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WHAT JUDGES MAXIMIZE: TOWARD AN ECONOMIC PSYCHOLOGY OF THE JUDICIAL UTILITY FUNCTION

ABSTRACT. Posner proposes that federal appellate judges' income from judicial work and moonlighting is maximized within the constraint of time spent on leisure: he argues that judges' voting behavior be conceptualized as consumption, and that judges avoid the hard work and hassle involved in writing opinions. I propose that the terms entering the judicial utility function be simplified to judicial and non-judicial income, and consumption, some of which is enjoyed during leisure time but a proportion of which is enjoyed in working time (voting, reputation, avoidance of criticism, etc.) Moreover, the extent to which a judge experiences judicial work as laborious and hassling depends upon his cognitive style: adaptors and innovators are expected to conceptualize and experience the detailed work of opinion writing in different ways and thus to have distinct preferences for competing sources of utility.

KEY WORDS: cognitive style, consumption, economics of law, judicial behavior, judicial publishing, organizational behavior, utility functions

"At the heart of economic analysis of law is a mystery that is also an embarrassment: how to explain judicial behavior in economic terms, when almost the whole thrust of the rules governing compensation and other terms and conditions of judicial employment is to divorce judicial action from incentives – to take away the carrots and sticks, the different benefits and costs associated with different behaviors, that determine human action in an economic model. Since the judges are the central actors in the drama of the common law and play lead roles in statutory and constitutional law as well, the failure thus far to explain their actions in economic terms mocks the claim of economic analysis to explain the salient features, institutional as well as doctrinal, of the law in general and the common law and other judge-made law in particular. The economic analyst has a model of how criminals and contract parties, injurers and accident victims, parents and spouses – even legislators, and executive officials such as prosecutors – act, but falters when asked to produce a model of how judges act". (Richard A. Posner.)[1]

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*Distinguished Research Professor, Cardiff University. Since my paper is in some respects a response to Posner's writings, I have like him used "he" and "his" throughout though I fully intend these to be understood to include also "she" and "her".

[1] R.A. Posner, "What do Judges and Justices Maximize? (The same thing everybody else does)", *Supreme Court Economic Review* 3 (1993), pp. 1–41, at p. 2. An historical account of the emergence and development of the economic analysis of law which contextualizes it within the development of American jurisprudence can be found in N. Duxbury, *Patterns of American Jurisprudence* (Oxford: Clarendon Press, 1995).

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While the kind of economic analysis pursued by Posner is indispensable to understanding judicial behavior, it does not provide a complete framework for the required explanation.[2] A psychological contribution that takes account of the effect of cognitive style on behavior clarifies a number of issues, notably the role of production and consumption as activities that compete for the time of the judge. The topic is of theoretical import in that the resulting economic psychology of judicial behavior, albeit embryonic, might be more fruitful in generating hypotheses about the nature of judicial work than a purely economic analysis. It is of practical import in so far as it elucidates judges' propensity to write opinions, a recent and current issue in view of the large increase in the workload of judges, despite increases in the numbers of legal clerks available to them,[3] and the declining rate of judicial publication,[4] a consequences of which is the specification by some courts of the kinds of opinion that ought to published.[5]

I first summarize Posner's argument, the utility functions he generates, and, because of their implications for theoretical reasoning, some of the difficulties of accounting empirically for the determinants of such functions. I then argue that the central components of judges' utility functions might be construed as time spent working for pecuniary income (i.e., production) and time spent consuming, which are not coterminous with time spent judging and time spent on leisure. Finally, I argue that differences in judges' cognitive styles might determine the proportion of their total time they devote to production and consumption, and hence the shape of their utility functions. Like Posner's analysis, this paper is conceived as a contribution to the *theory* of judicial behavior, albeit based on the economic psychology rather than simply the economics thereof. And, like his, my remarks

[2] Cf. R.A. Posner, "What do Judges Maximize?", in R.A. Posner, ed., *Overcoming Law* (Cambridge, MA: Harvard University Press, 1995).

[3] R.A. Posner, *The Federal Courts: Challenge and Reform* (Cambridge, MA: Harvard University Press, 1996).

[4] W.L. Reynolds and W.M. Richman, "An Evaluation of Limited Publication in the United States Courts of Appeals: The Price of Reform", *University of Chicago Law Review* 48 (1981), pp. 573–631. D.R. Songer, "Nonpublication in the United States District Courts: Official criteria versus inferences from appellate review", *Journal of Politics* 50 (1988), pp. 206–215. A.E. Taha, "Publish or Paris? Evidence of How Judges Allocate their Time", *American Law and Economics Review* 6(1) (2004), pp. 1–27. P.M. Wald, "The Rhetoric of Results and the Results of Rhetoric: Judicial Writings". *University of Chicago Law Review* 62 (1995), pp. 1371–1419.

