalities refers to the direct effects of production and consumption activities which result in divergences between private and social costs and benefits such that the price mechanism cannot achieve allocative efficiency. Policy induced misallocations of resources, conveyed by the concept of derived externalities, do not meet this standard definition.[1] Fourthly, the essential differences between externalities and derived externalities may elucidated in the context of joint production or consumption. Externalities flow from the joint production or consumption of private goods with public goods or bads, whereas derived externalities stem from the jointedness of (pure or impure) public goods with other public goods or bads. On these and other grounds, Le Grand's contention that externalities and derived externalities are equivalent concepts describing the same phenomena is not convincing.

Building on the premise that Wolf's taxonomy of nonmarket failure is seriously flawed, and that a more rigorous approach to the problem must base itself on the different ways in which state intervention can occur, Le Grand proceeds to formulate an alternative theory of government failure. Le Grand (1991, p. 431) argues that "the government can involve itself in an area of social and economic activity in any, or all, of three ways: *provision, taxation or subsidy* and *regulation*" (original emphasis), and then proceeds to develop a "theory" of government failure by evaluating each of these three forms of state intervention in terms of the familiar criteria of economic efficiency and equity. Any perceived limitations of this approach are met with the qualification that "I have only been able to give an outline of a more consistent theory of government failure here" (Le Grand, 1991, p. 442).

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1 Arndt (1990) has dealt with a similar question in the context of the debate over private foreign debt, and the case for government intervention based on putative "externalities" contingent upon "excessive" levels of foreign private debt. He argued that "confining the term externalities to direct ("technological") external effects on GDP, therefore, would at least avoid the potential absurdity inherent in the inclusion of external effects on all aspects of human welfare, where the effects of pursuit of any one policy objective on all others is treated as an externality..." (Arndt, 1990, p. 200).

Although a detailed analysis of Le Grand's purported theory of government failure lies beyond the scope of the present discussion, insofar as it stems directly from Wolf's typology of nonmarket failure, a few observations remain pertinent. Quite apart from the fact that Le Grand's tripartite classification of state intervention ignores many well-known forms of government activity, like macroeconomic stabilisation policy, fails to distinguish between budgetary and other government activities, and subsumes under *provision* the crucially different notions of direct government production and indirect government production through contracting, there are several conceptual problems with the model itself. Perhaps foremost amongst these is the logical status of the argument. After all, the application of economic efficiency and some well-defined equity criteria to various kinds of public sector activity is the standard fare of conventional welfare economics, and hardly warrants the title of theory, whether of government behaviour or anything else.

3. Peacock, Williamson, and Vining and Weimer

Although recognising the need for a general theory of collective or nonmarket failure, Peacock (1980) argues that by attempting to replicate the normative framework provided the theory of market failure, Wolf's model simply perpetuates the various biases embodied in paretian welfare economics. Thus, Wolf's theory encourages confusion between "...the actual incidence of 'collective failure' with the incidence which would obtain were government to follow the strict dictates of welfare economics" (Peacock, 1980, p. 41). And secondly, Peacock claims that Wolf's typology of nonmarket failure is inappropriate for explaining government failure because its comparative static methodology and demand and supply structure do not recognise ongoing interactions between public policy and private economic agents. Accordingly, Wolf's taxonomy "...is deficient in not incorporating the incentive given to the private sector to protect its interests in the face of public intervention by methods which will markedly increase the costs of attempting to eradicate market failure by selective means" (Peacock, 1980, p. 41).

Both these arguments have undoubted validity. However, a more limited interpretation of the purposes of Wolf's model may serve to deflect at least some of the force of Peacock's criticisms. Firstly, Wolf explicitly seeks to provide a conceptual analogue of the conventional theory of market failure. It is thus not surprising that he seeks to couch this countervailing theory of nonmarket failure within the familiar framework of paretian welfare economics. Indeed, whilst not denying the well-known weaknesses of the paretian schema (Boadway and Bruce, 1984), the use of a common conceptual system might just as well be regarded as a strength of the Wolf taxonomy, since it facilitates the evaluation of market and nonmarket behaviour by the same set of criteria. Moreover, a distinctive positive analysis of government already exists in the form of public choice theory as Peacock (1980) acknowledges. Secondly, Peacock's observations concerning interaction between public policies and private sector behaviour are essentially accurate, and Wolf's comparative static framework many preclude consideration of ongoing or dynamic aspects of this process[2] . But to the extent that the conventional theory of market failure is usually couched in comparative static terms, Wolf is surely justified in employing the same methodology in the construction of his model, even if this may imply a neglect of intertemporal processes.

