FROM ROMANCE TO REALITY:

THE PRACTICE OF EVERYDAY LIFE

"Without memory and history, there is no hope, without hope,

there is no Utopia and without utopia, there is no hope".

Bittner

(Much of the material in this chapter appears in an article, entitled "Incentive Compatible Planning and Budgeting of 'Distributive' Federal Programs". See http://www.geocities.com/flower1_20007/apppubgoods.html.)

V. From Romance To Reality: The Practice of Everyday Life

In this concluding essay, I follow-up on an earlier book (Clarke 1980) concerned with potential applications of the demand revealing process. I began this project, aimed at applying the idea in public decisionmaking, about 20 years ago when the idea (demand revealing) initially addressed to the "free rider" problem of public goods provisioning (Clarke, 1971) was subsequently billed as "a new and superior process for making collective choices" (Tideman and Tullock, 1976). One would have thought that Tideman and Tullock had found a philosopher's stone in that the limitations of demand revealing were, in their words, that it will not "cure cancer, stop the tides, or solve many other problems". The procedure, of course, subsequently elicited a host of criticisms, particularly concerning its "practicality".

In responding to criticisms of the idea, particularly those concerned with "practicality", I have, in subsequent years, worked on methods of applying it in current institutions -- for example, internal budgeting for information technology within the Federal government (OMB, 1983) or even the "governance" of the Nation's airports and air traffic control system. In this and the several essays which constitute Volume II of PSA, I extend the idea to intergovernmental arrangements, both within a Nation-state and among Nation-states, so as to achieve "subsidiarity" through "incentive-compatible" means. Based on recent work by Bailey (1997a), I also introduce some new ways of combining this mechanism, often called the "pivotal mechanism", with other tools for encouraging "strong democracy"

along the lines of my original attempts at application (Clarke, 1977, 1980).

The 1977 paper acknowledged the need to, in Buchanan's words, "place the method in an appropriate constitution that will limit and define the range of applicability" (Clarke, 1977, p. 39), although there was a tendency to defend rather wide-ranging applicability on the pure utilitarian grounds of "cost-avoidance" relative to current institutions.

A current debate centers on whether a method appropriate for the "constitution of a future country" (Bailey, 1997a) could fit comfortably within the institutions of a present country, a debate which is implicit at least in this paper. In any case, the debate promises to be a lively one -- centering on the place of mechanism design in the design of political institutions generally.

The issue of practicality reaches to the conflict between the modern public choice variant of classical political economy and those who approach this topic and public policy generally from more traditional perspectives. The conflict, though clearly favoring more the traditional perspectives, is clearly presented in Anderson (1990). Even if one adopts, as I do, much of the "pragmatic liberal" perspective concerning matters of institutional design, there are others who would cast a particularly critical eye on the entire enterprise as being fundamentally at odds with legal institutions and the entire political science driving these institutions.

To give an example, I introduce Edward Rubin's recent assessment (Rubin 1993) of the practical impact of public choice on modern legal theory and practice. The review casts a particularly critical eye on the behavioral assumptions underlying the public choice vision, which rejects "the romantic notion often proposed by civic republicans that both voters and legislators are, or can be motivated, by public spirit rather than self interest, and that they can effectuate their desires through rational discourse rather than strategic, self-maximizing behavior."

Professor Rubin then notes both an optimistic and pessimistic strand in public choice, including a principal theme (in the optimistic strand) which is the "development of mechanisms for resolving collective choice problems." (referring among other examples to my original 1971 article on demand revealing, entitled "Multipart Pricing of Public Goods" (Clarke, 1971).

Later, in assessing the strengths and weaknesses of public choice, he notes (Farber and Frickley's assessment, in Law and Public Choice, of) the strengths "which lie in the implications for pragmatic,

incremental solutions to contemporary problems of governance; its weaknesses in its empirical inaccuracies and in the impracticality of its other implications for these same contemporary problems."

Specifically, at footnote 44: "The impracticality of public choice recommendations should not be underestimated. Consider, for example, Edward Clarke's idea that a taxation scheme could be employed to reveal voter demand for public goods." (Clarke, 1977). "To induce honest declaration of expected gains, he suggests that the person who casts the deciding vote in favor of a given policy should pay a tax equal to the net gain of other voters that would have resulted if the deciding voter had not voted." (In the same footnote, Rubin adds an example of "an equally creative approach" discussed in Chapter 19 of the Calculus of Consent, which the authors, Buchanan and Tullock themselves described as a farfetched but novel way of dealing with special interest legislation).

This pessimistic assessment of Rubin as regards the optimistic strand of solutions for contemporary problems is echoed, even very recently and in part, by one of the fathers of public choice, Gordon Tullock (a strong advocate of demand revealing). In the New Palgrave (p. 1044), for instance, Tullock notes that "at the concrete level, those who study Public Choice have been able to provide more in the way of suggestions for reform within the bureaucratic structure than in the higher level parts of democracy where the voters control the legislature, and the legislature and the executive control the bureaucracy. Nevertheless, there are suggestions for improving the whole structure of government and, with time, it is hoped, there will be both more ways of making improvements and better scientific evidence that the 'improvements' are indeed improvements".

The shaping of such improvements among the executive, the legislature and the bureaucracy (including the intergovernmental arena) is the principal subject of the several essays, accompanied by critical thoughts of my own concerning the problems motivating the recent criticisms of "public choice (and rational choice, more generally). I found myself trying to assimilate much of this criticism (see, for example, Rubin 1991) while bringing my own critical theory perspective to the practice of public choice, particularly in the realm of institutional design and the management of public regulation.[(1)]

Following the work of Mueller (1996) and Bailey (1996a-c), my attempts at practical applications have focused increasingly on constitutional design within existing institutional arrangements. Admittedly, there is an optimistic sense underlying this work. As Mueller (1996, page 47) states: "the notion that individuals have the capacity to design a set of political institutions that advances their general welfare, embodying them in a constitution, agree to it and abide by it expresses a good degree of optimism about human intelligence and capacity for self governance". Many of those who have studied modern democracy and adopt the rational self interest assumption regarding individual behavior often do not (for example, Riker, 1982). The skeptics also, at many junctures, express strong reservations about "voting rules" that communicate the intensities of preferences (i. e. point voting, demand revealing), noting that

while they may sometimes immune from individual strategizing, they are subject to coalitions (Riker, 1979). The real concerns of the skeptics, however, are, I believe more philosophical than technical.

This book builds on Bailey's recent attempts to "mimic" the

competitive market through appropriately designed voting rules in making decisions about the supply of public goods and the control of externalities. See also Clarke, 1980 for an earlier attempt to achieve this objective. Bailey combines the use of the "pivotal mechanism" with strong incentives for putting "positive" rather than "zero sum" games on the agenda. The process is driven by competitive "citizen committees" which might strike one as some kind of Utopian fiction of sorts, resembling Bentham's own Utopian-fictional "public opinion tribunal" (POT) which formed the heart of his "constitutional codes" (Rosen, 1983). In this work, the agenda setting of the POTs, or citizen advisory committees (weak legislatures), are driven by the "pivotal" or Vickrey-Clarke-Groves (VCG mechanisms, and are regulated by a "Commission" responsible for final allocations of Lindahl tax/transfers.

Both the committees and the Commission are rewarded by the success with which their allocations approximate the rule of unanimity in the public economy. The rewards (to the committees) are based on their contributions to the social welfare as measured by departures from the status quo and the "next best" preferred alternatives (the proposals of a second competitive legislature). The final selection among competitive budgetary and regulatory agendas is made by use of the principles of a Thompson referendum (Bailey 1996b, Thompson, 1966) which also motivates accuracy in the provision of willingness to pay information by citizens or their direct representatives. The use of the pivotal mechanism with the Thompson referendum, described here by way of utilizing Congressional districts as the unit of account, exploits the advantages of each of these basic "truth telling" mechanisms while minimizing their comparative disadvantages (Bailey, 1996b).

In this paper, drawing on several examples from the essays, I explore the chances for practical application of this conceptual approach to incentive compatible design. The examples illustrate an approach to the design of grants-in-aid that motivates subnational entities (State and local governments) to more efficiently allocate grant-in-aid resources. The proposal effectively separates the "allocation" from the "distribution" in that an initial entitlement level of spending may be greater or less than the amount that the jurisdiction will actually spend. The paper also illustrates an incentive-compatible approach towards accounting for interjurisdictional spillovers where actions in one jurisdiction benefit or adversely affect another. Specific applications of the approach are illustrated in the context of grants-in-aid for environmental management (construction grants and Superfund) and transportation. The essay is adapted from a paper presented in November, 1996 at the Southern Economics Association, entitled "Incentive Compatible Resource Allocation: Application to 'Distributive' Federal Programs".

In this and the related contexts elaborated above, I attempt to show how further experimentation with these "truth telling" concepts in limited administrative (budgetary and regulatory settings) could truly promote "democracy on a human scale", promoting more meaningful involvement by citizens in the "social art" -- the science and practice of government.

As a further note, I sent an early (September, 1995) draft of this forward and the first essay to Professor Rubin and received a reply which helped me focus on the problem of "practicality". A perceived lack of practicality, in Rubin's view, might be twofold: (1.) "capable of being put into practice" or (2.) "capable of being put into practice by real political actors in the foreseeable future". Rubin states that "your ideas about demand revealing mechanisms are practical in the first sense, which makes them intriguing, but impractical in the second".

"The reason it seems to me is that democratic politics functions in the way that Burke describes, as an unfolding and modulation of established tradition. A more modern way to say this is that political solutions are path dependent, and I think all the arguments against path dependence in business (foresight, the ability of entrepreneurs to borrow against future gains, etc.) do not apply in politics, for precisely the reasons that public choice analysis identifies. in addition, I think much of politics depends on ideology, and the counter-intuitive quality of demand revealing mechanisms that make them interesting is likely to make them unpalatable to politicians who think in ideological terms. This is not intended to be fatalistic; society changes, and I think you are right to note that what was inconceivable yesterday sometimes becomes commonplace tomorrow. Within the foreseeable future, it seems unlikely to me that politicians would adopt these mechanisms as a basic means of governance ... In the specific case of the mechanisms you propose, I also think they are capable of adoption, within the foreseeable future in more delimited technical settings. Administrative agencies, for example, might use them to resolve particular problems. But with respect to the general political science, it seems like a visionary, rather than a practical approach."

Professor Rubin is right in many respects.[(2)] Even the application to the "information systems" of Federal agencies was fraught with difficulties, an example I will review in the course of these essays. Going outside this more limited, technical setting could be a simple, sometimes futile, exercise in political romanticism, with the result that the primary actors do not find that the results are in their interest, much less those of the society as a whole. I will elaborate on this in the essay to follow, while suggesting the utility of investigating such mechanisms in order to stimulate the kind of collective self awareness that appears to be already there in a variety of fields, that I would call institutional design, constitutional political economy and the like, a field of endeavor that I also approach from a practicioner's perspective.

Professor Rubin does not discourage such exercises. In his letter, he adds: "In fact, I think a great deal of policy analysis, including much more mundane ideas, is impractical in this second sense" (see above

reference to capable of being put into practice by political actors). "Again, this does not mean it is not worthwhile; it can change the future, in the long run, and contribute to our understanding in the present."

Three Cheers for Demand Revealing

I may appear more a cheerleader for my idea than a scientist. I reserve Volume II for more on the "science" of demand revealing and develop here an evaluation of three ideas on application of the process to limited problems of economic management and resource allocation. In so doing, I try to suggest ways that experimentation with these incentive techniques in seemingly delimited technical settings could lead to interesting reults. The first application involves problems of airport slot management, and the second the use of incentive compatible procedures for allocating Federal grants for transportation and the environment. A third application, actually proposed by OMB for experimentation during 1983 involves allocations for infromation technology in the Federal establishment.

1. Political Entrepreneurship: The Case of Airport Slots

In my essay on "The Practice of Social Art" I spoke of such matters as truth and extending the limits of knowledge. From a postmodern perspective, this is not a simple unilinear progression. Today we look rather skeptically at how truth speaks to power and how ideologies shape social change. The following application is drawn from a more lengthy treatment of "airport slot management" in Volume II of this work. I relate it here to the brief mention in the essay, entitled "The Practice" where I discussed ideology, utopia, and the practice of everyday life.

A book, like "the Practice" can often be read by simply looking at its cover. Book I (this book) is covered in red. It is a "red dawning" combining both warm red enthusiasm and cold rational analysis -- white, like the color of a snowcapped volcano.

Book II is white (colorless) -- posed usually in opposition to the warm red revolutionary fervor. Some twenty or thirty years from the "red dawning" of demand revelation, my wife believed that my life revolved around "airport slots".

Indeed, "airport slots" had become a metaphor at the Front of "anticipatory consciousness". In a sense, it

had become a personal (and institutional) struggle in the advancement of an idea.

It was worthy oh a 10th Anniversary skit (April 1991) which read as follows:

"Our Second Administrator, King Soloman, was a wise and scholarly man. He applied his sagicity to the proverbial problems of dealing with the agencies."

Ed C.: "Oh, wise great Administrator, we now want to apply our principles! We can establish freely traded, in this case, auctioned slots for landing rights at the 8 congested airports, where great scarcity for landing rights exists. We know from your great wisdom that this would be optimal for society and even the budget mongers will like it since it would generate revenue. But my agency is balking and prefers instead its own administrative allocation of these economic rents. Oh, wise Administrator, what shall we do?"

Adm.: I shall have to ponder this great question inmy temple (touches his own temple on his head).

Adm.: Ah, yes. Let's split the 8 airports in half.

Ed C.: "Half an airport, what good is that?"

Agency: Grabbing list of airports, tearing it in half "Done, we'll do it at 4 airports"

Ed C. (Walks offstage, "Maybe we should have privatized instead".