[5] *Ibid.*

are confined to US federal appellate judges and other members of the judiciary whose situation is similar.

The Nature of Judicial Work

The institutional framework of the judiciary enjoins disinterest as well as independence upon its members. Federal appellate judges are not subject to either the carrot of increased earnings or the stick of dismissal.[6] They are life-tenured public employees who lack even the incentive to seek alternative employment because their considerable pensions require them to be in post at age 65. Moreover, unlike that of federal district judges, the work of appellate judges seldom comes under direct scrutiny: "[t]hey never have to make rulings in open court, or indeed open their mouth in court".[7] Almost their sole evaluable output comes in the form of the opinions they deliver. An ability to select competent law clerks is, according to Posner, sufficient to ensure that they produce professionally adequate opinions as required. The enforced disinterest and comparative lack of answerability have important ramifications for the intellectual understanding of the work of the judiciary in the terms set by the law and economics movement. "It is," as he writes, "the unique insulation of federal appellate judges from accountability that makes their behavior such a challenge to the economic analysis of law, and more broadly to the universalist claims of the economic theory of human behavior".[8]

The underlying motive proposed in Posner's judicial utility function for leisure-seeking manifests not only in "going-along" voting but also in the avoidance of hassle and hard work, something that is protected by judges' being able to deflect criticism of their decisions on the basis that they are coerced by the law. Leisure preference is also served by the constraint on the number of cases that judges can hear, and the practice of dictum whereby a judge might go along with a decision of his colleagues which he disagrees with since his agreement is not prejudicial to his subsequent voting. The result of such "live-and-let-live" opinion joining is that the amount of effort judges are called upon to invest in their own decisions or those of their colleagues is reduced. In

[6] *Supra* n. 2.
[7] *Supra* n. 2, at p. 112.
[8] *Ibid.*

addition, judges have evolved a "multitude of devices…for ducking issues presented by the parties to appeals"[9] which have the effect of reducing the judicial workload and avoiding the hassles involved in arduous and political issues. Taken together, all of these leisure-promoting practices help explain judges' customary though not exclusive adherence to stare decisis. They are practices which increase judicial productivity, reduce the time required to decide cases, and thereby facilitate leisure (in the sense of time not spent on judicial work). Their behavior can, Posner argues, be understood analogously with three social and economic roles.

First, the position of judges (and Justices of the Supreme Court) is analogous to that of managers in non-profit organizations,[10] a form eminently suited to the difficulties inherent in ensuring the loyalty of mangers when the consumer cannot monitor the organization's performance of its obligations. The lack of exposure to market forces by which the quality of output can be ascertained leads to restrictions on the amount of financial reward the employees of non-profit organizations can receive directly from their jobs, and moonlighting is severely restricted. As a result, Posner argues, the managers of non-profit organizations and the judges whose economic position is similar are likely to work less hard than comparable managers/judges in for-profit enterprises. Such non-profit organizations have, it is argued, little incentive to improve their efficiency and "attract as employees people less preoccupied with money-making than the comparable employees of profit-making enterprises".[11] The employees of non-profit organizations might be more risk averse, favoring security of employment rather than pecuniary reward. While Posner does not accept this argument in full, he concludes boldly that "Because the judiciary has been placed on a nonprofit basis, we should expect that judges on average do not work as hard as lawyers of comparative age and ability. I believe this is true, at least of appellate judges".[12]

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[9] *Ibid.,* p. 124.

[10] I have retained "non-profit", though "not-for-profit" is more generally employed to distinguish organizations that are prevented by their constitutions from making profits from those that, presumably through the incompetence of their managers, fail to do so.

[11] *Supra* n. 1, at p. 8.

[12] *Ibid.*, p. 10. Taha, *supra* n. 4 at p. 2, notes that judges' failure to publish their decisions, while it "saves judges' and others' time… also has been criticized for making judges less accountable and thus encouraging sloppy judicial decision making".

Second, the role of the judge is analogous to that of a voter in a federal election. Of the non-pecuniary sources of judicial utility, Posner singles out voting from popularity, prestige, public interest, and reputation as particularly potent. He notes that citizens vote in political elections even though their vote has instrumental value, i.e., the capacity to affect the outcome of the election, that is ''vanishingly close to zero''.[13] That they continue to vote in such circumstances argues that voting is for them a valued consumption activity. Similarly for federal appellate judges: in both cases, the ''pure consumption element'' constitutes an important source of utility. For judges specifically, however, the deference they receive derives from the power they have vis-à-vis other members of the population and this derives in turn from their votes, and we may add their capacity to vote and their professional position which enables them to vote. Judicial voting is more than just consumption: it is conspicuous consumption.

