How Much Is Leisure Worth?
Direct Measurement
With The Contingent Valuation Method

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I. Introduction

This paper demonstrates the empirical application of one method to measure the value of

deemed leisure to be a part. To value leisure, they multiplied an estimated average amount of leisure

time by an estimated average wage rate of persons in several employment categories--- e.g.

necessary to identify the appropriate wage rate to apply to leisure, for the output approach is not

based on this wage rate. Identifying an appropriate wage rate can be problematic. Market wage

rates are available only for the employed; imputing wages for those not employed is imprecise. The

activity foregone to engage in leisure may be household production rather than market employment.

We empirically obtain this value by having her estimate the value. Specifically, we use the

open-ended contingent value method to elicit this value. Asking about the most recent unit—i.e.
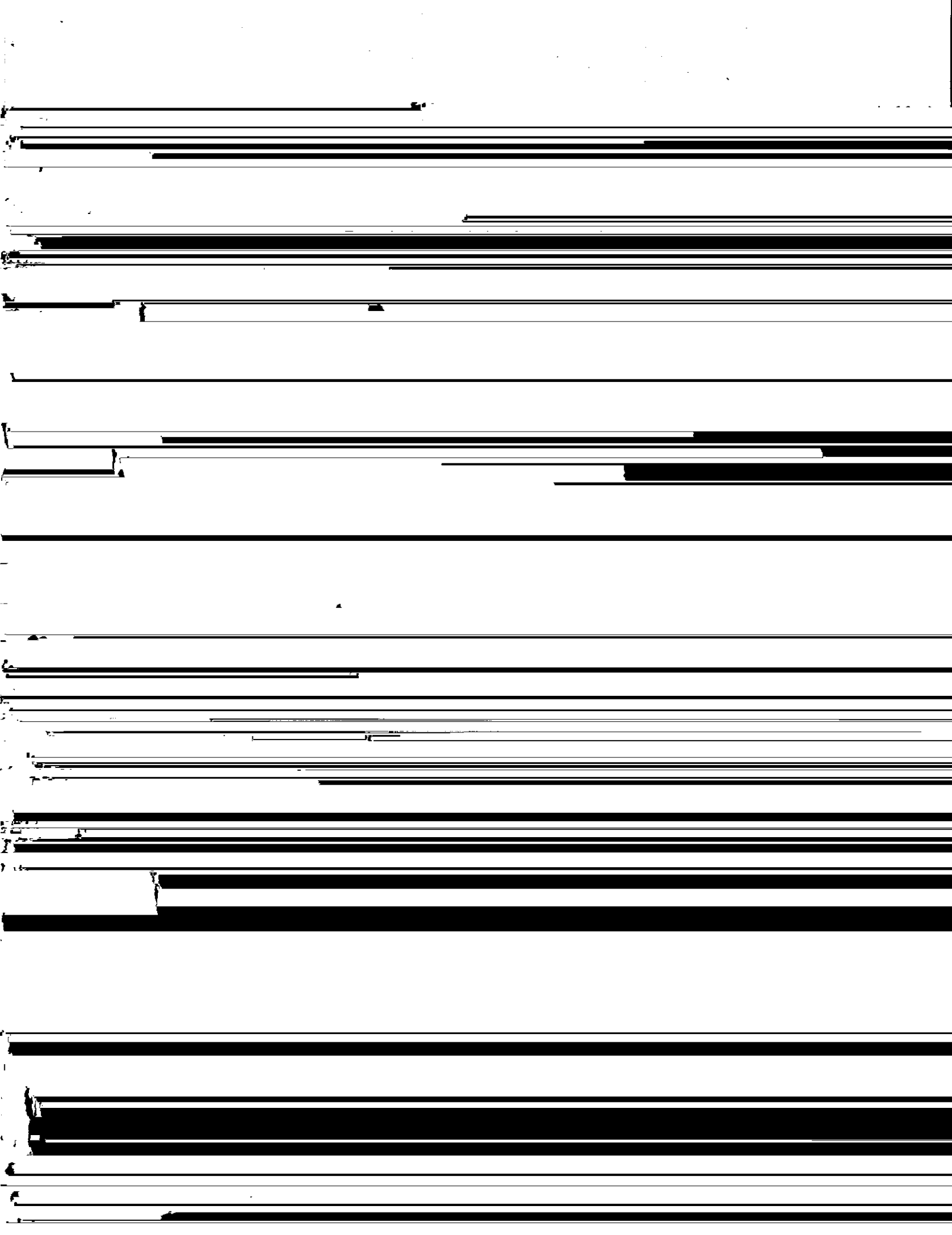
the marginal unit of the activity, e.g. the price of drinks at a bar, and the average amount of time per day, week, month, or year devoted to the activity. The proper treatment of the marginal cost of intermediate goods depends on the purpose of the leisure valuation process. If the purpose is to measure the value added by leisure to GDP – the primary focus of this paper – then the value of the intermediate goods must be subtracted to be consistent with national income accounting principles. Failure to make the subtraction would double count the value of the intermediate goods.

We then converted those marginal values that were reported for a time period of less than one hour or per event into a value per marginal hour devoted to the activity. This adjustment allowed comparison of marginal values. Table 2 provides a summary description of the value added for each of the 16 leisure activities for those respondents who engaged the activity. Column two

Table 2

Net Marginal Values of Various Leisure Activities for

of these total values for the sample for each activity.