I now explain this in terms of a debate over the practice of "herestetics" (political entrepreneurship) between Professor Riker and Sened and myself (with two coauthors).

Notes: In this essay, I compare the heresthetics of Riker and Sened in "A Political Theory of the Origins of Property Rights: Airport Slots" and an alternative view by Brough, Clarke and Tideman (BCT) in "Airport Congestion and Noise: Interplay of Allocation and Distribution".

Riker's book (1986) The Art of Political Manipulation provides an even better illustration of what is at stake in the debate portrayed here. The debate carried forth in the Practice also gets into political stability and the nature of disequilibrium, including punctuated equilibrium (Baumgartner and Jones, 1993).

In this context, I describe a case study of airline deregulation in the United States (which I helped father in 1974) and the persistent, ever changing "anticipatory consciousness" that drove my conceptions of supply-side policies to make the newly "contrived competition" (See Vietor, 1995) work effectively. The effectiveness of the contrived competition (for airlines) centered on the problem of airport slots.

Underlying the problem is the basic issue of who should receive the societal rent from airport slots -- the airlines or society (communities).

Riker and Sened's Political Theory of the Origin of Property Rights: Airport Slots.

Riker and Sened present an interesting and accurate story of the creation of the grandfathered market in slots. For about 16 years (1969-85), four of our most congested airports (LaGuardia, Kennedy, O'Hare and Washington-National) have operated under a high-density rule (HDR) that limited the number of landings and take-offs allowed. Each airport operated under a "scheduling committee" which semi-annually adjusted slot allocations. "This allocation procedure was the first step towards private property." The scheduling committees, operating under CAB's antitrust immunity, "worked well for allocations under cartel members but the system collapsed when applied to allocations under competitors, including new entrants". Before deregulation (1978), indeed after the controller's strike (1981), the committees usually agreed, but gradually after deregulation. the equilibrium allocation approached the worst outcome, where default (failure to agree) was often the best option.

At this point, the government had several options: (grandfathering and permitting the free exchange of slots or "buy-sell", auctions, lotteries, "open-skies' or quenes, or FAA assignment. The government, during the PATCO strike, experimented with buy-sell (beginning in mid-1982). However, the FAA still wanted to retain its politically valuable activity of allocating slots, so it suspended the activity (at the end of 1982) until the end of 1985. But during this interregnum, default options (and deadlock) among the

scheduling committeees emerged and carriers learned that when FAA then allocated the status quo (1983), deadlock was costless. Deadlock continued until a committee led by Charles Plott and OIRA was convened to discover mechanisms to break deadlock. While OMB/OIRA and the Executive Office strongly preferred auctions, the only means to prevent further deadlock between the government and the carriers (the latter fearing that as many as 4200 slots might cost upwards of $1 billion or more than 10 percent of industry capitalization) appeared to be the buy-sell option (with grandfathering).

Riker and Sened expand on the external and internal policy considerations influencing OIRA and the FAA, leading towards their surprising and "counterintuitive" conclusion about "the pervasive role of government officials in creating rights". In this case, "the dominance of government is clear because the configuration of rights granted satisfied the grantor's interest (that is, the OMB's interest after it defeated the FAA) rather more than the holder's, most of whom were content to keep their rents and avoid FAA's possibly arbitrary allocation".

Riker and Sened's methodologically positive investigation also yields positive conclusions in terms of probable efficiency results. "Unlike money transfers (subsidies, entitlements) and the deadweight losses of pork barrel and regulatory cartels, property rights increase efficiency by encouraging owners to use assets more productively. Efficiency makes for prosperity which redounds to politicians' credit. Hence we expect ambitious and clever politicians to give bureaucrats career incentives to create rights. President Reagan did this with OIRA and the new rulers of formerly Marxist lands are now creating rights on a grand scale".

A somewhat contrary view is expressed in Brough, Clarke and Tideman (BCT, 1995). We take the view that a history of use of common property does not create an exclusive right to priviledged access when the opportunity to use such property becomes scarce. At the same time, it is reasonable to permit commitments of slots to carriers for some span of time -- for example, in exchange for the carriers investment in developing schedules. Accordingly, there could be a transition, at a rate that was appropriate in view of prior commitments, from entitlements based on past usage to social collection of the scarcity value of slots.

It is not my purpose to weigh or throughly evaluate the philosophies and ideological positions at work here concerning the allocation of airport slots. It is best, however, to consider solutions(s) that are made possible when we can think of ways of separating the allocation from distributional concerns, much as I try to do in the "budget experiment" in the previous chapter. The point, which is driven home by a thorough reading of Riker and Sened is that the distributional struggles (within the government, and between the grantors and duty bearers) are enormous and the winning heresthetician or political entrepreneur is driven to "inferior" solutions from the standpoint of what I consider to be the relevant criteria.

Also, this experience reflects the first significant effort to introduce incentive-compatible mechanisms into a significant resource allocational problem (Grether, Issaac and Plott) and also FAA (1980) and ways of carrying out the idea in a way that is sensitive to distributional considerations (effects on carriers) is elaborated in more detail in Brough, Clarke and Tideman.

Concretizing Utopia: Airport Slots

While auctioning (or collecting the annual rental value of) slots continues to be a perinielly futile exercise in heresthetics, it continues to be routinely advanced as a revenue raising element in the annual deficit reduction package (CBO, 1995) and is estimated to raise approximately $500 million annually at the four airports. (Note that this remains much lower than the potential value of slots if carriers take account of the probabilities of future appropriation of what still remains a quasi-property right). Applied to the largest 50 airports (with the four high density airports accounting for about 16% of enplanements) would yield about $3 billion annually.

The average taxpayer/consumer would normally look at such an initiative as another "tax" (making only a minor inroad into the deficit problem and likely to go into "project" pork barrels of the FAA and airport authorities. Further, such an approach was susceptible to the same coalitions that usually oppose peak-load pricing or airport congestion fees under the control of airport authorities.

Alternatively, "heresthetical" winning coalitions can be imagined. For example, the $3 billion could be looked at as a way of reducing the existing 10% ticket tax which would also contribute to potentially significant reductions in airport congestion. The $3 billion can, in fact, be viewed as the difference between existing air carrier landing fees (about $1.5 billion annual) supplementedby about $1 billion annual in passenger facility charges. This difference (of $3 billion) would essentially raise landing/departure fees to market clearing levels. perhaps adjusted by airport authorities to more precisely account for residual congestion costs in hours where there is still a "bunching" of flights.

Let us now look at the political dynamics of an extension of the "budget" experiment described in the last chapter, where we also include decisions on the level of taxation. Suppose that $3 billion in annual slot rentals were equally distributed among regions and even communities (regognizing that a different distribution relating say to the origin of ticket taxes could be easily justified).

In effect, this adds a large portion of the FAA budget (i. e. facilities and equipment) to the $20 billion transportation block grant described in the last chapter. In the beginning, the regions would then be able to collectively determine how much of the budget (if any) would be used to offset the 10% ticket tax as well as determine the allocations to FAA "facilities and equipment" as well as airport modernization and improvement. As for the portion of the existing budget used for deficit reduction, there would be a sufficent incentive for regions/communities that choose to save rather than spend entitlements to cover the desired level of deficit reduction in a way that also allocates funds to the most beneficial uses. That is, communities that spend less than the entitlement level save and contribute to deficit reduction while higher spending communities invest in projects with relatively high rates of return.

Perhaps it would take a decade to introduce and integrate the extension into the budget experiment envisioned in the previous chapter. Some carriers depreciate their investments in slots over a seven-year period which might be the appropriate period for continuing the existing stop-gap" solution of grandfathered rights while moving towards a system that amounts to a "second price" auction of slots.

Meanwhile, the system would be introduced as part of a system of allocating newly available slots, including presently available commuter and even international slots at the four airports where the buy-sell rule is currently operational.

In this essay, I shape a tale about demand revealing forms of aviation governance. It illustrates one of the major objectives of these essays -- to present an approach to method in the social sciences that can "lead change" or produce significant, non-incremental shifts in public policy. In the essay, I take a case study of airport pricing and noise (as well as land use) suggesting that myopic, path-dependent policies are leading us to dystopias that we read about on the front pages of national newspapers, only obliguely relating it to our own experiences. I present in the accompanying pictures (click) the little man holding the sign "Free the Airports" with his counterpart (potential adversary) -- the small landowner who sits on the runway of one of the world's largest airports (Narita, outside of Tokyo). Washington Post, May 26, 1996 (page 17).

Over the last eight years I have spent a lot of time worrying about the images presented in these two pictures. Shortly before, I began this essay, I also received Mr. P's senior paper on the "Pricing of Airport Takeoff and Landing Slots". His paper reflects what I consider to be a pragmatic liberal (and classical liberal theory) blend of what might be really achievable over the next few years in beginning to foster and encourage peak-period pricing at our major, congested airports.

Lessons Learned:

The concern is over the "gift" of airport slots to air carriers while eschewing effective slot pricing/auctions as a superior means of allocation and distribution -- a policy conflict that has consumed my thinking for the 8 years that I have spent on government regulation (following my return from Haiti).

I have long had a deep concern with this view. Although it glorifies the institution where I work and the project I have worked mostly on during the last eight years, I've had deep difficulties about the moral philosophy and political economy underlying all of this. It arise first in the following notes from the PSA (see Essay one).

"On Aviation/Airport Property Rights, Perstroika, and Privatization: An Evolution of Rules (E Process)"

The potential employment of incentive-compatible mechanism design is illustrated here in terms of the evolution of property rights and decision rules that govern or could govern the aviational institutional regime. I start (in this Section 5.1) with a further elaboration and comment on Riker and Sened's paper which has described the evolution of the "aftermarket" in slots. Their paper provides a historical background to where we stand now in the evolution of a "satisfactory" system of rights and privileges that could now permit the evolution of "direct pricing" of slots in an incentive-compatible way. I then describe a variant of an approach first suggested by Professor Robert Dolan of Harvard Business School during the same year (1978) that legislation for aviation deregulation was enacted. This section develops an incentive compatible pricing approach in the context of the "Massport landing fee problem" (Shirley, 1990, Polsby, 1995). The final section focuses on the issue of "privatization" illustrating a more complete solution to the aviation finance problem that treats each of the important sources of externality (problems of a local spatial monopoly, noise, and the air traffic control "network" problem. I view these problems as generally a "public goods" financing problem which can be treated along the lines of the "supply-side" demand revealing approach laid out in my 1980 book.

Some Concluding Reality Bytes.

You see, in reality, my wish dreams about "Freeing the airports" (circa 1990-92) had become part of a imagined dsytopia (like Narita) that I felt proudly I had averted in not building a Third Chicago airport in Lake Michigan 25-30 years ago. Throughout the 250 pages, I had not mentioned being the unwilling (or unwitting) victim of a "policy statement" on airport rates and charges that was put together by the DOT during 1995-96. Now, after rounds of comment, the policy statement was to be put in final form. The best I could do was to interest a departing intern in the subject matter, and respond postively to his

inquiry into the possibility of writing his senior seminar paper in the area of "ethics, politics and economics". The essay appears as "The Pricing of Airport Takeoff and Landing Slots" (April, 1995). I shall now take this in my pragmatic liberal/classical liberal theory style which I have been trying to put in neo-modern clothes and try to "make a purse out of a sow's ear". The sow's ear is the current form of the policy statement. You see, the DOT/FAA program managers, despite many internal protestations, took 1994 legislative guidance which were the result of a "peemptive strike" by the airlines against the airports. This was a means of imposing "rent control" by also getting DOT to formalize "historical cost accounting" (HCA) rate setting methodologies in order to ensure that airport rates (for landing fees, in particular) were "reasonable". I had railed against this for two years, mostly not fighting a hard enough fight. But I was preoccupied often by the composition of these essays and handling all DOT regulatory oversight by myself. But hope and memory come together, particularly if you receive an excellent piece of work at a "herethestically" opportune time. Mr P. exposes the whole evolving regime as an unwarrented subsidy from airports to their airline users. The statement exposes itself as formalizing case law in the major case that has been brought against the airports (LAX I and II), the result of LAX attempting to triple its landing fees around 1994. Also, the statement throws in our dispute against the English in Heathrow where we rail against the "unreasonable" costs imposed on two major carriers as resulting from the determination of rates and charges based on a market-revaluation of assets by the British airport authority (See discussion in the previous essay).

The best argument that I have been able to marshall and press against the "rent control" regime is the inhibitions to efficient pricing, particularly of "peak-load" pricing of the Massport variety. Mr P. treats this linkage in real depth.

So I seek via four craftily worded questions to leave the door open for the pricing of take offs and landings to be determined by "opportunity cost"/demand based principles as opposed to the application of HCA methodology. I can at least come up with some hypotheticals on the importance of this in a pragmatic way, although I will never be able to stop the policy statement unless some Devine Will intervenes. I try to find the "silver bullet" in the relation between HCA-constrained pricing structures (to which the latest 1992 version of Massport's proposal), discussed in P's essay, had been tried and one that might go father in terms of filling the "gap" between demand based prices and those constrained by measured incidences of historical cost.

In my dreams and early waking hours an interesting solution takes place. It is the product of a bureaucratic struggle in the fashioning of the final policy statement and the ideology which drives this work, translated into the kind of "reflexive modernity" I have been talking about.

The basic idea is contained in the brief subsection on political entrepreneurship: concretizing utopia on pages 55-57 of the first essay. This is also shown in the following Figure __ which represents at least a $3 billion shortfall between short-run slot rental values and allowable fees and charges, using current arrangements. One could also, at least initially, make the charge structure such that the charges (net of

rebates to the carriers) very close to what the major carriers are already paying. This approach is elaborated in BCT, 1995 and is reflected in the bottom of Figure ___. This is the essence of the "compensated incentive compatible" approach to slot pricing which has the direct analogue to the "limited fund mechanism" for grant allocations illustrated in Figure 1 of the first essay. It also is another illustration of an approach to "environmental regulation" discussed in the control of "global warming" in the third essay.