An important element of the utility that accrues to judges by virtue of their voting inheres in the extent to which they adhere to precedent or innovate. The way in which judges exercise power is by imposing their political vision on society at large and they do so in particular by virtue of the precedential force of their decisions. Loss of power is the result, Posner argues, of following one's predecessors' decisions rather than providing an innovative judgment, and this must be traded off against the loss of power the judge will experience as a result of the lack of adherence to the principle of precedence – and hence to the precedents he himself has set – that will result from innovating. The inability to impose one's political vision by handing down decisions that will be both criticized for their reckless innovativeness, and will weaken the principle of precedence, is likely to inhibit judges from acting creatively. The ''ordinary'' judge who is the focus of Posner's analysis is unlikely to be influenced much by considerations of posterity, however.

The key to understanding judicial voting behavior as well as that of the political electorate lies in the opportunity it provides of expressing a decision, making a judgment, speaking one's mind despite the lack of instrumental utility this activity possesses, i.e., its inability to effect political change. Judges might enhance their power by voting randomly, but they tend not to. Like citizens voting in political elections, they derive what Posner calls ''consumption value'', the basis of which is the exercise of the prerogative of whom

[13] *Supra* n. 7, at p. 120.

to vote for. Non-random voting by judges is also a means of reducing the costs of their judicial behavior. Posner points out that on a three-judge panel, two indifferent judges have an incentive to vote, non-randomly, with the opinionated judge. Not to do so might inspire the opinionated judge to write an excoriating dissent which brings criticism upon them or compels them to undertake the effort of redrafting their majority opinion in order to answer and diminish the force of the points he has made. Any one judge is, moreover, unlikely to be the sole dissenter to the vote of an opinionated and (let us assume) indifferent colleague, for this will require him to write a dissenting opinion which provides his reasons. Dissention is more probable on larger panels where the probability of being the sole dissenter is lower and with it the cost of standing apart from the opinionated.

Third, Posner employs the analogy of being a spectator at a drama (but being a member of the audience of a debate might be a better analogy). The practice of stare decisis, to which judges must give "great", though not exclusive attention, and the near elimination of conflicts of interest, provide little opportunity for the judge to be other than a kind of observer, not unlike the spectator at a dramatic performance, who stands to gain from neither possible outcome of the contest.

The Judicial Utility Function

What motivates judges to remain in their chosen employment? Even though they might not work as hard as lawyers in private practice, they nevertheless work reasonably hard. They could retain some prestige if they worked less and if they retired without (judicially) working at all. "Their utility function must... contain something besides money (from their judicial salary) and leisure".[14] The possibilities Posner considers are popularity, prestige, public interest, avoiding reversal, and reputation before proposing that judges have the following utility function:

$$U = U(t_j, t_l, I, R, O), \tag{1}$$

where t_j is the number of hours devoted to judging, t_l the time devoted to leisure, I the pecuniary income, R the reputation, and O is the other sources of judicial utility. Time is a proxy variable for effort; t_l is all activities other than judging, hence in a day $t_j + t_l = 24$

[14] *Supra* n. 1, at p. 13.

(hours); I is limited at this stage to judicial salary; O excludes the utility of voting, of which more later, but includes popularity, prestige, the avoidance of reversal. The ideal judge will thus behave such that the marginal utilities of t_j and t_l are equalized.[15]

In his second cut at the judicial utility function, Posner permits the judge to obtain income from "moonlighting", which in practical terms will include payment for teaching and writing books. Given that the amount of pecuniary income received is unlikely to vary much if at all with the time spent judging, the utility function becomes

$$U = U(I_f, I_v, (t_v), t_j, t_l). \quad (2)$$

The financial income from judging is considered fixed (hence I_f) while that from moonlighting is variable (I_v). Time spent moonlighting eats into leisure time, so that now $t_j + t_l + t_v = 24$, while $I = I_f + I_v(t_v)$.

Although it is not our primary concern, it is worth noting that the empirical determination of factors that enter into the judicial utility function is fraught with difficulties of homogeneity of decision and measurement, and I should like to illustrate this by reference to a recent analysis which, while overcoming some of the inherent problems, illustrates the inevitable indeterminacy of some theorists' pronouncements.[16] This has some bearing on the present discussion in so far as theorists are apt to draw bold a priori conclusions about the nature of human behavior and its determinants that might be difficult to substantiate for the general population. A major empirical problem is that the cases compared in any empirical study inevitably differ in the subject matter of the decisions compared, making direct comparison hazardous because the decision to publish depends on the kind of case involved.[17] However, Taha held this factor constant by conducting an analysis of nearly 300 rulings by federal district judges on the constitutionality of the Federal Sentencing Guidelines introduced in the 1984 Sentencing Reform Act but not universally accepted until the US Supreme Court determined their

[15] R.A. Posner, *Economic Analysis of Law* (Boston, MA: Little, Brown & Co., 1992) at pp. 534–536 and 541–542.