One of the most influential assessments of the theory of nonmarket failure has been provided by Williamson (1989) in a review of *Markets or Governments: Choosing Between Imperfect Alternatives*[3] . Williamson cites with approval Wolf's explicit attempt to provide analytical flesh to Coase's (1964, p. 195) dictum that "until we realise that we are choosing between social arrangements that are more or less all failures, we are not likely to make much headway", but questions whether Wolf actually follows his own comparative analysis of market and nonmarket organisational behaviour. Taking as an illustrative example Wolf's attributes of nonmarket supply, the essence of Williamson's (1989, p. 93) argument emerges from the following extract:

> "If however, these *very same conditions obtain if the same good or service is supplied by the market*, then wherein does a *comparative* failure obtain? If such transactions are taken out of markets and organised by government because of measurement problems, and production obscurities, then the relevant test is whether governments cope with these difficulties better than markets do or not" (original emphasis).

Williamson thus calls for an evaluation of the comparative advantages of market and nonmarket institutions when confronted by identical circumstances. Whilst this view clearly recognises the thrust of Coase's pronouncement, it may not necessarily inflict too much damage on Wolf's general line of argument. For instance, if the theory of

2 However, in his *Markets or Governments: Choosing Between Imperfect Alternatives* published after Peacock's (1980) critique, Wolf (1989) does provide some interesting clues about how his theory of nonmarket failure may be adapted to incorporate dynamic elements. For example, Appendix A (Wolf, 1989, pp. 186-189) provides an intriguing discussion of how the political process can accommodate changes in nonmarket demand and nonmarket supply functions through time.

3 Other, much less informative reviews of *Markets or Governments: Choosing Between Imperfect Alternatives* exist. See, for instance, Wittman (1989).

market failure provides a perspective on how actual market outcomes may diverge from some theoretical norm, then Wolf's theory of nonmarket failure may be viewed as a framework which enables us to determine the allocative consequences of government institutional behaviour against the same theoretical norms. In other words, a *ceteris paribus* clause is not employed with respect to the environment within which the private or public organisation operates, but rather applies to the standards against which we measure performance[4].

Vining and Weimer (1991) argue that whilst a normative theory of government failure is essential for policy analysis as a complement to the extant theory of market failure, Wolf's model represents only a "preliminary exploration" towards this end. Their argument is twofold. Firstly, Wolf's taxonomy "... provides neither a positive nor normative theory of government supply" (Vining and Weimer, 1991, p.2), which severely limits its usefulness as a conceptual tool in the analysis of public policy. And secondly, "... although Wolf draws loose parallels with market failures, he does not take advantage of many of the well-developed implications that can be directly applied to diagnosing problems of government supply" (Vining and Weimer, 1991, p. 2). Because of these perceived shortcomings, Vining and Weimer proceed to construct their own normative theory of government failure based on the notion of the contestability of supply. This theory leads to the conclusion that direct government intervention "... is appropriate when market failures or other explicit goals justify government supply and supply of the good is not contestable" (Vining and Weimer, 1991, p. 8). Quite apart from its restricted range of application, the theory developed by Vining and Weimer does not advance a taxonomic system conceptually equivalent to the typology employed by the traditional theory of market failure, and thus does not diminish the need for a theory along the lines of Wolf[5].

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4 Moreover, in his discussion of implementation analysis and the theory of nonmarket failure, Wolf (1989, pp. 101-113) indicates how his model can minimise the extent of government failure by discriminating between the efficiency of alternative modes of government action. Thus, Wolf (1989, p. 106) argues that questions like "if policy A or B or C were adopted, which government departments, agencies, or bureaus would have to be assigned what precise responsibilities" can be answered with reference to his theory. To the extent that the theory of nonmarket failure provides criteria for evaluating the comparative advantages of alternative methods of provision within the public sector, it at least goes some way towards meeting the Coasian dictum, even if its application is restricted to alternative nonmarket or public institutions.

5 The normative theory developed by Vining and Weimer (1991) attempts to provide conceptual guidelines to assist in determining "...when government should, and should not, produce goods" (Vining and Weimer, 1991, p. 4). Given the manifold possible forms of government intervention, this is clearly a very limited framework, nowhere near as encompassing as Wolf's broad taxonomy.

4. Additional Observations

In addition to the various responses to Wolf's theory of nonmarket failure examined above, a few further observations appear relevant. These are briefly outlined below, in order of perceived importance.

Firstly, as Williamson (1989) has noted, Wolf is at pains to stress the symmetry of his methodology in the theory of nonmarket failure with that employed in the conventional theory of market failure. Indeed, he devotes considerable effort to emphasising the efficiency conditions attached to the operation of competitive markets, and impartially includes an equity criterion to both market and nonmarket outcomes. Moreover, it is evident that economic efficiency criteria are intended to apply equally to both market and nonmarket arrangements. Wolf (1989, p. 18) puts the matter thus:

> "Efficiency is thus like a contest among different ways of doing a job: If the market can accomplish the job at a lower cost than can other institutional arrangements, or can do a better job for the same costs, then the market is relatively efficient. On the other hand, if other institutional arrangements can accomplish the task at lower cost, or can do it better for the same cost, then the market is, in this respect, relatively inefficient".