Now it is difficult sometimes for the airport manager to see any direct benefit of such an approach when the charges are given back. Ms. B, who co-authored the 2nd Massport (draft) proposal (See Transportation Research Board paper of 1992) felt very uncomfortable with such an approach, speculating that the efficiency gains are not very clear -- say relative to something like what the Massport staff were then proposing. "And certainly, they did not see the need to adopt the slot allocation approach applied at the 4 slot controlled airports.

In any case, Mr P's paper argues strongly the public policy case for experimenting along the lines that Massport proposed. What inhibited its adoption the second time around. Well, there was a change in the Board as Massport and the staff found other jobs. Sounded like what had happended to me in the State of Illinois in 1972, except they were living this kind of experience some 20 years later. And Ms. B was not to know what actually happened to the "policy statement" on peak-period pricing, except that it was "buried" in Section ___ of the current policy statement on "rates and charges".

What if the "policy statement" was to be somewhat more flexible with respect to a "rebuttable presumption" against the use of a HCA-constrained methodology? What I was to prepare myself to actively seek (in the spirit of utopian realism) was such a rebuttable presumption. Then an airport, working perhaps in the kind of system I envisioned evolving over the next five years, would be able to propose something like Massport II or even something better. As I have indicated in the more utopian first essay, I also envision the link between more efficient pricing strategies and the kind of regional budgeting and regulation (including airport charges) set forth in the first essay.

Think about Massport III (a new plan put together by the institutional designers travelling along the Northeast corridor, say in 1998. Can the DOT absolve itself of making final decisions in a rate dispute (through "expedited" proceedings) which the "rates and charges" legislation has thrust upon them. Hopefully, yes. For such potential disputes, why could not Massport's proposition be passed down to the regional administrations (the aviation subcommittee) briefly described in the first essay. Once our Wicksellian auctioneer (Angel) assisted by the financial controllers working for the subcommittee have made their final allocation decisions, we have virtual unanimity from all the regions. Then we have the decision left to the Northeast Region or even to the interplay of influential communities within or surrounding the State of Massachusetts. It so happens that the Massport proposal (II) would have limited

a lot of small regional commuter flights from a lot of vacation spots and may have made trips a bit more expensive. But dealing with this dimension of the problem would have been largely left up to decisionmakers within the region. With such an arrangement and with the larger carriers largely held harmless by the impact of Massport II, one would even expect some support from the larger carriers (as suggested by Mr. P in his paper). My key suggestion is some way of better linking the raising of congestion fees, avoiding the pitfalls of revenue diversion, a 5th principle in the policy statement which is not yet finished, while allocating these revenues to air travel and related purposes in the most efficient way possible. Basically, this could be done, I believe, by linking them to the kind of incentive-comatible budgeting approach I have described in the last essay.

In this spirit, I conclude my brief comments on Mr. P's paper. I'll leave the real concusion to a report on the final policy statement. I've alluded earlier to the insiration from Schumpeter thta one would like the "Open Doors". Often this is turned into the simplier desire to just "help keep the doors open". As for the more disurbing dysporias, I haven't touched on charging tens of thousands for large jet flights but ending up (as in the case of Narita) having carriers pay $10,000 with no place to land (because the 2nd runway can't be built). Yesterday's Post somehow translates this (the spectacle of the farmers living on the runway) as something that resulted from the Constitution we imposed on the Japanese. Yesterday it was Japan, today it's Liberia.

In my treatment of congestion fees, I have eschewed complex decision making (not only regarding issues like noise and land use) but also the safety and security of passengers. Such issues are dealt with at some length in the tenth and eleventh essays (Part II) where I also build on some work in "information resource management" relating to preserving "critical infrastructure" (i. e. the interoperability of communications networks as well as issues relating to who pays for aviation security). This gets into players that have more to legitimately say about the budgeting of resources from the "trust funds" (i. e. the military and the FAA).

The essay has led me into my own reality bytes about the future. Judge Bryer has somehow opened a door due to influence with his book on regulation and contacts with the powers that be to let bureaucrats go on sabbaticals to other agencies, even the Congress and the Court(s) to learn more about how other institutions behave. I have gotton over an initial "pessimistic" conclusion that erupted out of the public choice literature and my own speeches (See Wealth Redistribution in the Large and Small -- essay 3) about collusion among the three branches of government. I don't see anyway out of the current preoccupation with Sandel's "procedural liberalism", except perhaps in the better fashioning of formal decision rules that can enhance its strengths and diminish its weaknesses. Perhaps I'll take the opportunity that can be afforded and visit a Congressional committee that may take some interest in some form of these ideas. More likely, (given my long-held tendency to "cocoon" in the Executive), I'll visit the DOT. I found one of my first friends here in Washington (helped me avert the "Watergate depression" and find a job) not too long ago thinking about some creative ways to sell or auction permits for interstate trucking -- I countered to the head of Budget about also competively awarding domestic

airline routes. My real objective is better to understand the workings of the international aviation regime. There I could, for example, put together my 1998 proposal for Buckingham.

2. A Limited Fund Mechanism.

A somewhat related application takes the idea developed with Drs. Brough and Tideman in a recent article on "Airport Congestion and Noise" and elaborates on its potential application in terms of (a.) the public budgeting of several billion dollars annually to transportation infrastructure and (b.) dealing with associated "regulatory management" problems. I have in fact established a prototype approach to budgeting transportation dollars at the state and regional level once Congress has determined the broad allocations for these purposes. I show how such an approach, which might be experimented with first in the allocation of about one billion dollars in a transportation "discretionary" account might be used more broadly in a new approach for developing (incentive-compatible) "performance partnerships" and in "reinventing" fiscal federalism (using the parlance of the Vice-President's National Performance Review). This approach is laid out in what now constitutes the use of incentive compatible design in mobility policy (i. e. transportation, communications) in the several essays which follow in Volume II.

In terms of the broad outlines of this work, I consider the approach as an approach to public administration in the spirit of Turgot's "Memoire sur les municipalities" or Condercet's later "Projet Girondin", two rather famous attempts at decentralization in a "state" engulfed by the exercise of privilege and political exploitation. If the spirit of this and the incentive compatible methods used to realize the goals strikes one as bringing excessive coordination to public administration, let me note that the "Projet Girondin" was praised in an important footnote in Hayek's Constitution of Liberty. (footnote and elaborate here)

Reflections on Contemporary Political Economy:

The relationship of these essays to Volume I of the Practice reflects a division between the more "holistic" and "subjectivist" thinking that pervades much of heterodox economics vs. the neo-classical approach, which also reflects the classical-romantic divide in art and political theory. Years ago, public choice sought to take the romance out of politics and before I attempt to put it back in (volume I), I continue to follow a strict, rational social choice theory approach, except where the "subjectivist" or "romantic" element is otherwise noted.

The more philosophical essays in Volume I are basically a set of reflections on contemporary political economy -- on modernity, if you will. The work has two dimensions which track the two divisions of this collection of essays. The first departs from a general perception of "what is" that many people could commonly accept and fashions a "program" (called here "a general progress program") that I believe a large proportion of the populace would find attractive.

Nevertheless, by following a "strict theory of politics" (rational or public choice), the work is subject to the criticisms advanced by Rubin and many others.

The collection of essays in Volume I addresses many of the problems advanced by these critics by presenting my "optimistic" theory in a broader, if highly personalized, social theory dimension. In the late Fall of 1996, I was advised by an adopted mentor to sharply circumscribe the content of this more normative work, much as I was to do in my 1980 book. There both Parts followed the "strict theory" but Part II was much more normative in content.

A central idea set forth in the Practice (PSA) is analogous to Turgot's "Memorie", the most important features of which involved a program of education, administrative decentralization and (land) tax reform (see K. Baker 202-14). The administrative reforms took place gradually at the same time that the involvement of citizens in their government, patterned as a constitutional monarchy (along the lines envisioned by D'Argeson), grew.

In the America of today, I try to show how administrative decentralization and citizen involvement can be gradually brought together, in a manner that also features education as an important "national" purpose -- it is an education over a lifetime, not only for the world of work, but also for a lifetime of citizen involvement and the development of citizen republican virtues. It is built upon the Education and Training Investment Program which I advanced in 1972 and was subsequently developed in Clarke (1980) in relation to the use of the demand revealing process as a means of ensuring efficiency and equality in public expenditure.

With respect to administrative decentralization, I move, as did Turgot, down two layers in what he envisioned as four layers of a Federal structure -- in my case today, this would be to the American government's ten administrative (or nine census) regions and the States. States, in the context of their constitutions and legal structures have the responsibility for dealing with how to best complete the process of administrative/legal reform. The process is advanced as a "practical" means of marrying demand revealing processes to majoritarian and federalist institutions.(3)

In what follows, I present a very simplistic approach to dealing with some important Federalism dilemmas gripping Washington during late 1995. This approach, concerned with implementation of the Limited Fund Mechanism" (part of the General Progress Program"), constitutes what I think are potentially important and practical first steps towards civil society and civic virtue, even though they would be attacked as doing both too little and too much. Let me present the notions and then deal with the criticisms.

The Limited Fund Mechanism:

Although the system is laid out in more detail in the following essay in this (Part One) of the collection, I will deal here with public expenditures for one category of intergovernmental expenditure -- mainly transportation. This is a small, almost pedestrian idea, but one which I believe could have tremendous implications. It also meets with Professor Rubin's suggestion that the best area of potential application might be somewhat technical, and more enterprise based, rather than political.

The process, elaborated in the concluding essay, and based largely on current policy trajectories, envisions Congress as setting broad priorites such as Federal dollars (expenditures) allocated to broad purposes (such as transportation) and determining an initial distributional status quo. This is basically what underlies the current strong push for "block grants" to the States in such areas as transportation.

In turn, regions, States and their political subunits would determine the timing and allocation of funds and these units could also choose not to spend funds, which would in turn be allocated to other units of government, or even result in net savings in the particular account (i. e. transportation).

The gains could be significant. If, for example, the process resulted in a shift of a small portion (say, 10%) of transportation dollars ($20 billion) from projects that yield a 5% rate of return to projects that yielded a 25% rate, there is a modest $400 million increase in societal returns annually.

Consider the incentives facing Congresspersons and community leaders (entrepreneurs) in communities within the districts. Each Congressperson can say to his/her constituents: "You can save or spend the entitlement. If for example $30 billion in transportation and related "public works" expenditures amounted to about $300 per family in annual entitlements and you saved this amount each year at 7%,

the amount saved in 10 years would yield a return equal to your annual cost that you pay to your residential association (about $300 for a typical association). In addition, you are holding credits against the national debt of over $4,000, thus reducing your share in interest payments on the National debt, well over 10 times this amount. The payments of interest on the debt would now begin to vary by sub-national jurisdiction.

There are two key ways in which this is implemented, relating to (1.) determining the opportunity cost of funds and (2.) whether there are benefit spillovers in other jurisdictions that should be taken into account. Both factors are taken into account through incentive-compatible means.

The Practice then goes on to describe the use of incentive-compatible mechanisms, starting with the notion of "compensated incentive compatibility" (CIC) first developed by Tideman (1979) and elaborated by Brough, Clarke and Tideman (1995), This combines the idea of a second price auction (Vickrey, 1961) and Clarke's demand revealing method for public goods provisioning (Clarke, 1971).

To give a sense of how the method could be implemented today, I apply it to the allocation of State Revolving Funds (SRFs) presently used in wastewater construction grants and which are being actively studied and discussed with respect to hazardous waste clean-up grants (Superfund) and transportation funding.

Take, for example, the exisiting construction grant program funded at approximately $2 billion in annual capitalization grants.

The following material is picked up on in the following essay -- give brief description here --

The Practice briefly describes the development of the initial idea applied to Superfund in late 1980.

(From Section 1.4 of PSA): Earlier Anticipations and Present Reality: The Superfund Experience.

I began this kind of exercise in "anticipatory heresthetics" in late 1980, during the passage and enactment of the 1980 Comprehensive, Environmental Response, Compensation and Liability Act (CERCLA,

pronounced, sir-kluh), also known as Superfund.

After about four years (1978-82) of experience in "the management and oversight" of environmental regulations (particularly hazardous wastes) -- see the third of these essays which includes extracts of two 1981 speeches on problems of environmental management and oversight -- I sought to meet the challange of some environmental lawyers listening to "Star Wars" to demonstrate specifically the relevance of the demand revealing process to environmental management problems. The Superfund law seemed like the natural place to start, in part because of the complexity of the joint budget, regulatory and liability regime interaction in the new law and the seeming simplicity of the process by which one could use a "Vickrey auction" to determine the allocation of the initial Superfund dollars to the "clean-up" of "orphan" sites where no "potentially responsible parties" (PRPs) were likely to be found (at least with "deep pockets" big enough to finance any substantial share of the clean-up costs).

For a couple of years, I worked assidiously with environmental economists inside and outside the government to demonstrate the utility of the process for Superfund clean-up as well as such issues as the management of major hazardous waste siting problems. The ideas were set forth in unpublished work (see Chapter 6 on "Reforming the Grant in Aid Pork Barrel" (Clarke, 1981) and summarized in one published article (see Tozzi and Clarke, 1983 on the "Limited Fund Mechanism").

In 1995, as Congress approaches the issue of CERCLA reauthorization, the potential for constructive use of "the Limited Fund Mechanism" seems more and more clear. Experience suggests to this author that such a system would be superior on almost every count to a system that seemed likely in 1980 and was to prove even more litigious than then imagined and which, in fact, quickly exhausted the limited funds that Congress put in place through Superfund at the inception of the program.