[16] *Supra* n. 4.

[17] Among other, perhaps more subtle, influences; see G.S. Gaille, "Publishing by United States Court of Appeals Judges: Before and After the Bork Hearings", *Journal of Legal Studies* XXVI (1997), pp. 371–376. Gaille's analysis of the publication behavior of US appellate judges suggests that publication rate is an inverse function of the congressional scrutiny to which a judge's writing will be subjected, with consequences for the advancement of the judge.

constitutionality *United States v. Mistretta* in early 1989.[18] The utility function he formulated and investigated differs from Posner's by including the probability of promotion to a US court of appeals.[19] Taha divides judicial activity into (1) the publication of decisions (2) all other judicial activities. He includes the above items in his utility function including the creation of precedents (this is slightly controversial because these judges' decisions are not binding on other judges; nevertheless, there is evidence that some judges "likely derive utility from influencing their colleagues", and that in determining the Guidelines' constitutionality, judges were influenced by their peers.[20]

In Taha's utility function, judge i allocates time between publishing decisions (t_p) and other judicial activities (t_j), and leisure (t_l) to maximize utility (U) such that

$$U_i(t_p, t_j, t_1, P(t_p), C(t_p, t_j), R(t_p, t_j), I(t_1), O), \tag{3}$$

where P is the creation of persuasive non-binding precedents, C the probability of promotion to a US court of appeals, R the judge's reputation, I the income (which can be increased by moonlighting), and O is the other sources of utility including popularity, prestige, avoiding reversal. Utility maximization requires the allocation of time among t_p, t_j and t_l in order to equalize their marginal utilities. Taha finds evidence that the quantitative difference between publishing and non-publishing judges is explicable in terms of the rating received by the judge from the American Bar Association's Standing Committee on the Federal Judiciary (hereafter "ABA"), length of the judge's tenure, the outcome of his decision, his geographical location, and whether other judges in the district who had delivered a similar verdict to the target judge's had published it (DistSAMEWritten and DistSAMEUnwritten). Caseload and pre-judicial political service also appear to have been marginal influential factors at the conventional level of significance for accepting a hypothesis ($p \leqslant 0.05$). Taha is content, however to employ a significance level of $p \leqslant 0.1$ in order to accept the causal influence of age and promotional factors.

The difficulty – one faced by the social sciences in general rather than legal studies alone – of deciding on the basis of empirical evidence what

[18] *Supra* n. 4.

[19] M.A. Cohen, "Explaining Judicial Behavior or what's 'Unconstitutional' about the Sentencing Commission?", *Journal of Law, Economics, and Organization* 7 (1990), pp. 183–199.

[20] G.C. Sisk, M. Heise, and A.P. Morriss, "Charting the Influences on the Judicial Mind: An Empirical Study of Judicial Reasoning", *New York University law Review* 73 (1998), pp. 1377–1500.

factors can be generally accepted as influencing behavior is well illustrated by Taha's study. We have already noted the problem of adopting one or other level of statistical significance. In addition, note that Taha uses two-tailed tests even when he has a directional hypothesis. It is admittedly sometimes difficult to determine whether the kinds of hypothesis Taha employs is directional in view of the balance of probabilities raised by the literature. Moreover, perhaps some of the sting of a criticism in terms of conventional social scientific practice is drawn by his provision of the percentage differences in the publication of decisions for which each of these variables is responsible: ABA ($p = 0.043$) 7.7% (directional), Tenure ($p = 0.035$) 11.1% (bi-directional), Outcome ($p = 0.027$) 17.7% (directional), Geography ($p = 0.031$) 47.1% (bi-directional), DistSAMEWritten ($p = 0.002$) −18.4% (directional), and DistSAMEUnwritten ($p = 0.019$) 8.1% (directional). Also possibly included on the basis of their marginal significance would be Caseload ($p = 0.053$) −10.4% (bi-directional), and Political ($p = 0.054$) 25.7% (directional). Taha also includes, however, at the $p = 0.1$ level Promotion ($p = 0.084$) 8.6% (directional), and Age ($p = 0.149$) −7.9% (bi-directional).

