

COST–BENEFIT ANALYSIS INVOLVING ADDICTIVE GOODS: CONTINGENT VALUATION TO ESTIMATE WILLINGNESS- TO-PAY FOR SMOKING CESSATION

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SUMMARY

The valuation of changes in consumption of addictive goods resulting from policy interventions presents a challenge for cost–benefit analysts. Consumer surplus losses from reduced consumption of addictive goods that are measured relative to market demand schedules overestimate the social cost of cessation interventions. This article seeks to show that consumer surplus losses measured using a non-addicted demand schedule provide a better assessment of social cost. Specifically, (1) it develops an addiction model that permits an estimate of the smoker's compensating variation for the elimination of addiction; (2) it employs a contingent valuation survey of current smokers to estimate their willingness-to-pay (WTP) for a treatment that would eliminate addiction; (3) it uses the estimate of WTP from the survey to calculate the fraction of consumer surplus that should be viewed as consumer value; and (4) it provides an estimate of this fraction. The exercise suggests that, as a tentative first and rough rule-of-thumb, only about 75% of the loss of the conventionally measured consumer surplus should be counted as social cost for policies that reduce the consumption of cigarettes. Additional research to estimate this important rule-of-thumb is desirable to address the various caveats relevant to this study. Copyright © 2008 John Wiley & Sons, Ltd.

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1. INTRODUCTION

As the range of application of cost–benefit analysis (CBA) has expanded from infrastructure projects to environmental policy to social programs, so too have the complexities of estimating benefits. The guiding principle of benefit estimation is the willingness of people to pay for policy changes. This principle can be applied directly through the estimation of changes in consumer surplus when policies affect quantities or prices in markets with well-defined demand schedules. However, compulsive behavior, ranging from physical addiction to habituation, challenges the neoclassical premise that people know what is best for themselves and act rationally when making consumption choices. In situations involving physically addictive goods, such as cocaine, heroin, nicotine, or alcohol, or psychologically addictive goods, such as gambling or perhaps pornography, demand schedules observed in markets may not appropriately reflect consumers' true marginal valuations and hence changes in consumer surplus may not provide good approximations of willingness-to-pay (WTP).

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