I then go on to elaborate on work with a former colleague in mid-1996 to suggest use of the mechanism in a current contentious exercise on "reauthorization of Superfund". This material is incorporated in a subsection of the following chapter, entitled Revisiting the Limited Fund Mechanism.

Demand Revealing and Fiscal Federalism: A General Progress Program

I start with the notion of a "General Progress Program" that I developed with the help of Robert Conlan (presently at the University of Hawaii) in 1995. I explain this concept as follows in a treatment of "intergovernmental coordination" in a section extracted from the aforementioned essays.

On Intergovernmental Coordination

The Nation needs more effective decision-making mechanisms for intergovernmental coordination of expenditures and regulations. Efficient coordination can be achieved in an incentive-compatible way where the effects of spending by any one subunit on another subunit can be more effectively taken into account as compared with current decision-making procedures.

Effective coordination also relates to an important national economic policy concern which is efficient and equitable spending and deficit reduction. The need for better coordination is evidenced by fractious Congressional debate (i. e. the Congressional debate over welfare reform) over how to implement acceptable reductions in intergovernmental transfers, accompanied by reductions in Federally mandated spending requirements.

Given the existence of decision-making mechanisms (i. e. demand revealing) that would motivate decision-makers to accurately reveal the positive and negative effects of spending and regulatory decisions on one another, why not use these mechanisms to achieve more effective coordination? The Federal Government can establish an initial level of entitlements (called a distributional status quo) and then, with appropriate provisions for agenda-control, let the political subunits decide what levels of actual spending, including Federally mandated spending, is required. In effect, Congress determines the initial distribution but allows more implementation flexibility to the subunits, adjusting the financial flows to reflect external effects.

To illustrate, I will assume we are applying the process to all Federal discretionary programs (about $500 billion annually, and including National defense expenditures), later confining it to about $55 billion in programs (transportation, communications and the environment) financed by Federal excise taxes. Assume first that, we take the President's budget and allow a "citizen's advisory committee" to propose substitutes or eliminations designed to "maximize the likelihood of minimizing harm" (a criterion elaborated by Bailey, 1996). Subject to oversight by a "Commission", it will allocate cost shares among political subunits (in this case Congressional districts) so as to equalize per capita (or household) net benefits among the jurisdictions (alternatively, the cost shares may be made proportional to estimated benefits -- see Clarke, 1980, Chapter V).

Suppose that the allocation of beneficiary tax-shares resulted in pressures for spending cuts that were nonuniform. For example, spending may be cut 10% (from $5,000 per household on average to $4500.

Lower spending districts with lower cost shares might end up with an average of $4,000 while higher spending districts remained close to the original $5,000 average. Under the system, compensating transfers of $500 per household would be made from the higher to lower spending districts. If the advisory committee recommended prudent changes that also generated large net benefits and the compensating transfers were designed to achieve equal or proportional per capita net benefit increases for each district (that, say also averaged $500 per household), then the proposed package of changes would be accepted unanimously. (The result is that, relative to the original status quo, the lower spending districts would be loaning $500 per household to the higher spending districts and sharing in the social surplus created by more productive investments).

Although this attractive, but seemingly impossible, result might characterize the package of changes, particular elements of the package may result in positive net benefits for some jurisdictions, and negative benefits for others. In this paper, following Bailey, I present an approach combining demand revealing with Thompson insurance to help resolve this difficulty, and while the sharing of gains works out a little differently, these differences do not appear very important. Under the standard demand revealing approach, take, for example, a program element where all but two equally populated districts are indifferent to a particular program change. The net benefits of the change are $60 per household for District B but District A would be harmed by the change in an amount of $50 per household. (This might arise when each is equally sharing $100 per household in project costs and District B, with $110 per h in benefits, reaps all the gross benefits). In this case, the incentive compatible "pivotal mechanism" (i. e. demand revealing) described below would result in the change being made but District B would pay $50 a "VCG tax" which would be refunded to all the other 434 districts on a equal per capita basis (leaving about 12 cents in remaining surplus). Although I will elaborate on the point later, it is also important that the net surplus be sufficiently positive-sum ($60/50 = 1.2) for the proposed change even to be successfully carried on the agenda.

Under "Thompson insurance", where the best effort to reach a perfect Lindahl solution has left District A with $50 per h (household) in harm, A and B would be asked to express their wtp (willingness to pay) for insurance against material harm (resulting from choice of a less preferred alternative), and a statistical group under the aegis of the Electoral Commission would assess the probabilities that A's preferred option would be selected over B's. If these were equiprobable, and the districts expressed their preferences solely in terms of material harm, A would pay $25 (.5 x $50) per h in Thompson insurance, and receive back $50 if A was selected. A total of $55 per h (including B's purchase of insurance) would be collected and after payment of compensation of $50 to A, a surplus of $5 per h from A would remain that would also be distributed among the other districts in the manner described above (leaving about 1.2 cents in undistributed surplus).

One of many advantages of the combined use of the pivotal and Thompson insurance mechanism is that, relative to the pivotal standing alone, the combination is more "individually rational" for A and B taken together. As indicated above, B for example obtains $25 (1/2th of his loss in compensation) and both A

and B are better off by this amount plus a small refund relative to the refund from the pivotal standalone. The advantages are much stronger with respect to coalition and informational incentives, however. In addition to demonstrating important "synergy" between the pivotal and Thompson's mechanism, Bailey's recent work shows how we get around certain "technical limitations" of demand revealing (Groves and Ledyard, 1977).(4) In this paper, I try to show how these principles might work as applied to the budget and regulatory processes of a large country while elaborating on other aspects of the relation between the pivotal mechanism and Thompson insurance, including further aspects of the incentive effects of the simple per capita surplus distribution or refund described above, in more detail.(5)

The important effects of combining the pivotal mechanism and Thompson insurance is the way in which in corrects for potential misrepresentations when preferences reflect both "material" and "nonmaterial" benefits and/or harms, or when participants believe the government's probability estimates are wrong. In addition, through combining the mechanisms, coalition problems associated with the pivotal mechanism are eliminated while giving significant added incentives for citizens to ensure an accurate representation of their preferences (i. e. overcoming the problem of "rational ignorance").

In the following section, I explore these concepts in the context of particular "distributive" Federal programs affecting transportation and the environment. Based on Bailey's work, I will posit use of the pivotal mechanism for agenda setting and combined use of the pivotal mechanism and Thompson insurance in making final budget and regulatory decisions in a manner that will achieve efficiency while minimizing redistributive harm. The added feature here is the integration of Bailey's approach with the Limited Fund Mechanism (LFM) which, like Thompson insurance, uses information generated by incentive-compatible means to compensate losers and minimize redistributive harm, through a process I will now call "compensated incentive compatibility", or CIC.

The second added feature is the combining of the agenda setting process with incentive compatible Congressional voting, at least initially, at the referendum stage. Rather than voting by individuals through direct democracy (explored in a following paer), I rely on representative voting in Congress or by Congressional committees representing regions or states in the process of agenda setting. I shall describe first an agenda setting stage where the system is operating under the aegis of one (monopoly) advisory committee which establishes one set of options for departures from the status quo. The committee works with executive officers (EOs) which essentially represent the interests of constituent regions (i. e. the executive officers substitute for competitive regional committees).(6)

I then turn to cases where there are competitive alternatives (e. g. a national committee's preferred alternatives competing with those of the executive officers or regional committees), where the decisions are made by Bailey's process in the context of Congressional voting via the VCG-Thompson mechanism. While the idea of such a method used in present legislatures may seem initially farfetched, one is usfully led into investigations of how it could be implemented in a "second best" setting.

II. Application of the General Progress Program to Particular "Distributive" Programs: Transportation and the Environment.

Nobel Prize pundits (Science, October 18, 1996) credit successful applications of his idea to such areas as the spectrum and Treasury debt auctions as a contributing factor in the award of the prize to William Vickrey. Why not now, in Vickrey's honor, extend the idea to expenditure allocation affecting "distributive" Federal programs? Following Vickrey's idea, an incentive-compatible approach to grant-in-aid design for "distributive" programs was initially set forth in an unpublished paper by (Clarke, 1981), entitled "Reforming the Grant-in-Aid Pork Barrel" and was briefly described with respect to "A Limited Fund Mechanism" for allocating Superfund by Tozzi and Clarke (1983). More recently, Brough, Clarke and Tideman (BCT, 1995) described a compensated incentive-compatible approach first elaborated by Tideman (1979) to airport slot management and noise regulation. This method, described in BCT, 1995) effectively separates the allocation of a resource (i. e. airport slots) from distributional questions (i. e. whether airlines should be entitled to landing rights as opposed to communities or the public at large). The method is an adaptation of the second price auction (Vickrey, 1961) and Clarke's demand revealing method for public goods allocations (Clarke, 1971).

With respect to "distributive" grants-in-aid (see Stein and Bickers, 1995), the following section of this paper illustrates the use of the procedure for allocating annual obligations to the state revolving Funds (SRFs) under the existing EPA Construction Grant Program. The method could also be adapted to the implementation of the new Safe Drinking Water Act and Hazardous Waste grant management (Superfund), as elaborated in a separate paper, on which I am collaborating with Wayne Brough. See also Brough (1995)[(7)]

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By comparing a more practical, administrative approach with an admittedly more visionary one, it is possible to better gauge why the latter may appear less acceptable to "real political actors" and the "general political science" in the "foreseeable future" (see Introduction, footnote 1). Winning the hearts and minds of the "general political science" may simply require proving that the ideas work in simple administrative settings before trying them in somewhat more controversial settings where the new "voting rules" might supplant existing voting rules. The Nobel Committee recently noted that the Vickrey auction anticipated (by a decade) the theoretical development of the pivotal mechanism as a means of ensuring "truth telling" in public project tenders. I am hopeful that, in actual experience and within a decade, the use of the principles of the former (in spectrum and Treasury note auctions) could lead to use of the latter (also in voting on public projects) in appropriately designed institutional settings.

Revisiting the Limited Fund Mechanism: A "Practical Approach".

There is currently a wellspring of activity in converting from traditional grants-in-aid to "revolving funds". Holcombe (1992) examined the general topic of revolving fund finance, focusing on the organization and administration of State Revolving Funds (SRFs) for wastewater treatment. A compensated incentive compatible (CIC) approach towards administration of revolving funds in general can be illustrated as follows.

Take, for example, the existing construction grant program funded in FY 1996 at approximately $2 billion in annual capitalization grants. Under the CIC method, an administrator would establish a initial interest rate which might be 7% (say 2% below the market rate, so as to reflect the "disutility" associated with "administrative strings" and Federal requirements). This rate, would be based on evaluations by a national "cost-benefit" advisory committee and, in future years, also reflect for any given jurisdiction the revealed wtps of other jurisdictions.

Suppose that the average state (J1) had an initial entitlement of S = $100 million. As shown in the following figure, however, J1 would take more and others would take less than their initial shares, and the willingness and ability to "flex funds" makes the "derived supply of funds" to each individual jurisdiction rather elastic. Here, the supply of funds to J1 would be determined by subtracting the amounts that all others would take at 7% from the fixed $2 billion supply of funds. Assume, given a high elasticity, that this would equate with J1's demand for funds at a rate of approximately 7¼%. The amount that J1 would pay is determined in two parts. For an extra $10 million (A - S) over the entitlement level, it pays 7% and other jurisdictions are compensated by a similar amount. For the remaining or next $10 million (B - A), it pays an average of 7 and 7¼%, which is shown by the shaded area in the figure. (This is essentially a "VCG tax", also here called a general progress payment or GPP, which motivates jurisdictions to provide an accurate expression of preferences, albeit creating a small surplus of about $17,000 in extra annual interest payments for J1 over what is needed to compensate other jurisdictions at the rate of 7%.[(8)]

The procedure can be viewed as a potentially more effective way of reconciling needs as provided by a formula or determined by a central administrator and the needs as perceived by subnational entities. As Holcombe notes (1992, page 55), the states receive very disparate portions of their EPA determined needs through the formula. "Two states -- Wyoming and North Dakota -- will receive more in SRF capitalization grants from the federal government than their EPA-estimated needs through the year 2008, while the bottom four states -- Arizona, Florida, Massachusetts, and Washington -- will receive only 5% of their estimated needs through 2008 in capitalization grants." (For comparison purposes, Holcombe at footnote 11 notes that the median state receives about 14% of estimated needs through the year 2008; the large percentages given to some states is a result of an agreement that each state will receive a minimum percentage of the total of the money regardless of other factors).

With respect to a detailed elaboration of this approach in a separate paper, it is fairly easy to see how the "administered" system might be superior to simple trading or "flexing of funds" by simple agreement between the jurisdictions so as to, for example, achieve more efficiency in equating the marginal product of investment in a particular activity (i. e. toxic waste cleanup). Except for removing incentives to strategic manipulation to alter the equilibrium price of funds or the interest rate in small number interactions, the device may not be all that superior relative to trading, but it does have growing advantages when we adjust the aggregate level of expenditure (see BCT, 1995, particularly in comparing CIC with zero revenue auctions which have been advanced in the environmental permit trading area as a means of achieving more "allocative efficiency" while preserving "distributional stability").(9)

The Limited Fund Mechanism (LFM) was originally advanced in the context of programs where the interjurisdictional spillovers (clean water, hazardous waste sites) were arguably small. However, this ignores the problem of substate allocation, where districts will vie for funds while letting the rest of the State pay for them. Also distributional considerations will intervene in that other jurisdictions may prefer, for example, that there be more clean-up of sites where, say, children are residing nearby as opposed to "brownfields" development where state wtps might be higher.