Equally important in the present context are the potential independent variables that Taha included entirely plausibly in his analysis on the basis of his own reasoning and that found in the relevant literature but which did not reach even his more generous level of statistical significance in distinguishing publishing from non-publishing judges. These include graduation from an elite law school, whether the individual had previous experience as a judge, prosecutor or defender, and whether he had been a law school professor. Presumably because they are clearly statistically insignificant, Taha does not present data on the percentage contribution of each of these factors to publication versus non-publication, which would have enabled further evaluation of their usefulness to a theoretical analysis. Yet all of these might be credibly included in the theorist's disquisition on the basis of a priori reasoning though in practice the evidence for the efficacy is scant or non-existent.

Judicial Production and Consumption

Another way to consider the judicial utility function, which relies to some degree on a distinction that Posner makes, is in terms of judges' time being divided not among judging (t_j), moonlighting (t_v), and leisure (t_l), but between production and consumption. Although

this does not of itself overcome the extra-theoretical difficulties raised above, it provides an equally valid approach to modeling judicial behavior to those we have considered and opens up the possibility of an economic psychology of judicial behavior. The production element includes what Posner considers the more laborious aspect of judicial work: the production of reasons, the writing of opinions, and the attendant hassle, and it competes for the 24 hours of the day with consumption, which consists most obviously in leisure activities but also such aspects of judicial work as voting. Hence, consumption includes t_l but also that proportion of time or effort spent consuming in the course of t_j. Voting is sufficiently differentiable from the effort involved in hard work and hassle to make it a distinct category of behavior occurring within t_j from these more arduous activities. The exercise of discretion that it permits judges as well as its non- or less-arduous nature renders it akin to the leisure activities in which judges and other employees engage in their non-working time.

The "other" sources of judicial utility, denoted by O in equations (1) and (2), consist in popularity, prestige, and the avoidance of reversal. Reputation (R) is also a non-pecuniary source of utility. All of these can be considered consumption rather than production: they are the result of productive work and might act as incentives, but their enjoyment is a form of consumption that judges enjoy as part of their working and non-working lives (in the course of both t_j and t_l). Their classification as such further blurs distinctions among the sources of utility – for simplicity's sake the I and non-I elements of utility – by emphasizing that the underlying distinction is not time spent on judicial work and time spent on leisure but time spend producing and time spent consuming. The latter distinction is not coterminous with the former: judges consume to a degree when they are engaged in judicial work as well as when they are at leisure; moreover, their pursuit of income during their former leisure time now entails an element of work or production since teaching and writing books might require precisely a kind of arduous labor akin to that involved in writing dissenting decisions or answering ferocious minority written by an opinionated judge. (Even if the tasks of writing opinions is delegated to willing clerks, the judge, who takes responsibility for them, will be engaged in some of the hassle of planning and checking what is written.)

However, since moonlighting is undertaken voluntarily and is unlikely to be done by judges who do not enjoy teaching and book-writing, a fair proportion of it must be considered consumption.

Other aspects of the judicial behavior Posner describes, namely observation and spectatorship, suggest that a considerable amount of what he designates t_i consists in consumption. Only voting is a purely consumption activity; only the hard work and hassle involved in writing opinions is purely production: t_j, and t_l are expended on both productive and consummatory activities, as are the other activities represented in Posner's second approximation of the judicial utility function – i.e., O, R and t_v.

At its simplest, the judicial utility function can be written as $U = U(I,C)$, where I is pecuniary income and C is consumption. But each of these can be disaggregated, I into judicial salary (I_j) and moonlighting salary (I_m), and C into the consumption aspects of being a judge (voting, reputation, etc.) (C_j), the consumption aspects of moonlighting (C_m), and the consumption aspects of leisure (C_l). If t_j is the time (and effort) involved in judicial work (production), t_m that involved in moonlighting, and t_l that involved in leisure, and $t_j + t_m + t_l = 24$ hours, the judge's utility function would be

$$U = U(I_j, I_m, C_j, C_m, C_1, t_j, t_m, t_1). \quad (4)$$

The limitation of this purely economic analysis, however, is that it omits mention of the individual differences, mainly psychological in nature though with social and economic implications, that might influence the amount of utility judges, like other persons, acquire from particular behavioral sources. An economic psychology of judicial behavior, toward which a tentative step is taken here, might elucidate the nature of the judicial utility function. It becomes important because individual differences among judges can be expected to influence them to react in distinct ways to the productive and consummatory elements of judicial "work", judicial consumption, and leisure. In particular, there is reason to suspect that judges' division of their time between production and consumption will vary from individual to individual according to differences in their cognitive styles.

