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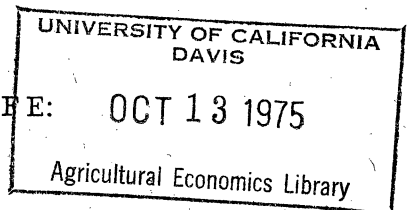
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PUBLIC CHOICE AND THE QUALITY OF LIFE:
RESEARCH ~~PROBLEMS~~ AND PROBLEMS IN
NON-PECUNIARY ECONOMICS*



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I. Introduction

Since the time of Alfred Marshall, the mainstream of economic analysis has confined itself to examination of values measurable in pecuniary terms. While claiming to be a general science of values and choices, economics has often failed to deal with an important subset of values implicit in the human choices made outside of the marketplace. This failure has arisen primarily out of a prevailing philosophical adherence by economists to the methodology of logical positivism and the relative ease of making explicit observations of human behavior in market situations [Johnson and Zerby, pp. 1-25]. However, the institutionalists represent a small, but important, exception to this preoccupation with logical positivism, and pecuniary measurements. As Professor Ostrom notes in the title of his paper, public choice studies are only the newest manifestation of institutional economics [Ostrom].

Among more orthodox economists, there is considerable ambivalence toward the institutionalists. The willingness

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of institutionalists to venture into new and unfamiliar fields of analysis is applauded, but their predilection for normative pronouncements arouses a suspicion of chicanery. This ambivalence haunts the agricultural economist intent upon plying the tools of his trade in the non-pecuniary reaches of public choice research. In such research, he faces the double imperative of developing new non-pecuniary measures of values while formulating research hypotheses capable of being tested by observation in the best tradition of a positive science.

II. Utility and the Quality of Life

In examining the processes and problems of researching a public choice theme, it is well to begin by noting that the fundamental concept of all recent public choice theory is application of the Benthamite motivational model of utility-maximizing individuals to analysis of human choice in non-market settings [Buchanan, in Buchanan and Tollison, pp. 16-18; Tullock, pp. 31-35]. It is assumed that if utility-maximization is a valid premise upon which to analyze marketplace choices, it is an equally valid one for analysis of other kinds of choices. Fidelity to the Benthamite model deserves emphasis, for if public choice research cannot be rooted solidly in utility theory, the economist finds himself with little to offer beyond the scope of the simple financial analysis which might better be done by an accountant.

Yet the prototype Benthamite model used by economists is an unsophisticated contraption, limited to analysis of choices where all relevant utility-producing factors are somehow measurable in pecuniary terms. To make a meaningful contribution to the analysis of public choice questions we need a more powerful and versatile model, Benthamite in concept, but capable of admitting a wider range of utility-maximizing factors without excluding the traditional pecuniary elements. In short, we need an operational Quality of Life (QOL) model. The extraordinary importance of the QOL concept to practical, applied public choice research is not to be underestimated. It is an importance analogous to that of the concept of utility to understanding of consumer behavior. Our sophistication in public choice research is likely to be no greater than the sophistication with which we understand the full meaning of QOL.

If a practical, positive, and rigorous QOL model were a straightforward undertaking, we might well suppose that one would have already been forthcoming. Indeed, there is no dearth of literature on the QOL concept [Castle, Cebula (Fall 1975); Cebula (Spring 1974); Cebula and Vedder, Culbertson, EPA, Gallaway, Hoch and Drake; Liu (January 1975); Liu (April 1975); Pascal, Smith, Wilson]. But that literature is dominated by noneconomists, and, for the most part, is normative in nature. The only hint of a logically positive, utility-oriented QOL model is suggested in some empirical work reported by Cebula [Cebula (Fall 1974), p. 85;

Cebula (December 1974); Cebula and Vedder, pp. 203-211⁷. Cebula's theoretical rationale is drawn from a well-known article by Tiebout in which the argument is made that migration patterns represent a kind of spatial revealed preference for public goods [Tiebout, p. 418⁷]. Of course, there are assumptions which qualify Tiebout's argument (e.g., perfect mobility, perfect knowledge, large number of different kinds of communities, etc.). But Tiebout concludes that migration may produce allocations of public goods at least as nearly optimal as that of market goods, given the imperfections which confound the working of the perfectly competitive model in the marketplace [Tiebout, pp. 419-424⁷].