Consider a couple of additional examples of potential application to now evolving new "revolving fund" programs. EPA is now in the process of writing rules for the formula allocation of a new Safe Water Drinking Act program enacted this year. One could envision a set of simple per capita entitlements, followed by "needs" or cost-benefit assessments in which jurisdictions with higher "needs" would borrow amounts above their per capita entitlements and others would be compensated for receiving less (at

assigned rates of compensation). In this and similar programs, the usual "discretionary" accounts (5 to 10% of the amounts allocated subnationally) would be allocated to states that exceed their entitlement levels by indications of their wtps -- thus in effect paying variable matching rates depending on their demand for discretionary funds. In this way, a state with high needs makes a move from a simple per capita distribution (S in Figure 1) to point A (determined by the benefits assessment, which can also take account of projects with spillovers) and then to B (reflecting actual wtps), crating a minimum "surplus" (as measured by the shaded area in Figure 1). This approach also minimizes distributional struggles in the initial allocation, where small states usually end up with some "minimum" allocation unrelated to "needs" (see Holcombe, op. cit., 1992) and we avoid asking them to explicitly loan back funds when program managers may come to believe that these are their "owned" funds (a sort of "flypaper" effect).

Federalist Resource Allocation: Agenda Setting and the "Pivotal" Mechanism

I now turn, in more detail, to a second example involving the establishment of "State Infrastructure Banks" (SIBs) for transportation infrastructure. Currently, States are allowed to use up to 10% of their formula funds to capitalize the SIBs.(10)

I will not dwell here on programmatic features of the SIB that could lend itself to more administrative flexibility in allocation via the LFM. Suffice to say, a few large states would have likely used it intensively (about 10 large states with slightly less than one-half of the population had in fact about two-thirds the originally proposed allocations). In these contexts, the policy analyst would also have concern about strategic influences on the interest rate. Also the supply of funds may be relatively inelastic. In this program, for example,it was anticipated that in the startup the large States might be allowed to exceed outlay restrictions (15% in first year, then 52%, up to 100% by fourth year) as long as the total outlays for all states did not exceed an aggregate outlay limit characteristic of Federal highway aid programs.

To move now from the administrative realm to a more "speculative" realm, let us add in a feature of prominent "Truth in Budgeting" legislation (HR842 in the last Congress). This is the proposed use of the 4.3 cents (about $5.2 billion in gas tax money used for deficit reduction. Suppose states could use a prorata share of this amount, while also assuming the debt repayment obligation, as long as they attempt to meet a performance goal of "maximizing the likelihood of minimizing harm" through beneficiary-related taxes and charges and the use of the funds is approved by the Congress. This idea, and Congressional use of a preference-intensity revealing voting rule to make decisions on budget size and restrictions, will be elaborated in Section C.

In terms of the following example, I will deal only briefly with LFM issues. However, suppose in the following table, option A represented the net present value (npv) of projects financed by $100 million (10% of New York's unified grant) and option B represented the npv of projects displaced in New York under current programs. Under this scenario, the LFM would allocate an additional $15 million in npv costs over and above the interest rate applied to interstate allocations for comparable programs (Construction Grants, Drinking Water) described earlier. This might drive the rate to well over 8% as opposed to 7% in the previous illustrative construction grant project discussion (see also shaded area in Figure 1) and the rate may also be higher if the SIB programs are "not subject" to project restrictions (e. g. grant assurances) characteristic of Federal grant and loan programs.

Note here that the interest rate escalation may be such that we consider allowing states to turn to the $5 billion deficit reduction account, through procedures elaborated in the following section. Here we assume that the supply of funds is sufficient to finance most worthwhile projects with positive npvs at reasonable social discount rates.

The examples presented below describe how we make decisions on improved budgetary flexibility while also describing the pivotal mechanism in a couple of discrete case contexts. Suppose our voters were Metropolitan Planning Organizations (MPO's) or perhaps New York's 31 Congressional districts. The two alternatives below continue to be "competitive" projects. Option B is the project initially favored by the National committee, which uses "pivotal" voting among the national sample of citizens in project selection (see Bailey, 1996a). However, a competitive project is advanced by the Executive officers in the form of option B and adjustments are made in the internal cost allocations within the state by the Electoral Commission to ensure that there is no redistributive harm (i .e there are no negative redistributive impacts by jurisdiction when the project are considered singly). The most impacted jurisdictions are then polled, again using pivotal voting to determine which project to select. If the benefit impacts were fairly diffuse, none of the Congressional districts might have (singly) a pivotal impact. However, suppose that New York "urban" in the example below changed the outcome with the result that it paid a $5 million "Clarke tax" or GPP penalty. That is when this jurisdiction (New York City or the New York MPO) voting as a whole has its preferences taken into account, its vote is pivotal (i. e. when its preferences are excluded, option B would have been accepted by a vote of $15m to $10m with a difference of $5m). Note also that the "executive officers" representing "other regional" and "other regions" could also be pivotal, except in this particular case when their preferences are excluded, the result would have been a tie, with no GPP penalty.

-Table 1 goes here-

These other actors, of course, may have preferences for a particular configuration of services. Drawing from an example for agenda setting in a related paper, neighboring Vermont proposes a modification to City Hall's plan (a further development of an intermodal project involving New York's airport system which includes improved surface transportation access). In this context, a private party in neighboring Vermont (see Table 2) proposes a modification (option C) to City Hall's plan (option A) which has net benefits (also including option B) as follows:

Table 2 GOES HERE

In this case, Vermont is able to organize a complementary set of expenditures (using say a portion of 10% of its unified grant or $6.7 of $67 million), including those of New York's $100 million, to effect a .7m addition to total net benefits. With the selection of option C rather than the next highest option A, there is a slight improvement to New York, a .2 million "leakage" (disbenefit) to other regions and a .8 million improvement for Vermont.

To effect this selection, Vermont would make a GPP payment of .1 million because in the absence of its expression of net benefit, option A would have been chosen by a vote of 19.8m to 19.7 or .1m.

These pivotal payments are, of course, small change and could be considered as small adjustments in the interest rate on fund charged to the relevant beneficiary jurisdictions and their private partners. For example, if a base interest rate of 7% yielded some $75 million in present value over 20 years, over and above the $107 million in New York and Vermont capital investment in Option C, pivotal payments of a few million would be a small element in their decision calculations.

Also of importance is the incentive structure driving the agenda setters -- the National committee and the potentially cooperative (or competitive) "executive officers" as well as the Commission. The above example provides a convenient vehicle for introducing a specific incentive structure to properly motivate these actors.

Following Bailey's "constitution" (1996a), a possible set of incentives would include payments which are a positive function of budget size (.1%), social gain over the status quo (3%) and a negative function (0.5%) of harms. For the advisory committee, this would be about $95,000 when we compare Option A over the status quo (B). Now if a private party is able to convince the Committee to add in something like

Option C, the incentives might be some 10 times larger. In addition to the small positive reward for budget size (0.1%, the incentive would be 30% of the net social gains less 5% of the harms. This would be shared between the private party and the committee.

The private party could also shop in regional and local legislative fora, putting together options that would compete formally with those advanced by the national committee. There would also be strong incentives to use funds earmarked for particular projects in areas where they may not be used most efficiently. For example, we have a lot of smaller states (like Vermont) as well as in the West and Hawaii which get a lot more in transportation funds than they pay in Federal gas taxes. The GPP gives them the choice of (1.) saving the funds if the opportunity costs are say high enough (and reducing their own gas or other taxes with the interest proceeds), (2.) spending the funds for improvements that will improve the use of our cultural heritage while advancing conservation goals or (3.) on more traditional projects (airport improvements and highways). To the extent that projects are financed through beneficiary taxes (including land rents), then the local taxpayers are able to invest the funds in projects elsewhere at rates approximating the social cost of capital.(11)

C. National Resource Allocation: Combining the Pivotal Mechanism and Thompson Insurance

We now present a situation where the "efficient" rent seeking on the part of potential competitors (the national committee, the EOs and private parties) is very aggressive. Large projects with high rates of return are identified, along with reasonable cost sharing and beneficiary-tax plans that can be approved under the aegis of the Electoral Commission (and appropriate State authorities, so that the incentive-based rewards from selection of the more aggressive projects promise to be substantial.

Let me address first the issue of when we go from agenda setting with the pivotal mechanism to combined pivotal/Thompson "representative referenda". The national committee, of course, uses the pivotal mechanism in its deliberations and to the extent this leads to the wisest decisions, no referenda will be needed. This will also be true the extent to which the potentially competitive EO's tailor regional/local solutions to achieving the "highest net social benefit".

In addition, we have utilized, in the Federalist setting of Section B. above, representative referenda guided by the agenda setting activities of the Committee and the EO's. However, they operated under budgetary constraints and inflexibilties that might not be always appropriate. In effect, we might carry the agenda setting process to the point that most of the parties are in reasonably unanimous agreement about most resource allocational decisions. However, a remnant of controversy remains to be addressed in the "national budget game". In addition, this forum is the appropriate place to make determinations on the question of overall budget size, as instanced by decisions to permit subnational governments to dip into the deficit reduction setaside through a particular decisionmaking procedure designed to implement

"truth-telling" in budgeting.

To also address questions when a project requires referendum consideration, we might apply certain tests. In the above examples, we could have required that no project where the material gains less redistributive harms is less than 1.2 would be considered. This is the point where the incentive payments (i.e 3% of net gains less 0.5% of harms turns approximately negative, at a more precise ratio of 1.16). This might be combined with a presumption against a pure pivotal payment of any significant size -- if pivotal (GPP) payments are generated, a "Congressional referendum" might be called instead. In the examples presented in section B., we would guess the referendum test would be passed as the payments would be regarded as insignificant. In the examples presented in this section, the GPPs are quite large, even though the preferred alternative satisfactorily, but barely, passes the 1.2 test.

The following examples of the GPP test and the "Congressional or representative referendum" draws on examples adapted from an earlier unpublished paper on aviation governance (Clarke, 1991) which I am revising on the basis of Bailey's recent work. The examples also illustrate a participatory approach to budgeting that grows out of a 1979 debate (Ferejohn, Forsythe, and Noll vs. Clarke) about the use of demand revealing in making "budget allocations" (e.g. for the Public Broadcasting Corporation's Station Program Cooperative (SPC). When I advanced the view that demand revealing was also indeed a potentially "superior" method of public budgetary decisionmaking (Tideman and Tullock, 1976), critics Ferejohn, et. al. (1979) Riker (1979) and others -- questioned its superiority by illustrating the susceptibility of the method to defeat by coalitions via "zero sum games" of traditional politics, including the traditional budgetary process.[(12)]

Bailey 1996b shows that the pivotal mechanism working together with Thompson insurance is relatively immune from coalitions. In addition, the pivotal mechanism preserves the "truth telling" integrity of Thompson insurance.

This section elaborates on the characteristics of the operation of the incentive-based budget procedure when there are major conflicts or controversies between 2 or more separately constituted bodies (the committee, the EOs and private parties). The competitive process drives each body towards the most socially efficient solution, so there is likely to arise, at the margin, some small gain along with GPP payments, which is always the case if we were evaluating a continuum of budgetary choices. The conflicts also arise when the 2 or more committees are drawing up plans from two separate population samples (i. e. a regional advisory committee vs. a national one) or particularly when some specially chartered committee (essentially a private government) pursues plans at odds with the general population.

The following examples pertain to a wide variety of transportation issues (controversies over major mass transit or intercity rail investments in the New York region or the Northeast Corridor, building a new Interstate (I-31) or a "NAFTA corridor" through the heartland linking Canada and Mexico, or building a replacement bridge or tunnel for the Woodrow Wilson bridge in the Washington region). They are also being used, in a slightly different format, to illustrate "national budgeting" of air traffic control and airport investments.

In the current contexts, let me now introduce some ways of resolving the previously identified problems in relation to the actual budgetary parameters used in the earlier debate. I also posit fundamental differences between two competitive committees (national vs. regional) which allows me to explore further the properties of Bailey's approach to incentive compatible governance. In the following example, we have two alternative budgets (A and B) made up of different "program packages" -- see also tables 11-13 drawn from FFN and Clarke (1979) and reproduced here -- that generate different patterns of "net benefits" for the users. The combinations boil down into two "most preferred" packages, CDE and CDA respectively. Our nine regions are cumulated into five where we have the following result for the Middle Atlantic (region 4) with 15% of the cost shares (based mostly on population):

(See following two tables 3 nand 4 and also FFN-Clarke tables 11-13 for description of the overall budget)

Table 3

	Option A (CDE)	Option B (CDA)
Total budget level	$3.0 billion	$2.85 billion
Cost to region 4	.450b	.413b
Gross benefit	.960b	.660b

Net benefit .560b .232b

less GPP -.128b

Net .382b

Note:

With respect to illustrative budget allocations, the $3 billion total budget level in the example outlined here conforms closely to the FFN and Clarke model of demand revealing and an adaptation (by FFN) of Groves-type procedures in the allocation of an approximately fixed collective common user budget. We use the same gross payoffs, cost shares and net payoffs (after costs) as FFN and Clarke, the only difference being that all payoffs are multiplied by 10 to the 8th x a $30 budget level = $3 billion.

The model created here now suggests that in lieu of the GPP paymnents to achieve the preferred outcomes (those shown above being a theoretical upper limit that is reduced towards zero in large number interactions involving as many as 435 representatives), we substitute Thompson insurance. In the aggregate, region 4 buys .5 times (.510 less .232b) = .278b in insurance, receiving back a refund measured by a almost certain positive Thompson insurance surplus less incentive pay (see later discussion).