Cognitive Style and Preference for Consumption

Cognitive style refers to the *way* in which individuals engage in intellectual activity, the manner of their making decisions, solving problems and exhibiting creativity. It is orthogonal to cognitive level or competence represented by IQ or intellectual ability. The particular dimension of cognitive style that I wish to consider here is

adaption – innovation as described and measured by Kirton.[21] Adaption–innovation theory posits a continuum of cognitive styles from the extreme innovator to the extreme adaptor. Behavior of the extreme adaptor reflects order and precision, concern for accuracy of details, conformity, discipline, efficiency and soundness. The prudent adaptor operates within a well-established paradigm of rules and expectations. The extreme innovator prefers tangential thinking, challenges rules and procedures, breaks with established methods and proposes novel perspectives and sources of solution. Bored by routine, the innovator seeks novelty, stimulation, discontinuous change, and tends toward risk-taking, exploration and trial. Although it is broader both conceptually and in scope than personality, adaption–innovation (measured in the direction of extreme innovativeness) correlates reliably with several perceptual and personality traits including extraversion, category width, flexibility, tolerance of ambiguity, self-esteem, and sensation-seeking.[22]

We lack direct empirical evidence that these intellectual styles do differentially influence judicial behavior, but we can provide answers that are no more tentative than the utility functions proposed above, to two questions that will advance the debate. Can we expect both adaptors and innovators to be represented within the ranks of the judiciary? If so, how might their various cognitive styles influence their preferences for production as opposed to consumption?

Unless judges differ radically from members of similar occupational groups, there are three reasons to believe that their ranks contain adaptors and innovators, and in approximately equal numbers. First, adaption–innovation is approximately normally distributed within general population samples for a large number of countries.[23] There is an important caveat to enter here. Most members

[21] M.J. Kirton, "Adaptors and Innovators: A Description and Measure", *Journal of Applied Psychology* 61 (1976), pp. 622–629.

[22] Posner is correct to draw attention to the "dubious ontology" of some mentalistic terms; see R.A. Posner, *The Problems of Jurisprudence* (Cambridge, MA: Harvard University Press, 1990) who argues at p. 170 that "A goal of economic research is to change as many elements of the utility function – mysterious mental entities – as possible into parameters, which can be measured". However, the argument pursued here is not affected by the conceptualization of adaptive–innovative styles as resulting from cognitive factors or from the individual's learning history, or a subtle combination of both; G.R. Foxall, *Context and Cognition: Interpreting Complex Behavior* (Reno, NV: Context Press, 2004).

[23] M.J. Kirton, *Adaptors and Innovators in the Context of Diversity and Change* (London: Routledge, 2003).

of a normal distribution are by definition somewhat bunched within two standard deviations of the mean, and we would therefore predict that most share both adaptive and innovative traits. Differences between groups within a population are thus less pronounced than my descriptions of the polar extremes suggest. However, work with a large range of occupational groups has shown that even a 10-point difference in adaption–innovation score within a revealed range of about 100 is sufficient to predict important behavioral differences.[24] Second, managerial functions and subfunctions within samples of British, American, and Australian mid-career executives exhibit both cognitive styles and display the appropriate behavior patterns.[25] Judges are generally drawn from a similar pool of talent, training and skill. Third, as an established occupational group, the judiciary would be expected to contain both adaptors and innovators in approximately equal proportion. Other such professional groups exhibit a normal distribution of adaption–innovation. Only social groups that have historically been underrepresented within an established profession (typically, women, ethnic minorities) are, upon entry to it, exceptions to this at least for a generation. Judges drawn from sections of the community that have not traditionally supplied members of the judiciary would be expected to be noticeably more innovative in their cognitive style than existing members.

These three general points support the view that both adaptors and innovators will be found within the judiciary, and that cognitive style will significantly modify the extent to which production and consumption enter into their respective utility functions. The combined economic and psychological framework suggests several hypotheses that neither approach would generate on its own. Much of what Posner writes about judicial behavior rings true of typical innovators. They are likely to be easily bored by the conventional writing (or supervision of the delegated writing) of opinions and to seek alternative sources of stimulation, be it through the pursuit of leisure or teaching or the writing of books in which they can use their prestige to broadcast their political vision. Comparatively

[24] *Ibid.*

[25] G.R. Foxall, "An Empirical Analysis of Mid-career Managers' Adaptive-Innovative Cognitive Styles and Task Orientations in Three Countries", *Psychological Reports* 66 (1990), pp. 1115–1124. G.R. Foxall and P. Hackett, "Styles of Managerial Creativity: A Comparison of Adaption-Innovation in the United Kingdom, Australia and the United States", *British Journal of Management* 5 (1994), pp. 85–100.

unconcerned about the opinions of others and unbound by social conventions, however, they are also likely to tender innovative opinions, to risk the disapproval that might be contingent upon dissent. They are the more likely to delegate the consequentially necessary writing of opinions to clerks. Adaptors on the other hand are not likely to shirk the labor involved in writing or supervising the writing of detailed and rigorous opinions; tedious as this might seem to innovators, it is apparently meat and drink to adaptors. Innovators are more likely to take the "live-and-let-live" opinion joining route. Moreover, it is likely that adaptors relish the detailed work not only because they derive direct satisfaction from the productive endeavors it provides, but also in order to avoid criticism that would follow less precise opinion writing. In other words, production and consumption can have differing subjective utilities depending on the cognitive style of the judge in question. Let us look at this in greater detail in terms of the various roles Posner identifies.