Taken to its logical conclusion, the Tiebout adaptation of utility theory suggests that: (1) if an individual is free to choose the location at which he will live among all possible locations, each of which represents a unique combination of QOL factors, and (2) if that individual is assumed to be a utility-maximizer, given his finite and imperfect knowledge, (3) he will choose to live at the location where the combination of all factors provides him with the maximum obtainable QOL at any given point in time. The individual may not find everything at that location to be optimal, given his preference set. Trade-offs are made between pecuniary, social, cultural and environmental factors. Yet when the individual chooses a particular location,

it must be because he considers the trade-offs he would be required to make in relocating to reduce his total utility. All locations not chosen are revealed inferior in the utility -- the QOL -- they offer to that individual.^{1/} What we have, therefore, is a spatial revealed preference model, analogous to the Samuelson-Hicks model, which can allow us to draw inferences from observed behavior and generate refutable hypotheses in the tradition of positive economics.^{2/}

III. Quality of Life Hypotheses

Even those who may wish to exercise reserve in embracing the Tiebout argument at its logical extreme will, I have little doubt, concede that migration is some expression of preference for the attributes of one place over another, or, at the very least, some expression of rejection of the attributes of the place left in favor of the uncertainty of the place to which the migrant moves. Hence, one has a right to expect some relationship between migration patterns, as revealed by the Census of Population, and the various QOL

^{1/} Indeed, Tiebout argues, "There is no way in which the consumer can avoid revealing his preferences in a spatial economy" [Tiebout, p. 422].

^{2/} Those who find the Tiebout model unorthodox and radical may want to consider that a similar idea underlies much of the recent work aimed at using land, or property, values to determine the damages due to air pollution. For examples, see [Strotz, Strotz, and Wright; Palinsky and Shavell; Gaffney, Henning and Ricker]. It is also central to the assumptions of the well-known Muth model [Muth] and has earlier antecedents in the work of von Thunen. A more detailed explication of the choice process is provided in [Mazek and Laird]. Note, however, no claim is made that the Tiebout model lends itself to analysis of changes in QOL over time; its validity is clearly limited to analysis of relative QOL over space.

indices which are proposed. The two most recent and comprehensive sets of such indices are those developed by Liu [Liu, pp. 1-13_] and Smith [Smith, p. 96_].

These indices provide an opportunity for testing some hypotheses deduced from the Tiebout spatial revealed preference model. Accordingly, I have attempted to test two alternative sets of null hypotheses: (1) there is no inverse correlation between states' rate of out-migration (1965-70) and QOL indices; (2) there is no direct correlation between the states' rate of in-migration (1965-70) and QOL indices. In performing the tests, the migration rates were disaggregated by age and race, using the fifteen percent sample data reported in the 1970 census, and a correlation coefficients matrix was calculated. The salient elements of that matrix are presented in Table 1.

Examination of Table 1 will show that the best case for rejecting any of the null hypotheses presented above can be made for Liu's QOL index as it relates to in-migration of Negroes. The rates of in-migration of Negroes are highest for those states which Liu's index also shows to have the highest QOL. A similar pattern, albeit with a lower level of statistical significance, can be observed for Smith's QOL measure. The tests are much less conclusive when applied to out-migration rates for Negroes, revealing significant inverse correlation only between the Liu index and the 20-24 age bracket, and between the Smith index and

Table 1. Correlation Coefficients Between Selected Migration Rates by State and Two QOL Indices, U.S., 1965-70

Age and Race Classification	Correlation Coefficients with QOL Indices ^{a/}	
	Liu's QOL Index ^{b/}	Smith's QOL Index ^{b/}
White Out-Migration:		
Age: 20-24 years	0.13372	0.21926
25-29	0.10297	0.14796
30-34	0.16090	0.15387
35-39	0.20424	0.11865
40-44	0.24304	0.19620
45-49	0.19990	0.08569
50-54	0.19860	0.11105
55-59	0.22946	0.17723
60-64	0.23181*	0.23846*
65-69	0.25274*	0.36810*
White In-Migration:		
Age: 20-24 years	0.16545	0.05218
25-29	0.30454**	0.20722
30-34	0.23185*	0.06514
35-39	0.17479	-0.00129
40-44	0.16774	-0.05063
45-49	0.15338	-0.06914
50-54	0.17241	-0.05501
55-59	0.13737	-0.07090
60-64	0.07399	-0.10613
65-69	0.08438	-0.07131
Negro Out-Migration:		
Age: 20-24 years	-0.48537***	-0.51767***
25-29	-0.13638	-0.28493**
30-34	0.11236	-0.08688
35-39	0.19113	-0.01700
40-44	0.12260	-0.04422
45-49	0.12406	-0.05507
50-54	0.04342	-0.11833
55-59	0.17839	-0.03807
60-64	0.07839	-0.08293
65-69	0.21070	0.11563