This reflects an expression of net benefits and GPP calculations among the five regions as follows (the figures in parentheses reflect the net differences between options A and B):

Table 4

Region Option A Option B GPP

1 .660b (-.195b) .855b 0

2 1.230b (.328b) .908b .162b*

3 .480b (.085b) .405b 0

4 .510b (.278b) .232b .128b*

5 .840b (-.330b) 1.170b 0

Total 3.720b (.150b) 3.570b

*The GPP is calculated by the difference is net benefit to all others when the other option (B) is chosen in the absence of the region's expression of net benefit (i. e. region 4's GPP = 3.338 - 3.210 = .128 billion. See also Clarke (1979, table 13)

To illustrate further, we take Clarke's (1979) analysis of the critical choice between CDA and CDE in the FFN model. With our new numbers, this critical choice implies a difference of $3.0 vs. 2.85 billion in the annual budget, for a difference of $150 million. (There is also another proposed reallocation 0f $600 million from expenditures on A to be spent on E). However, if we apply the incentive tax procedure to the gross aggregations shown above in making the efficient choice of option A over B, given the cost shares, the result is $282 million in penalty taxes or GP payments.

The Electoral Commission, of course, has the incentive to try to get as close as possible to the ideal efficient distribution of cost. With a good knowledge of benefits and costs, the Electoral Commission could allocate $282 million more to parties 2 and 4 (54.2% vs. 45% of the cost of having E vs. A and 9.4% less to parties 3, 5 and 1, we get $150 million in social gains at no cost. The extent to which this result can be achieved will depend. of course, on available information (including how well the sample of the citizenry predicts benefits for the population as a whole), on the costs of further search (including the tailoring of programs by the "executive officers" to particular regional/local circumstances) as well as such factors/limitations as available tax and budget flexibility (i .e. reasonable uniformity in tax assessments at the subnational level).

The above example reflects a situation where there would be strong pressures for a Thompson insurance referendum, absent successful negotiations between the opposing parties (2,3,4 vs. 1 and 5). Absent such agreement, the parties would now ask the Electoral Commission for odds on either side winning and let us take these as equiprobable. Also the preferences are expressed solely in terms of material gain with the result that A is selected with total compensation of .525b paid to regions 1 and 5, while reducing their harm to .5 x .525b = .263b. There is also a Thompson insurance surplus of .075b which would be used to make incentive payments and cover administrative costs with the remainder returned to the participants through the refund procedure described earlier.

Returning now to the incentive payments described briefly above in the context of the New York-Vermont examples, we have the National committee with the winning proposal (A) receiving

approximately $29 million in incentive payments. Of this there is 2 million relating to budget size, part of which has been shared with the other committee for common elements (CD) in the proposed budgets. There is another ($27 million or $45 - 18 million measured by 30% of social gain less 5% of uncompensated harm). According to Bailey, there would also be smaller payments to the members of the Electoral Commission unrelated to budget size, thus inducing that body to make appropriate Lindhal tax-transfers, to the extent practicable, to maximize social gain while minimizing redistributive harm.

The idea that Congress or any legislative body would ever use "preference intensity voting rules" may seem farfetched (see also Mueller, 1996, Ch. 11, also with reference to the use of demand revealing). However, as shown in a related paper on "aviation governance", is is easier to see a government-controlled corporation administering airports and air traffic control governed by procedures analogous to those contained herein. The Corporation would be subject to strong agenda control and the use of "preference intensity voting" would carry right up to a representative referendum described in this section where some form of determing budget size and restrictions is obviously called for. At that point, we might have to turn to more conventional tools such as "qualified majority rules" in the traditional legislature to resolve contentious issues. Nevertheless, the relative properties, and advantages/disadvantages of the preference-intensity revealing rules should be a lively arena for research, also applied to particular institutional settings explored in this and related papers.

In this paper, I have applied the same principles of agenda control to the allocation of "distributive programs" by the Congress. Professor Rubin and other skeptics may be right about the potential reluctance of "real political actors" and the "general political science" to adopt such procedures in real political settings. However, this should not be viewed as resulting from technical or operational limitations as much as the obvious difficulties inherent in changing our approach to the exercise of power and influence in matters affecting public decisionmaking.(13)

Conclusion

How might all this play back in "city or town hall"? In concluding, I now link the "national game" to the results in Sections IIA. and B. above. In these contexts, what happens to our projects advanced by the national agenda setter representing the projects designed in "City Hall" and "town hall" (say in Lamoille Co., Vermont)? The projects, presumably contained as marginal ones in the rejected package (CDA) advanced by the national committee contained about $207 million in project costs. The jurisdictions would have presented wtps aggregating $35.8 million and paid about $17.9 in Thompson insurance. If they are in the end position of now loaning a unused portion of their entitlement, they would be compensated for savings at the "compensation" loan rate and receive additional net compensation approximating $17.9 million plus a refund of about $100,000 per Congressional district.

Even if they were proposing, as was the case, projects that exceed their entitlement levels (S in Figure 1), they would also receive up to one-half their revealed net willingness to pay, because, in part, they were included in a national budget package of projects that met a cost-benefit test with positive npvs. They are compensated in part for this loss. In this sense, the procedure is a further refinement of the compensated incentive compatible procedure we introduced in Section A. and elaborated further in Section B.

The above has provided first step suggestions concerning how we can use incentive-compatible procedures in selected areas concerning the allocation of resources to "distributive" governmental programs. As a first step, it could be applied to about $25-30 billion annually in transportation programs as well as about $25-30 billion annually in transportation investments (as well as perhaps another $25-30 billion in environmental and communications infrastructure investments), while tailoring the associated regulatory regime to make these investments more productive. A postscript to this chapter addresses issues of "regulatory flexibility" and the following chapter is concerned with local public goods provisioning, using some of the ideas contained herein to attack the problem of "rational ignorance". (See also Clarke 1980 and Bailey 1996a-c).

Postscript on "regulatory flexibility" and Federal mandates.

Building on this idea for budgetary allocations, one should now consider government regulations.

Enactment of Federal Mandates legislation will require improved efforts to address issues of fiscal and regulatory coordination and the streamlining of existing regulatory requirements affecting State and local governments.

For other functions affected by block grant consolidation -- including a range of transportation safety activities as well as environmental regulations such as aircraft noise mitigation and transportation "conformity" with environmental requirements, there is potential for the judicious use of a "regulatory coordination" mechanisms. The mechanisms could be designed in a way so as to, for example, manage regulatory decisions affecting any allocation of grants to "national purposes" so as to balance the national interests against those of political subunits. This balance would be achieved by the use of the "preference revelation mechanisms" described here.

In the case where a Federal mandate or regulation does not generate the highest "net benefit", the

revelation mechanism better ensures this result by making the cost to each subunit reflect the net cost to others if that subunit is "pivotal" in determining how the mandate should be implemented.

To use a real world example which will be elaborated further in this section, consider the current controversy (which surfaced in the floor debate on the Mandates bill) over "metrification" of highway signs. FHWA (Highways) observes that more than 3/4ths of the states are in favor while a minority of states are opposed, some strongly so. Suppose the net benefits of a move from the status quo to "quick metrification" generated $50 million in net benefits. An alternative, more flexible option which provides a longer time for replacing signs on rural roads, would generate sightly higher benefits (say $55 million). If one (or a few) states were pivotal in making the more efficient change, then there would be an adjustment to its (their) block grant by an amount (the net cost to the others) less than the improvement in net benefits to the subunit.(14)

Suppose that Congress enacted the President's program in the form enunciated by the Administration. Implementation of the program requires decisions on a whole set of requirements, including set asides for urban areas (about $4 billion) for safety (about $400 million), Federal mandates involving speed limits, state drunk driving laws, as well as implicit mandates that states convert highway signs (currently in English) to metric measures.

Suppose that in the first year of the program following evaluation by the Advisory Commission on Intergovernmental Relations (ACIR) in the study of "unfunded mandates" that the Federal government left it up to the nine regional advisory bodies (or 50 states) on what the optimum configuration of enforceable mandates should be. In the design of the appropriate information/analytic and decision process, the ACIR would be given guidance on what kind of regulatory flexibility could be accorded the states. It is presumed that the procedure described below, for example, would not affect the implementation of laws that Congress determines should not be subject (i. e. certain minimum environmental health standards, civil rights and disability, for example. Nor would it slow down the quick dispatch of useless regulatory requirements. On complex questions, however, it provides a means of facilitating improved decisions. The availability of these decision procedures would tend to drive regulatory negotiations towards more efficient outcomes while driving agencies towards more accurate analysis of benefits and costs. There would be a cross-check from the standpoint of the affected political subunits who are motivated to take better account of, and to better communicate, constituent preferences. The procedures would also improve the quality of intergovernmental fiscal and regulatory coordination and could be applied in other areas where there are proposed program consolidations.

An example of this approach follows:

Example: Regulatory Coordination in Texas. (At the time I first worked out his example, I did not realize how ideological the issue would become in terms of Presidental/Congressional disputes over Highway System Designations in the Fall of 1995. Nevertheless, the example follows as drafted and the dispute may be a further example presented in the following essays of my critique of ideology.

Consider now an example involving regulatory decisionmaking. To use a current example, I consider the current controversy over regulatory decisions involving highway safety in such areas as sppeed limits, use of safety belts, motorcycle helmets, materials requirements for highway maintenance, and requirements for metrification of highway signs. Currently, law involves the loss of a percentage of highway funds if States and localities do not follow Federal requirements and prescriptions in these areas. The following describes how the demand revealing process can be used to provide more flexibility in the requirements (to better reflect the preferences of the subunits) and where the penalty structure is also more flexible relative to present requirements.

To simplify the discussion, let us take speed limits on the rural portions of interstate highways and the metrification of highway signs (building on an example mentioned above). Suppose that the nine regional decision-makers were facing agenda items as follows:

Option A: Require quick metrification of all highway signs and do not allow any change from the current policy of 55 mile per hour limits on Federally financed highways (exceptions still subject to a penalty on highway funds).

Option B: Allow more flexibility in the timing or do not require metrification in rural areas and allow state option to raise speed limits in nonmetropolitan areas.

Between the two regions, assume that 8 regions outside the South Central Region (including Texas) prefer option B to A by $51 million to $50 million. In the South Central region, option B is preferred by $4 million to zero. Thus in this case, the option B permitting more state flexibility would be adopted unanimously and without penalty (it is assumed that no region changes the outcome) and States would then determine how to proceed with the implementation of the more flexible policies.

Suppose, however, that the system is also adapted to account for intraregional or intrastate differences and that, for example, there is conflict within a state (Texas in the South central Region) and that the preferences among options (relative to S, the status quo) is as shown below:

The example assumes that a region is beginning to use the demand revealing mechanism as a means of intraregional conflict resolution.

-Table here-

In this case, the preference revelation mechanism would lead to the same choice of Option B. However, the split in Texas' allocation (assumed illustratively as $236 million urban and $425 rural) is adjusted $5 million to reflect the selection of the less flexible option A in the absence of the Texas rural vote. The penalty reflects the difference in the amount vote for option A vs. option B in the absence of the rural vote.

To avoid the result that the dollars would flow outside of Texas to be used for deficit reduction, it is assumed that Texas would strike some internal compromise by changing the urban rural split by $5 million contingent on the selection of option B) so that the preferred and more flexible option B would be selected unanimously. Alternatively, this could be accomplished by fiscal technicians, assuming that they had a means to assess the "personal disutilities" associated with alternative options involving speed limits and metrification (obviously more difficult to measure than say changes in set asides involving flows of dollars within a state or between regions).

The above example can also be made more interesting when we introduce other variables (i. e. a differing set of preferences among regions regarding the regulation of the speed of heavy trucks as well as speed and weight limits, etc). This will be taken up in the concluding essay where we begin to deal with preference revelation affecting the levy of taxes and user fees, particularly affecting interstate trucking.

The above example also illustrates a point treated in more detail in Part II of these essays concerning what options can get on the agenda. Relative to some status quo which is the initial block grant allocation

and regulations affecting the use of those dollars, options A and B would be accepted as legitimate options. However, if option A were the status quo and B were introduced, then the latter might fail a the threshold test in that net benefits of $6 million would come at the expense of some $56 million in votes for the status quo plus $5 million in penalties. If some discount factor (say 20%) were applied to these magnitudes, then the resulting amounts would greatly exceed net benefits. The threshold test is used to control "zero sum" redistributive games which (in the absence of adjustments by the fiscal technicians to avoid redistributions), can lead to coalitions and the selection of inefficient outcomes.

Postscript: A "Practopia for the Washington D. C. Region

A application to the finance and pricing of transportation in Washington, D. C. will be placed here.

3. Information Resources Management in the Federal Establishment.

This is my current research prospectus, growing out of Applications of the Demand Revealing Process, starting with a section on Utility and Representative Government" (1976). -- being drafted.

Today, also as an introduction to what I have accomplished in thinking about (and sometimes actually trying to apply these principles -- for example to "information resource management" budgeting in the Federal establishment) the applications over the years, I will give a brief precis to the essays which follow in Part Two. By way of introduction to Part II, I describe the reaction of an attempt to implement the process in the early 1980's and where that effort stands today.

The discussion is drawn from Incentives for Improving the Budgeting and Management of Federal Programs: Telecommunications, Transportation and the Environment (November, 1996) -- the three areas in which I have had experience in thinking about concrete applications in particular management situations. This application began during a year 1982-83 when I retired from "Regulatory Star Wars" affecting the Environment and took up telecommunications policy issues, first within the Federal establismnet and then "telecommunications in developing countries".

Information Rsources Management and Budgeting Within the Federal Establishment

As indicated above, this was the original proposed area of application advanced in several OMB Reports to Congress during 1982-84. I still regard it as one of the most promising areas of application, particularly in the context of implementing procedures for efficient decisionmaking in a new decentralized environment for telecommunications policy managers within the Federal establishment.

However, implementing such a procedure will require better understanding as well as leadership. In this context, I shall describe the reactions of some 20 Federal agencies to proposals to experiment with the implementation around 1983.

By way of background, the Paperwork Reduction Act of 1980 required the Office of Management and Budget (OMB), together with senior officials in Federal Agencies, to assume a unified responsibility for management of information resources and to submit an annual report to Congress on the discharge of its responsibilities.