The opinionated judge might be either an adaptor or innovator. Although adaptors' behavior is more likely to conform to social norms, there is no a priori reason to believe that either cognitive style is more or less associated with the sincere and tenacious holding of strong views. The range of matters on which adaptors are willing to be opinionated might be narrower than that of innovators, but they are just as tenacious as innovators within their chosen framework. Moreover, although the opinionated judge might well find himself in a minority, if he is an adaptor he is less likely to shirk the eventuality that he will have to write a detailed reasoned opinion, and might well relish the opportunity to do so rigorously and to attack what he might typically see as the recklessness of more innovative dissenters. Contrary to Posner's generalization, there is positive utility in the writing of opinions for the adaptor and it cannot be assumed that the necessity of doing so is a universal cost.

The innovator is unlikely to recoil from being in a minority on account of his willingness to challenge and even break rules: there is no reason to rule him out of the role of opinionated judge, therefore, even when he knows that the remainder of the panel or a majority are likely to dissent. Posner does not consider the hassle that the opinionated judge must take on as a result of being in the minority: on a small panel the opinion writing is more likely to fall to him: why should he undertake it if he is an innovator. However, the wider economic argument might determine whether an innovative and opinionated judge is willing to see through this role to the bitter end of having to deal with the hassle of opinion writing especially if it

requires detailed rebuttal of the (potential or actual) arguments of dissenters. This has nothing to do with his competence, the level of his ability, or his training: it has everything to do with his preferred cognitive style, the manner in which he would other things being equal express his creativity. However, such hassle is severely costly for the innovator and his decision to place himself in what could be a minority position requiring him to engage in what to him is laborious judicial effort might be determined by the extent to which he can safely delegate the more tedious tasks to (adaptive?) legal clerks. With delegation inevitably goes control and ultimate responsibility and this capacity to delegate with trust might well be the economic factor that determines whether the innovator stands out. As Posner points out, the larger the panel the greater the likelihood of any particular view and stance being taken by several members. The innovator's willingness to hold an unpopular view might therefore be strengthened if he knows that the opinion writing might fall to another.

Consider briefly the legal clerk. We have with humorous intention suggested that the clerk is a longsuffering but willing adaptor, willing to shoulder the burdens passed to him. But this is far from certain in actuality. The innovator in this role might discern that his advancement depends on his taking on the hassle that his seniors avoid and he might *cope* with the more adaptive tasks for this purpose.

Innovators are by cognitive preference more likely to dissent: they are less socially constrained than adaptors who are unlikely to dissent vehemently unless the issue is of a particularly significant nature for them. But innovators are less likely to wish to incur the costs of dissent, the very costs that Posner so strikingly draws attention to. Again, unless they can pass these along they might refrain from dissent. Adaptors for whom the issue is sufficiently significant to cause them to dissent will not however be deterred by the cost of opinion writing even when this must be particularly detailed in rebuttal of the arguments of the opinionated judge. The go-along voter is likely to be an innovator without the resources to delegate without having to exercise more than minimal control. The adaptor does not encounter the same economic costs if he dissents but might encounter psychic costs if he does not; it depends how crucial the issue is to him.

Consider briefly the extra-ordinary judge, he who is concerned with posterity, with shaping the future, with making his mark by stamping his political vision. Of themselves, these are all consumption activities, though they cannot be realized in the absence of productive work. Posner's extra-ordinary judge is an economic