Continued

Table 1. (Continued) Correlation Coefficients Between Selected Migration Rates by State and Two QOL Indices, U. S., 1965-70

Age and Race Classification	Correlation Coefficients with QOL Indices ^{a/}	
	Liu's QOL Index ^{b/}	Smith's QOL Index ^{b/}
Negro In-Migration:		
Age: 20-24 years	0.43334***	0.27774*
25-29	0.38868***	0.26172*
30-34	0.40050***	0.26177*
35-39	0.40238***	0.26189*
40-44	0.42517***	0.26153*
45-49	0.42803***	0.28442**
50-54	0.37876***	0.20074
55-59	0.34958**	0.16502
60-64	0.38257***	0.20897
65-69	0.41467***	0.24845*

* Significant at $\alpha = .10$

** Significant at $\alpha = .05$

*** Significant at $\alpha = .01$

^{a/} Tests were also made using net migration data and in- and out-migration data, but the results were similar to those shown here and the coefficients are not presented to conserve space.

^{b/} Correlation coefficient between Liu and Smith QOL indices is 0.83806, significant at $\alpha = .01$.

SOURCE: U. S. Bureau of the Census, Special Report, Mobility for States and the Nation (Washington: Government Printing Office, 197), Table 59, pp. 355-422.

Liu, Ben-Chieh, "Quality of Life: Concept, Measure and Results," The American Journal of Economics and Sociology, 34-1 (January 1975), pp. 1-13.

Smith, David M., The Geography of Social Well-Being in the United States (New York, McGraw-Hill, 1973).

both the 20-24 and 25-29 age brackets. There is statistically significant evidence of direct correlation between Liu's index and in-migration of whites in the 25-29 and 30-34 age brackets, but no such evidence at all relative to white in-migration and Smith's index. The correlation coefficients for white out-migration and the two QOL indices are all positive, although with a few exceptions, not statistically significant. At least for the age brackets in which correlations are of statistical significance, it would appear that the paradox exists wherein the higher the QOL, as measured by Liu and Smith, the greater the rate of white out-migration.

Thus, we are left with two proposed QOL indices which are generally consistent with Tiebout's spatial revealed preference model only for Negro citizens. And even at that, given the lack of sensitivity to out-migration, these indices would appear to be better adapted to measuring what is good QOL than what is not so good. Do we reject the Tiebout model, and with it, utility theory and logical positivism? Such a rejection would seem to be required if we are to accept the QOL measures proposed by Liu and Smith. Or do we look critically at such QOL measures? We must do one or the other. For if we attempt to hold on to logical positivism while embracing the Liu and Smith indices, we will be forced to conclude that young blacks are the only segment of our population capable of accurately perceiving and

responding to better QOL. I submit that such a conclusion is so preposterous as to merit rejection out-of-hand. Hence, critical analysis of the Liu and Smith indices is in order.

IV. Normative Concepts and Positive Science

That the revealed preferences for QOL attributes of different groups in the population will be quite different should be easily understood by economists. Like utility (of which it is part and parcel), QOL is a highly personal concept, which although normative in its connotations, is quite capable of being examined without resorting to normative premises. There is ample evidence in earlier studies that the factors influencing migration by blacks and whites are different -- if not in kind, at least in degree [Greenwood, Trott, pp. 204-209]. Therefore, it follows that if migration represents a revealing of preferences for spatial aspects of QOL, no one QOL index (or set of indices highly correlated with each other) is acceptable for public choice analysis. It is because of this diversity of preference sets, this n dimensional matrix of QOL indices, that public choices require trade-offs between various segments of the population, and that public policy decisions have both efficiency and distributional ramifications. To collapse the QOL matrix into one or two vectors of indices on the basis of some normative doctrines, conjectures, or judgments concerning social goals (as is the case of the Liu and Smith indices) is to avoid the most critical issues that public choice researchers need to address.