In October 1983, OMB circulated to the senior officials in the agencies a supplement to its Second Annual Report under the Act. That report, entitled "Incentives for Efficient Information Resources Management (OMB, 1983) sought: (i) agency comment and advice on improved procedures for pricing of information products and services (provided by the government), and (ii) to encourage agencies and Federal research organizations to experiment with the implementation of improved incentives for managing information technology.

In particular, OMB observed that "management incentives are important for planning the allocation of common user resources as, for example, centralized computer facilities. When many agencies utilize information resources in common, principles must be developed which will ensure efficient resource usage. In the typical government setting, the policy principles are developed by senior management on the basis of a "priority user" scheme and administered from the top down. The perspective presented in this report describes bottom-up incentive mechanisms which constrain agencies to take into account the opportunity costs that their actions and choices impose on other agencies."

Chapters 3 and 4 of the 1983 OMB Report describe, in particular, the application of demand revealing incentive procedures to the planning and management of information technology within the Federal establishment. Examples of specific decisions to which such procedures might be applied include:

-- Decisions on whether to acquire dedicated telecommunications facilities to be shared by numerous Federal Agencies or permit each agency to pursue its own strategy.

-- Decisions on the configuration of information processing support services that would serve end users within an agency; this is an intra-agency variant of the government-wide telecommunications decisions cited above.

In addition to describing these potential applications to intra- governmental decision-making (Section A.1 of the Report), OMB encouraged experimentation with the implementation of a demand revealing approach (Section A.2.) and provided a formal statement of the approach in a separate appendix accompanied by an example illustrating the incentives embodied in the rule (Appendix 1).

The following describes some of the constraints on implementation in form of a summary of some of the more significant agency comment on the decision rule, focusing in particular on some of the key

distributional constraints identified by the agencies. In addition, I deal briefly with and provide some examples of potential applications of the procedure to government regulation, a topic which is treated at greater length in Essay X. on "The Demand Revealing Governance of Enterprise".

Constraints on Implementation: Agency Response and Comment

About twenty agencies submitted comments to OMB on the issue of implementing the demand revealing incentives approach. Although a number of agencies thought it was an interesting approach, they pointed out a number of problems and pitfalls in implementing it. The agencies concerns are summarized below under broad topics.

Determination of Value of Benefits: One of the most commonly expressed concerns was the potential difficulty in

determiningthe value of the benefits for each alternative. For example, in the view of one agency:

o "Precise quantifying of price/demand relationships in information technologies has not been successfully accomplished within the information resources management community. In addition, organizational and human biases will remain an institutional dilemma thereby rendering any reported benefits suspect."

o The "bid system" used in the demand revealing approach does not appear to take into account varying information management system needs on an individual agency basis. Therefore, imposition of 'penalties' would be unfair and meaningless.

o It is not clear what the penalties are or how they would be enforced or who would monitor the program..

Variation in Agency Size and Number: A second concern to several agencies was the appropriateness of the demand revealing approach when the participating agencies are of greatly different sizes. The largest Federal agency, for example, observed that it could likely be the "dominant" agency and always determine the preferred outcome. In addition, "it would always suffer a penalty and smaller agencies could inflate the benefits of their preferred choice without concern for affecting the outcome."

Other agencies pointed out that "the demand revealing approach most likely will not accurately reveal group membes' estimates of net benefits in large groups" (because of a low probability of changing the outcome) and "one could over- estimate the magnitude of costs and benefits without fear of penalty."

Further, "agency management may have goals not consistent with the economically pure demand revealing model. Can coalitions be prevented? Multibureau agencies or other common interests provide ready mechanisms for coalitions. Can the mechanism be manipulated to allow agencies to bid out of common user systems irrespective of the best interests of the taxpayer?"

Need to Conduct Prototype Tests or Cost Benefit Evaluation; Increased Costs. Several agencies stressed the importance of establishing a prototype test for the demand revealing approach before implementing it and also foresaw considerable increases in costs in administrating and maintaining the demand revealing approach if it were implemented.

The Decision Rule; Penalties. Agencies also gave particular scrutiny to the decision rule and to the operation of a penalty system within the constraints of the normal appropriations process. In addition, they commented specifically on the illustrative example set forth in the Report, similar to the FFN counterexamples discussed in the section above on air traffic control budgeting.

Author's Comment: In inviting this article on intra-governmental methods of using the demand revealing process, I was also cautioned by the editor that, in his view, many of the respondents appear to be vigorously, and sometimes not very intelligently, looking for objections to the process whenever they think it might deteriorate their current position, "... under the circumstances, repeating at length what they have to say would seem to be largely a waste of time."

The agency reactions to this proposal are, however, interesting in that the issues and concerns they raised regarding the allocation of resources to information technology a difficult planning and management problem are predominantly distributional rather than efficiency ones. Of course, they are directly impacted by such a decision-making procedure and the allocation of resources to information technology can create big differences in welfare within the Federal establishment.

My comment on these issues is, however, largely directed to an important technical aspect of the demand revealing distribution which has been given a more thorough treatment in Essay IX.

This is the role of the "fiscal technicians" who are given significant power to make prior allocations of costs - in this case among agency recipients of the technology. Although the basic criterion guiding these cost allocations is the long-revered benefits received principle of public finance, its application can be somewhat controversial even in the context of such a simple problem as intra-governmental cost allocations.

To focus on this issue, consider the initial cost allocations in the OMB example in relation to the two counterexamples and the agency discussion of the perceived problems that were set forth above. 1/ Although I have replied to similar comment and zero-sum counterexamples (hypothetical example #1) elsewhere - see Ferejohn, Forsythe and Noll (1979) and my comment in the same volume -- I have several further comments that bear on important issues raised in the companion paper.

First, my view then (1979) that zero-sum games (along the line of hypothetical example #1) were to be avoided by some process of agenda control have to some extent changed in accord with Tullock's current view that the Clarke (penalty) tax is a positive advantage in such a situation (Tullock, 1986). With respect to hypothetical example #1, the penalty tax, in fact, reduces the likelihood that such transfers (which might otherwise be carried out) will in fact be carried out or that zero sum games will in fact be played.

So too with coalitions as in counterexample #2. They (coalitions) can clearly be a problem but only to the extent that the cost allocator has done a less than perfect job of originally assigning costs so as to achieve unanimity in the choice of the outcome (Clarke, 1980). The real problem which was to some extent muted in agency criticisms of the OMB approach is with the cost allocator. The person is given significant power to control the distribution of resources, and even if that person might do the job well (in accord with benefit-cost principles) there might be objections on equity grounds or simply that the distribution would be changed (from that which would be operative under the status quo) to such an extent that the affected parties might not accept a demand revealing regime.

This is the practical real world problem which was only given brief treatment in terms of issues for a demand revealing experiment (Section A.2.) where GSA would coordinate preferred options submitted by various agncies and estimate costs associated with these alternatives. "Each agency would then be assigned cost shares for each alternative based on estimates of the benefits to the agency."

Otherwise, following the advice of the editor, I have not dealt here at length with a variety of agency comments on the demand revealing approach that may reflect a misunderstanding of it or a view that is

use, while perhaps contradicting to efficiency, might not be as beneficial relative to some other distributional outcome. However, I would note that in the context of agency discussion of counterexample #2, the observation that a party can be penalized less than it would in some other case where its benefits are lower (i.e. for getting a better deal, a lower penalty results) reflect misunderstanding of the approach and should not be mysterious, but may reflect the reaction of many that consider the implications of the decision rule independent of ex post failures in the process of allocating cost shares. That is, we seek a process of allocative costs in accordance with benefits received; when this is inherent we can have seemingly bizarre results which is almost always the result of comparing some imperfect procedure with nirvana or perfection.

Finally, by way of comment on practical application of the procedure to intra-governmental decisions, unique difficulty (in respect to intra-governmental application) with the procedure should be recognized. That is the fact that the resources avail able to individual bureaus and agencies are not really outright entitlements and as a result, one might question whether government officials would face any real incentive in making demand revealing tradeoffs of the kind envisioned here. This problem, however, should be considered in the context of the particular applications affecting the administrative budgets of the agencies which (in contrast to the much larger program budgets) have in recent years been largely straightlined by OMB and the Congress. Therefore, to the extent that this budgetary policy continues into the future, the budget for administration, including small to medium size increases in resources for information technology, can for all practical purposes be considered a quasi-entitlement. However, for broader application, to government regulation for example, this constraint on the real incentive facing government officials must be more carefully considered. So too, we must deal with a related problem of the incentive of those who exercise budgetary oversight in Congress and the Executive Branch to actually enforce any penalties that are incurred, a topic that is considered in the following concluding section.

Joint Decisionmaking. Some brief final comment is warranted regarding the use of the basic demand revealing decision rule for achieving efficient regulatory requirements vis a vis the private sector which has been treated at greater length (following) in the companion paper. The OMB report, while acknowledging and illustrating use of the procedure for standards and regulations within the federal establishment (e.g. information processing standards for computers) notes obvious problems in adapting a DR process "to a joint decision involving both Federal agencies and private parties because of the pecularities of the Federal revenue collection process. Legislative authorization would clearly be required in order to permit the Federal Goverment to collect any penalties associated with a demand revealing mechanism."

Indeed, my initial interest in the DR approach was sparked by the potential emergence of new regulatory requirements (for public/private cost sharing of improvements in the Nation's telecommunications

facilities) growing out of one of the landmark divestiture of AT&T during the early 1980s.

The problem concerned how the Federal establishment, including the defense establishment, was going to create a viable regulatory interface with a highly competitive industry in comparison to a situation where most of its requirements had previously been met through bilateral relations with AT&T directly.

Essay XI briefly describes the applicability of the demand revealing procedure for efficiently establishing national security/emergency preparedness (NS/EP) regulatory or cost-sharing requirements involving the provision of a public good (i.e. NS/EP communications requirements) as well as commercial advantages to private parties (i.e. common carriers in the telecommunications industry and consumers).

In particular, based on the problems perceived at the time, it seemed logical that one could construct "an incentive based approach to public/ private cost sharing to meet NS/EP requirements". This would require a possible legislative amendment -- in that case, to the Telecommunications Act of 1980. The amendment would have authorized the Federal Communications Commission to make cost allocations according to estimated benefits received along the lines elaborated in this paper. In turn, the Commission could, by rule, with the concurrence of the President or his designee, establish DR procedures for obtaining information on actual benefits before any regulatory or cost-sharing requirements were imposed in the industry. Finally, penalties could be imposed on private carriers (for purposes of buying out of an inefficient rule) or on agencies seeking to impose these requirements when private carriers reveal opportunity costs higher than those estimated by the FCC.

The basic principle outlined in this document, in my view, provided a useful means, in selected circumstances, for control of the current regulatory apparatus in the United States that might also have move broad- based application to control of enterprise in other settings. With respect to regulation in the U.S., there has been much talk over the past two decades, of the ideal of a "regulatory budget" that would in some way mimic the fiscal budget of the U.S. as a means of disciplining and controlling regulatory costs. See, for example, Nordhaus and Litan (1983). A basic problem, however, is the "funny money" problem in that no one can adequately measure for purposes of budgetary control the real cost (in opportunity cost) terms of the requirements that are imposed (which are inherently subjective and relate to the alternative choices available to and known only by individual parties the regulated sector). The DR approach confronts this problem directly by adopting an opportunity cost criterion and relying on the truth-telling properties of the procedure to obtain accurate information. This approach, first suggested by Portnoy and Sonstelie (1983) would, in my view, be workable at least in limited context of problems similar to those elaborated in the defense telecommunications example here, given reliable procedures for arriving at initial cost allocations, the willingness of Congress to authorize a rulemaking procedure necessary to implement a DR approach and the willingness of both Congress and the Executive Branch to actually enforce penalties against agency accounts as part of the fiscal budget process.

The Summer of 1996 -- The Move to Decentralized Decision Making in the Federal Establishment

Leaving OMB in late 1983, I stored these notes away until such time as a climate might present itself in a decentralized decisionmaking environment. Such an environment might now be present in the current reforms of "interagency decisionmaking" to implement a new law (P. L ____) March, 1995.

During the past decade, there has been an enormous interest in usage-based pricing on, for example, the Internet (See for example. In addition, incentive theorists have analyzed how incentive-based "priority pricing could work in a decentralized MIS environment. See, for example, Pick and Whinston, "A Computer Charging Mechanism for Revealing User Preferences Within A Large Organization" Journal of Management Information Systems 6, 1, Summer, 1989, 88-100. In these essays, I also discuss criticisms of Pick and Whinston from an organizational development perspective, including the characterization of "Clarke taxes" as a potentially aleinating influence.

In June, 1996, I was struck by notes from a prominent agency manager at one of the important "independent regulatory agencies" which had commented at length on the original presentation of the incentive-based approach. In fact the Commission staff had been divided, the Executive Director presenting one set of views and the head of the IRM Program, another set of views.

Years later, the IRM manager, chairing a Working Group or Committee on coordination problems in the anticipated new decentralized regime, presented a set of problems that I believed simultaneously presented an opportunity for a fresh look at the incentive-based approach. (The section briefly describes the problem and how the incentive-based budgeting approach could help solve it). Under construction. I wrote the Chairman a short note, intending to enclose a draft of this (the Southern paper), with the hopes that "the memories" would stimulate interests in current application. (I filed the note in the computer, seeking the appropriate time).

I then thought back over the dialogues about self and self and society which has consumed so much of the content of these essays.