calculator, at least when deciding whether to break with precedent: "finding the point at which adhering to precedent yields a gain in power over the future brought about by the greater likelihood that judges will adhere to his precedents that is just equal to the loss in power from allowing past precedents to override his own preferences".[26] Although adaptors relish the detailed work, even they are unlikely to welcome this particular conundrum. The present analysis predicts somewhat more simply than this that the extra-ordinary judge will be an innovator, not in the behavioral sense of one who breaks with precedent (that would be tautological), but in the sense of having an innovative cognitive style as defined by Kirton. The personality traits that correlate with this cognitive style are those most obviously required to break with tradition: whether the possession of an innovative cognitive style is expressed in innovative behavior is an empirical question. Correlation does not imply determination: not every innovator is highly extravert, flexible, tolerant of ambiguity, sensation-seeking, and high in self-esteem, and having broad perceptual category width. Nor are these traits universally lacking from adaptors. But if personality *determined* behavior, prediction would be unnecessary and, in the current situation, the prediction has to be that the extra-ordinary judge is an innovator. The purpose of the present analysis is to show that the augmentation of Posner's entirely economic analysis by the inclusion of psychological factors is more fruitful in generating hypotheses. Economic and institutional influences remain of paramount importance, of course, in such matters as predicting differences between national judiciaries in the extent to which judges are bound by precedent.[27] But that is not the current focus.

CONCLUSION

So what do judges maximize? Is equation (4) telling us any more than equation (2)? The key difference lies in the diverse preferences of adaptors and innovators for production and consumption during t_j. The distinction lies not necessarily in the overall proportions of production and consumption with which they fill their days but in the ways in which they are likely to apportion their productive and

[26] *Supra* n.2, at p. 122.

[27] R.A. Posner, *Law and Legal Theory in the UK and USA* (Oxford: Clarendon Press, 1996).

consummatory activities over t_j, t_l, and t_v. Innovators are likely to seek to maximize consumption within t_j by seeking the most rewards that are available from voting, displaying their prestige, etc. and by minimizing production, namely opinion writing and its associated hassle. Adaptors, by contrast, are likely to maximize production during t_j. While adaptors as well as innovators might be able to delegate the writing they incur, adaptors can be expected to supervise the process more assiduously, to give it greater attention, to check and correct what has been written, and so on. Innovators are likely to become bored with any one activity sooner than adaptors and thus to seek alternatives. It seems reasonable to hypothesize that as a result they are more likely to teach and write books, as well as engage in leisure. Adaptors more likely to stick doggedly with tasks till they are completed especially if there is an element of social compulsion. It is possible, therefore, that the proportion of time they spend on judicial work will be higher than that apportioned to it by innovative judges. Posner's assumption that $t_j = t_f$, that the effort expended upon judging is fixed and invariant, would rule this out. However, whilst their utility functions are formally identical, the predictions we should make about the behavior of adaptors versus innovators, based on both economic and psychological considerations, diverge.

Of course, the conclusions drawn here are subject to the criticism that they rely on a priori reasoning – albeit supported by the general considerations to which the empirical literature lends support. Specific empirical testing of the hypotheses raised with respect to judges' cognitive styles is called for. Nevertheless, the import of the reasoning pursued in this essay is that the psychologically uninformed economic approach to the determination of the judicial utility function is likely to prove inadequate theoretically, and as a basis for relevant empirical work, and the drafting of policy-related recommendations.

For instance, Posner's view that the non-profit form of organization leads to less hard work on the part of its managers is, as it stands, surely simplistic. The evidence from adaption–innovation research is that such organizations select over time and by cognitive style the range of individuals who will work there effectively. There is no reason to believe that the more adaptive individuals work any less hard than innovators do in their appropriate sphere of organizational demands. Indeed, for the very sort of work that Posner suggests the writing of decisions entails adaptors are more likely to work assiduously, apparently oblivious of the boredom involved. What these organizations lack is the external market environment that compels consumer orientation (Posner admits they might not serve the public

as they should). They are not firms because they are not ''marketing firms''.[28]

Public sector organizations cannot be marketing-oriented but (a) they can simulate marketing conditions and (b) their managers and other employees might work as hard as managers in marketing-oriented organizations because of factors usually investigated in economic psychology rather than economics. Posner admits that the slack he attributes to non-profit organizations can be reduced by ''careful screening of judicial candidates'', though he confines his recruitment recommendations to the guideline to employ managers who have worked hard previously. This is likely to reinforce the adaptive style of the non-profit organization because if the previous work has been similar and in a similar organization it will in the medium to long term attract adaptors rather than innovators.[29] A difficulty might arise if an innovator were recruited to a non-profit organization on the basis of his having worked hard previously albeit in an organization whose style of managerial response was innovative. There is scope for empirical work that identifies the cognitive styles of current members of the judiciary and of their legal clerks, since bias may be inimical to both the efficient working of the courts and the intellectual worth of an analysis of judicial behavior that relies solely on economic considerations and ignores psychology.

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[28] G.R. Foxall, ''The Marketing Firm'', *Journal of Economic Psychology* 20 (1999), pp. 207–234; and ''Marketing's Domain'', *European Journal of Marketing* 18 (1984), pp. 25–40.

[29] *Supra* n. 25.