Apart from this emphasis placed on static efficiency, Wolf also accentuates the importance of other forms of economic efficiency in the evaluation of alternative institutional means of achieving given ends. These are threefold; "there are three principal ingredients of nonpricing efficiencies; dynamic (or Schumpeterian) efficiency; technological (or 'best - practice') efficiency; and X - efficiency" (Wolf, 1989, p.124).

However, whilst Wolf's taxonomy clearly employs both productive and X - efficiency as yardsticks of organisational performance, the familiar partial equilibrium conditions for allocative efficiency in market outcomes, have no counterpart in the theory of nonmarket failure[6]. Quite apart from the fact that much nonmarket output is not priced, thus removing any role relative prices might play in efficient resource allocation, no equivalent marginal social benefit and marginal social cost criteria exist for determining socially optimal output. The theory of nonmarket failure therefore

6 Although Wolf does raise the general equilibrium case, he dismisses its operational relevance with the observation that "...general equilibrium is more a matter of pure mathematics and aesthetics then the real and messy world of nonmarket demands and supplies" (Wolf, 1989, p. 188-189).

does not contain a conceptual analogue to paretian or allocative efficiency in the theory of market failure.

Secondly, in addition to the various efficiency criteria and an equity standard, Wolf also invokes "noneconomic" or "social and political" criteria to evaluate the relative performance of market and nonmarket arrangements. These are twofold. Participation refers to "... the degree to which people, who are affected or likely to be affected by a given choice between markets and governments, participate directly or indirectly in the planning and implementation of the choice" (Wolf, 1989, p.128). By contrast, accountability means "... the degree to which the outcome of a market or nonmarket choice is subject to a rigorous process of evaluation and post audit concerning its effectiveness and acceptability" (Wolf, 1989, p.128). Whilst the inclusion of participation and accountability may well enhance a more complete evaluation of alternative institutional arrangements, the *ad hoc* addition of welfare criteria beyond conventional efficiency measures comes at the cost of obscuring intended parallels between Wolf's taxonomy and the traditional theory of market failure[7].

Finally, Wolf's theory of nonmarket failure appears amenable to the incorporation of new developments in economic theory. Various possibilities exist. For instance, recent work in transactions cost analysis may shed light on the origins and nature of the different forms of nonmarket failure. Thus the concept of influence costs may explain some aspects of internalities. Influence costs or "the losses that arise from individuals within an organisation seeking to influence its decisions for their private benefit (and from their perhaps succeeding in doing so) and from the organisation's responding to control this behaviour" (Milgrom and Roberts, 1990, p.28) in the discretionary environment of public agencies may account for high levels of X - inefficiency. Similarly, the non-measurable nature of much nonmarket production activity and the concomitant need for direct control of employees through hierarchical organisational structures, rather than indirect management control through incentive schemes, lends itself to scrutiny using agency theory. The following extract from Atkinson and Stiglitz (1980, p.315) illustrates how puzzling features of nonmarket behaviour can be explained in this way:

> "Much of the activity of government officials appears to be directed at avoiding 'mistakes'. To the extent that they are thus led to perform well this is obviously desirable; the problem is that, in attempting to avoid noticeable mistakes, they

7 Moreover, the notions of "participation" explicitly and "accountability" implicitly draw on social choice theory, and thus become subject to all the attendant analytical and conceptual problems involved in social choice processes. See, for example, Plott (1976).

ignore the costs that must be borne by the pubic. Thus, the red tape that so often seems to characterise bureaucracies need not be a manifestation of bureaucrats' love for due process. It reflects the fact that the private costs are not borne by them, and the red tape ensure that, if a mistake occurs, blame is not borne by any particular individual but is shared among the bureaucracy".

5. Concluding Remarks

The aforegoing discussion of Wolf's taxonomy of nonmarket failure serves to emphasise the fact that work in this area is still in its infancy. Given the widespread use of the conventional theory of market failure by public policymakers, there appears to be little doubt about the need for a theory of nonmarket failure to act as a conceptual analogue to the paradigm of market failure. However, Vining and Weimer (1990) are correct in asserting that in its present form the theory of nonmarket failure is neither obviously normative nor positive. And since a positive theory of government failure already exists in the form of public choice theory, future efforts should focus on remoulding Wolf's typology into a normative theory of nonmarket failure. One possibility would be to follow the criticism developed by Williamson (1989), and attempt to construct a general theory of organisational failure. Such a theory could act as a normative yardstick against which real world institutions could be compared.

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