I picked up a yet unpublished rebuttal of sorts (drafted by a Mr. Singer, (S. J). that suggested that instead of "top down" structural budgets imposed through "Clarke-Groves" mechanisms, a human relations

approach could be taken through an approach that vested more power with oranizational management information officers. (A former Jesuit had "collaborated" with me on the 1983 piece, his part being the "pricing of information services". However, _____ To make any significant progress, I would need an intermediary different from "the Jesuit" and the battle, where I would use "change agents" and Angels on my side would range beyond the world of "artificial intelligence" and computer operating systems. In thinking about the need for a "spirtual intermediary of a different kind' I was thinking that it whatever guise the next reply takes, it would be like a replay of the battle between the Control Board (led by Dr. Brimmer) vs. the Mayor with his "transformational budget". In this context, I sent the volume off to my colleague in Seattle, while I remained "Sleepless in Washington", looking for guidance on "transformational leadership".

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Endnotes to Appendix

1. Bailey (1996a-c and related technical papers) has shown how the perceived "technical limitations" of demand revealing processes can be overcome, in part through the appropriate design of the "constitutional code". For an early catalogue of the "technical problems, see Groves and Ledyard, 1977): "Some Limitations of Demand Revealing Processes". Groves and Ledyard presented "five warnings" intended to "dampen any premature urge to adopt a constitutional amendment to institute one of these demand revealing mechanisms". Bailey develops his own taxonomy of the five main limitations (somewhat different from the original Groves-Ledyard list), focusing mainly on the limitations of the

incentive tax or Clarke tax (i. e. the tax is (i) undefined and (ii) the known mechanism for implementing the tax lacks incentive compatibility, except (in both cases) when utility functions are of a narrowly restricted form. Further (iii) the tax creates a budget surplus that cannot be distributed without disturbing incentive compatibility. Most importantly, the mechanism may (iv) be vulnerable to collusion among voters and, in large economies, there is (v) no incentive to vote. Bailey's treatment of these issues and his way of integrating the incentive tax, the Thompson insurance mechanism (1966) into a set of theoretically convincing and practically attractive solutions for an economy based on Wicksell-Lindahl "benefit tax" principles (see also Foley, 1967) is a truly remarkable intellectual achievement.

. As I note in a draft paper discussing some of Bailey's work (1996a,b and the related draft book), his overall work describes in detail how a combination of incentive compatible devices can be molded into a "constitution for a small country". Three of the critical devices are (1.) "the VCG mechanism" for the official legislature (and competing legislatures or private parties), (2.) incentive payments for (a.) these legislatures and (b.) a Wicksellian tax allocator or Electoral Commission (the incentives in each case being somewhat different) and (3.) use of the Thompson insurance mechanism for referenda on the proposals advanced by the legislatures, guided by the mechanisms incorporated in (1.) and (2.). The mechanisms in (1.) and (2.) are generally similar to the mechanisms I describe in a draft paper applied to budgetary allocation mechanisms that might be applied in practical budgetary settings. In Bailey's work, however, they are combined in admittedly much more sophisticated ways, and there are "very" sophisticated ways (from the standpoint of technical economics) in

which budgetary surpluses are disposed of and preferences elicited when there are multiple budgetary choices,

1. I should note that, in private communications, Professor Rubin has modified his observations on the perceived lack of practicality as follows: one might distinguish between an arrangement which is "(1.) capable of being put into practice or (2.) capable of being put into practice by real political actors in the foreseeable future. ... I see demand revelation as impractical in the second sense... "Administrative agencies may use them to resolve particular problems, but with respect to the general political science, it seems like a visionary rather than a practical approach."

2. Gordon Tullock also concurs. In a private communication (December 23, 1996), Tullock states: "I think Rubin's remarks about the impossibility of putting it in with the presentday personnel is correct. However, if you can get people into the habit of using something similar on other programs, it may be possible to gradually expand it over a larger and larger area. Perhaps in 200 years we will have it as our basic constitutional method"

3. In the Forward, I mention Rubin's two examples (see Footnote 44 of Rubin's 1993 Review) of the optimistic strand of public choice -- including the notion that public expenditures to serve citizens in West Virginia might be better collected from citizens in Oklahoma rather than the U. S. citizenry at large. The latter example is drawn from Buchanan and Tullock, 1992. What is proposed here is to encourage "savings" of a roughly equal entitlement by citizens in Oklahoma where they are credited for extra expenditures by citizens in West Virginia less any "benefits received" from the expenditures by the latter. The demand revealing process provides a means of accounting for these interjurisdictional externalities. I argue that the two ideas used in tandem are not so farfetched, but are rather practicable. They attack

directly the problems analyzed by pessimistic strand of

public choice (i. e. those analyzing pork barrel spending). For an excellent example of voting rules designed to bring pork barrel spending and entitlements under control, see Groves, 1993 (proposal to require that expenditure increases be put with explicit tax increases).

4. Bailey (1996a-c and related technical papers) has shown how the perceived "technical limitations" of demand revealing processes can be overcome, in part through the appropriate design of the "constitutional code". For an early catalogue of the "technical problems, see Groves and Ledyard, 1977): "Some Limitations of Demand Revealing Processes". Groves and Ledyard presented "five warnings" intended to "dampen any premature urge to to adopt a

constitutional amendment to institute one of these demand revealing mechanisms". Bailey develops his own taxonomy of the five main limitations (somewhat different from the original Groves-Ledyard list), focusing mainly on the limitations of the incentive tax or Clarke tax (i. e. the tax is (i) undefined and (ii) the known mechanism for implementing the tax lacks incentive compatibility, except (in both cases) when utility functions are of a narrowly restricted form. Further (iii) the tax creates a budget surplus that cannot be distributed without disturbing incentive compatibility. Most importantly, the mechanism may (iv) be vulnerable to collusion among voters and, in large economies, there is (v) no incentive to vote. Bailey's treatment of these issues and his way of integrating the incentive tax, the Thompson

insurance mechanism (1966) into a set of theoretically convincing and practically attractive solutions for an economy based on Wicksell-Lindahl "benefit tax" principles (see also Foley, 1967) is a truly remarkable intellectual achievement.

5. Bailey (1996a,b and related work) describes in detail how a combination of incentive compatible devices can be molded into a "constitution for a small country". Three of the critical devices are (1.) "the incentive tax" (GPPs) for the official legislature (and competing legislatures or private parties), (2.) incentive payments for (a.) these legislatures and (b.) a Wicksellian tax allocator or Electoral Commission (the incentives in each case being somewhat different) and (3.) use of the Thompson insurance mechanism for referenda on the proposals advanced by the legislatures, guided by the mechanisms incorporated in (1.) and (2.). The mechanisms in (1.) and (2.) are generally similar to the mechanisms I describe here for

transportation related budgetary allocations. In Bailey's work, however, they are combined in admittedly much more sophisticated ways, and there are "very" sophisticated ways (from the standpoint of technical economics) in which budgetary surpluses are disposed of and preferences elicited when there are multiple budgetary choices, perhaps along a continuum (i. e. a range of budgetary expenditure levels).

What is most important, however, is the way in which Bailey appears to avoid "zero-sum" game agenda setting and while motivating strongly positive sum games. And the supreme

contribution is the creative and, to me, surprising use of the Thompson mechanism as the ultimate check on the behavior of the system while avoiding the problems of "demand revealing coalitions" and

"rational ignorance" (the "information problem"). See Clarke, 1977.

6. In terms of the composition of the committees, following Bailey, I assume about 300 citizens representing a complete cross section of the population with about 30 citizens each drawn from the ten regions of the country. The competitive alternatives may be drawn from 3600 citizens operating in regional committees (300 in each of the regions) with a similar number operating locally. This would bring the composition of the country's representation on a population basis to close to where it was at the end of the 18th century.

7. In "Superfund Unplugged", section on "Improve Public Finance Mechanisms", Brough states:

"But the current system does not contain any mechanisms for states to demonstrate the intensity of preferences with respect to which sites should be cleaned up. There is a growing literature that addresses the issue of "demand revelation", ways of forcing parties to reveal the true, unbiased "willingness to pay" for a public good or service. Through a system of "incentive compatible"

mechanisms and second-price auctions, it would be possible to better allocate the Superfund's resources, incorporating information that more accurately reflects the opportunity costs of cleanup." Brough goes on to link this to a discussion of "revolving loans funds, elaborating briefly on the linkage which is also pursued here.

8. In Figure 1, J1's demand schedule D1 and D2 represent its "assigned" and "actual" demand schedules, respectively. The assigned schedule might be determined by the national committee and represent rankings by project of social net present value (npv). The assigned schedule is subtracted (horizontally) from the fixed supply of funds (or some schedule that represents funds to be supplied at varying rates of interest) to determine the S1 (derived supply of funds for J1) in Figure 1.

9. For example , the system may allow for more funding flexibility, when the collective demand for funds is greater (thus generating a surplus) or lesser (a deficit) than the sum of the initial aggregate of assigned schedules. This flexibility will also

reduce budget imbalances which must otherwise be allocated among jurisdictions (say in proportion to their initial assigned entitlements, thus creating a slight incentive for misstatements of demand) or assigned to the general funds of the government (where such incentives are eliminated all but infinitesimally). As presented here, the CIC does have a bias towards undercompensation, in that it is accomplished using assigned price schedules rather than assigned benefit schedules (which would represent the estimated npvs of displaced projects). On these points, and further elaboration of the properties of the CIC, see BCT, 1995.

10. The program from which the SIB examples are drawn appears in the President's FY1996 Budget which calls for the consolidation of some 30 categorical grant programs into a Unified Infrastructure

Grant Program with about $20 billion in budget authority for a "block grant" to the States and $1 billion reserved for projects which are more general in scope. The program also had setasides for urban areas (about $4 billion) and safety initiatives (about $400 million). The setaside for SIBs was about $1.9 billion.

In these examples, I also add a prorata share of dollars set aside for deficit reduction (about $5.2 billion resulting from the 4.3 cents in Federal fuel taxes collected for this purpose).

In the examples, New York had $1,055 million in unified grants with $726 million for its urban allocation. New York's pro rata share of the deficit reduction account is assumed to be $360 million. If it used 10% of its unified grant for SIB purposes, this would be about $100 million. New York's SIB setaside in the FY96 program allocation was about $274 million.

According to program descriptions, U. S. DOT's experience in Innovative Financing suggested two types of projects that would be good candidates for SIB's: (a.) large intermodal projects and (b.) projects that have the potential to generate a revenue stream to pay back some of the project costs. This paper explores hypothetical project selection techniques in a large state like New York, making decisions on projects that combine these two characteristics, which may also compete with projects of a more traditional variety.

11. I develop the application of these ideas to the "local public goods case" in a separate paper. There I take up the particular problems of small states and communities (see for example Bryan and McClaughry's (1989) and Folvery (1995). In this context I describe the use of the GPP procedure for allocating about $67 million in annual "unified grant" transportation funds (including airports) when Vermont is given wider opportunities to make tradeoffs in respect to saving the funds and letting other jurisdictions use them. Alternatively, Vermont may also see opportunities in respect of the promotion of travel and tourism, improving access to its cultural heritage, using funds to promote the use of information technology in its schools, or a wide variety of purposes, including deficit reduction. Even more important, and in the spirit of "grass roots democracy" it might involve citizens directly in referendum voting on "infrastructure investment" alternatives involving "intermodalism" (public investment in highway, rail and air travel infrastructure as well as related private expenditure to promote travel and tourism, for example).

The related paper expands on the brief example presented here where Vermont sees New York's pursuit of option A as opening up potential for more weekend and vacation traveller's from the New York area as well as improved commuter and other service which can get Vermonters to New York on business and to travel spots around the country and the world. All this may be also part of a code share arrangement with a foreign carrier and an internal code share between New York and the main commuter airport in Vermont, say in Burlington, Montpelier, or an even smaller airport serving Lamoille, Co. Similar examples are given in terms of intercity rail and how citizen involvement in budgetary planning can take about $700 for the per family expenditure on governmental transportation expenditures (over $300 for Federal expenditures alone), together with other local expenditures, to generate more effective citizen involvement in government decisionmaking at all levels. I build on Bryan and McClaughry's (1989,

Chapter X) "Financing Shire Democracy" (example -- Lamoille, Vt.) in presenting my case for the utility of these procedures in encouraging "strong democracy".

12. This problem is discussed in a related paper on communications budgeting in conjunction with the responses in 1983-84 to about 20 Federal agencies who were considering ORIA's proposals for use of an incentive-based (demand revealing) decision system for internal telecommunications budgeting and regulation. The agencies, in fact, used an example in the OIRA report in which potential "penalty taxes" (now called GPP payments) were greater than the net social gains of an efficient move from the status quo, thus repeating the zero sum game exercises played out in the 1979 Ferejohn, et. al., Clarke debate.

The (1983) report at page 17 identified "budgeting" of the air traffic control system as a potential area of application of incentive-compatible resource allocation techniques. After decades of attempting to create private government profit-seeking corporations which then become subject to battles over political control (see Musoff, 1984), I have for years continued (since the early 1980's) to search for alternative decision rules (to traditional voting) that can avoid the "zero-sum game" phenonoma inherent in existing resource allocational institutions.

13. A brief caveat is in order here. As a bureaucrat-Federal economist, I largely eschew overt political statements, particularly about the workings of Congress. In part, I speak to what everyone

already knows about "rent-seeking" and will not belabor the obvious. Also, possible viable solutions to "rent-seeking" and "pork barrell spending" problems may have a subtlety not easy to perceive and which take shape as insitutions gradually evolve. I share a perception, even the "romantic notion" of Conressional and

bureaucratic motivations very similar to those advanced by Professor Rubin (1991, 1993). Congress must interact with complex Federalist institutions and corportist interests. The real trick in the years ahead is to shape realistic voting rules and decision

procedures that recognize and accomodate this real-world complexity.

14. Under current programs, states can lose a certain portion of their highway funds if they do not meet certain requirements (e. g.

state standards that meet or exceed certain minimum truck weight standards. The preference revelation mechanisms would, in contrast, tie any penalty for a change from an option preferred by other states to a measurable externality expressed by the other states or political subunits.