Our sample reported slightly more leisure time than that reported by Robinson and Godbey

indicate the sizeable magnitude of leisure as an economic activity. For those totals, the coefficient

of variation is 1.24. The fact that this is lower than the typical figure for marginal values in Table 2

or average times in the first column of Table 2 indicates more interpersonal differences in

preferences for individual leisure activities than for leisure as a whole.

Multiplying the average number, from by the U.S. population yield an estimate of the

Regardless of the method used to estimate leisure with the study's sample data, the estimated amount of total leisure as a percentage of GDP is materially smaller than Nordhaus and Tobin's 1972 estimate. Part of this results from their use of a before-tax wage instead of the after-tax figures used in this study. Even so, the relative size of leisure appears to have fallen.

These results are the opposite of what one might expect from the accounting methods compared. The output approach includes the contribution of capital while the labor value approach does not. However, there are several reasons why this seeming inconsistency may exist. All involve the very possible existence of forces causing the quantity of leisure chosen by a householder to exceed the quantity expected at first glance. The greater the amount of leisure consumed by a person, the lower its likely marginal value. In turn, lower marginal values will yield smaller output-measured leisure values.

One of these reasons may be that a number of people may be able to find work only for less hours than preferred, thus increasing the time available for leisure. A second could be that negative enjoyment from the marginal hour of work or household production could also induce the substitution of leisure for work. Third, in making use of time, people may understate the opportunity cost of time. Anecdotal evidence suggests this may be the case. This may reflect the observation of Csikszentmihalyi (1997) that most people

television watching. Such feelings would reduce the amount of value reported for the activity.

$GROSS_i$ = household gross income in thousands of dollars.

$PEOPLE_i$ = number of people in household.

$EDUC_i$ = number of years of schooling.

AGE_i = age.

(chi-square=161.19, p<0.01) indicates that the random effects model is justified over an OLS

specification without individual effects. At the 5 percent error level household gross income had a

small positive significant effect on net marginal value. This may reflect the higher value placed on

AGE	37.3 (16.3)	0.02 (0.42)	-0.14 (-0.39)	0.02 (0.41)	0.02 (0.63)
NAP	0.06 (0.23)	11.54* (10.98)	11.42* (10.88)	11.54* (10.98)	11.48* (11.02)
MOVIE	0.08 (0.27)	-1.23 (-1.31)	-1.24 (-1.32)	-1.23 (-1.31)	-1.24 (-1.33)
PARTY	0.07 (0.25)	-1.61 (1.63)	-1.66* (-1.68)	-1.62 (-1.63)	-1.61 (-1.63)
SOCIAL	0.09 (0.28)	13.44* (14.66)	13.43* (14.67)	13.44* (14.66)	13.45* (14.89)
SPORTS	0.06	-0.62	-0.70	-0.62	-0.64

constraints (weather for outdoor recreation, requiring other people for socializing or volunteering) but this applies to several activities that were not significantly different than television. Each of the activities that were significantly different can be viewed as more socially acceptable than watching television. On the other hand, the very low values of movie going, partying and hunting may reflect overly optimistic expectations, pressures to suit someone else sharing the activity, and/or unanticipated over-indulgence. People may actually regret watching too much television, leading to

the 5 percent error level.

Tests of this sort concerning time use preferences are readily possible when leisure is valued by the direct measurement method. Such tests require marginal values, and this method provides them. On the other hand, individual's leisure value estimates from the labor value approach are marginal values only if the individual allocates time between market employment and leisure so as

As discussed earlier, direct measurement of leisure's value tends to increase measurement accuracy as compared with the labor value method by avoiding the inherent problems with the latter. Having direct measures available would therefore by useful for anyone with a use for leisure values, forensic economists for instance. Direct measurement also facilitates economic analysis. Such figures allow investigation of the economic behavior of leisure. Examining effects of socioeconomic characteristics on marginal leisure values is one example. Satisfaction maximization tests such as value equality of the marginal hours of various leisure types or equality between the

References

Washington D.C., 1994.

Wasserman, M., Beating the Clock: So Much to Do, So Little Time, *Regional Review*, Vol. 9,

No. 1, 8-15, 1999.

Neighborhood_____ Leisure Study   Interviewer

FORM 1

Activity	Unit	Last Unit Length	Amount Willing To Pay	Extra $$ Cost of Last Unit	D	W	M	Y	# of Acts	AVG Time
Sleeping	Hour	One Hr		0						

Neighborhood_____ Leisure Study   Interviewer

FORM 2

Activity	Unit	Last Unit Length	Amount Willing To Pay	Extra $$ Cost of Last Unit	D	W	M	Y	# of Acts	AVG Time

SocioEconomic Variables

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3. GROOMING

UNITS: Last 15 minutes spent maintaining grooming

DEFINITION: Includes all aspects of personal grooming (e.g. showering, shaving, brushing teeth, etc.) and using

14. MUSIC/RADIO

UNIT: Last half hour spent listening or playing

DEFINITION: Listening to music or playing a musical instrument (to include singing). Listening to sports and news programs would be included here. Key = must be primary activity.

15. T.V./VIDEO VIEWING

UNITS: Last hour spent viewing

DEFINITION: Time spent viewing T.V. to include video rentals and home recording.