The normative problem is one which is especially bothersome in public choice research because of the pervasive intrusion of ethical concepts into the rhetoric of public policy debate [see Buchanan, in Buchanan and Tollison, p. 17]. The idea of "quality", be it QOL or quality of some agricultural commodity, is almost by necessity a normative one. Castle reminds us that QOL is associated with environmental quality [Castle, p. 723], and there is considerable empirical evidence to support the contention that, at least in the case of environmental quality, perceptions of what is and is not desirable are influenced by socio-economic status and cultural background [for example, see Hall, pp. 363-364].

Both Liu and Smith readily admit the normative basis which underlies their work. In the case of Liu, the criteria considered in arriving at the QOL index were derived from the Report of the President's Commission on National Goals [Liu, p. 2; see also Goals for Americans]. The Smith study reflects the same normative judgments, based largely on work of sociologists, and is subject to the same problems inherent in Liu's work [Smith, pp. 66-70]. In all fairness to both Liu and Smith, each gives explicit recognition to this problem. Yet these normative judgments about what constitutes better and better QOL may explain the inconsistencies between the Liu and Smith QOL indices and observed migration patterns.

These inconsistencies may also be a symptom of an improper delineation of the spatial unit of analysis. That is, it is at least plausibly arguable that QOL indices calculated by states as geographical entities are too gross. By almost any criteria, QOL is not likely to be homogeneous within a given state. Consequently, QOL indices and migration patterns examined at the State level may not reveal important intrastate differences. For example, if one part of a state has high in-migration and low out-migration rates, while some other portion has low in-migration and high out-migration rates, the overall state migration patterns will not be particularly meaningful. It is important to consider just what level of regionalization is appropriate for QOL analysis or any other type of public choice research [see Lovingood and McKay, pp. 1-2, 14-16].^{3/} If we cannot observe the right phenomena at the right level of observation, we cannot inject logical positivism into public choice research. Yet, even when it is possible to determine the proper level of regionalization, data problems often preclude useful analysis. Perhaps these data problems are responsible, in part, for the normative approach to QOL analysis. But they are not inherent in, or even unique to, public choice research. To abandon the assumption of rational, utility-maximizing individuals and a research methodology premised upon logical positivism is to discard

^{3/} Liu has extended his QOL analysis to medium-sized SMSA. See [Liu, SMSA].

the human insights and scientific objectivity which are the intellectual foundations of economics. There is another alternative; i.e., attack the data problems honestly, and with some daring, by more specifically defining the data that are required and attempting to influence data-gathering agencies to routinely collect such data.

V. Conclusions

In conclusion, it may be said by some that this paper is unnecessarily preoccupied with researching measurement of the quality of life, that it somehow implies an identity between QOL research and all public choice research. Such an implication is not intended. But the profound significance of the QOL concept to a host of public choice problems should be stressed. The implications of the QOL concept for enriching benefit-cost analysis by broadening its scope to include non-pecuniary distributional considerations are enormous, as are its implications for more searching studies of voter behavior. The QOL concept can free economics from its almost exclusive pursuit of values which cast pecuniary shadows and the measurement of values in monetary units. Whatever the shortcomings of the work by Liu, Smith, and others who continue to struggle with operationalizing the QOL concept, that work is of revolutionary importance and too little appreciated.

That practical public choice research stimulated by perceived pragmatic problems may, in the end, result in an

attack on some other more esoteric problem, such as the measurement of QOL, will not seem a novel idea to those familiar with the history of science. The famous experiment which Galileo is supposed to have conducted from the Tower of Pisa to test hypotheses about falling bodies was precipitated by the pragmatic problem of inaccuracy in firing of shells from a cannon [Northrop, pp. 22-28]. One of the most important tasks of any scientific researcher is to restate perceived, practical problems in ways which suggest relevant, testable hypotheses. Researchers dealing with problems of pecuniary economics have an established tradition of methods and techniques and a marketplace to generate explicit information on costs, revenues and profits. Researchers dealing with the non-pecuniary economics of public choice attempt to use the same body of theory, but they have neither the established methods nor the hard data equivalent to those generated by the market. For these reasons, the research processes and problems in non-pecuniary economics are Galilean in the challenge they present to our science. No doubt, bold, imaginative public choice research will also be Galilean in the controversy it arouses. But, only with such research will real progress be made.

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