Research Proposal – An Examination of Consumer Response to the Consumer Assistance to Recycle and Save Act of 2009 – CARS

Introduction

Researchers have long noted difficulty in estimating individual consumers' timing of discrete durables purchases (Eberly 1994; Leahy and Zeira 2005). Models developed by economists generally utilize expenditures as a proxy for consumption; however, consumer durables exhibit "lumpy" expenditures but offer continuous consumption (Bernanke 1984; Frederick, Loewenstein et al. 2002). This proposal seeks to investigate consumer perceptions, expectations and response to a specific consumer durables incentive offered on automobiles and resulting in dramatically higher than expected program participation by consumers. On July 24, 2009, the implementation rules for the Consumer Assistance to Recycle and Save Act (CARS) were issued by the National Highway Traffic Safety Administration with funding of one billion dollars and a planned duration of four months (NHTSA 2009). The CARS program was enacted with a three-fold objective. First, improving the overall fuel efficiency of the automotive fleet in operation within the U.S. today; second, reducing vehicle emissions by the automotive fleet in operation within the U.S. today; and finally, stimulating the U.S. economy through the manufacture and sale of automobiles. Unlike typical tax credits which are claimed on a consumer's annual tax return, a unique component of the CARS program is an upfront credit of $3,500 to $4,500 for qualifying transactions. Within days of the announcement of the final program rules and guidelines, consumer participation exceeded all expectations of consumer response leading to the depletion of the program's funding over period of a few days versus the planned four month program duration (Boles 2009). I propose to examine the consumer perceptions, expectations and response to this government sponsored incentive program resulting in dramatically higher than expected program participation by consumers.

Literature Review

Information Search and Deal Knowledge

Prior studies have shown there is heterogeneity among consumers in the attention spent monitoring prices and deals (Krishna 1994). These studies lead us to understand that some consumers are continuously checking on prices (Dickson and Sawyer 1990) and deals (Krishna, Currim et al. 1991) (Krishna 1992) and

subsequently develop a better understanding of product price over time. Other studies have indicated that consumer's purchase behavior is not only influenced by the current price of a product, but also by the price a consumer expects to see in the future (Jacobson and Obermiller 1990; Kalwani and Yim 1992). In the case of the CARS program, a consumer incentive was announced in June of 2009 by the U.S. Congress, pending the issuance of final program rules by the National Highway Traffic Safety Administration in July of 2009. These government announcements coupled with industry advertising made "deal information" available to consumers and incorporated a planned termination point for the incentive or "deal" thus potentially establishing both a current and expected future price point for consumers. This leads to my first hypothesis:

H_1 A consumer's depth of awareness of "deal information" will be positively related to the likelihood to facilitate a CARS transaction.

Reference Price and Incentive Value Effects

"Of all the tools available to marketers, none is more powerful than price"; therefore, price promotion has become an increasingly larger proportion of marketing budgets and a critical aspect in consumer's choices (Han, Gupta et al. 2001). In response to various price promotions consumers develop reference prices for various goods and marketers utilize various forms of price promotion with varying durations creating reference prices. "A reference price advertisement is one in which a lower current price is compared with a higher price previously offered (Howard and Kerin 2006)." A large body of research in marketing literature confirms the presence of reference price effects and explores variations in the effects of dollars off versus percent off advertisements (Biswas and Blair 1991); however, in the case of CARS a universal tax credit is offered in two amounts ($3,500 or $4,500) to any qualifying consumer at any participating retailer regardless of vehicle brand. In light of the universal offering I propose to examine the impact of the value of the incentive offered in relation to the durable goods expenditure being considered. Leading to my second hypothesis:

H_2 As a consumer's estimation of the value of the tax incentive over the actual value of their trade- in vehicle increases they will perceive a lower reference price and be more likely to facilitate a CARS transaction.

Consumer Confidence

It is well documented that individual expenditures on durables decline in periods of economic instability (Hassler 2001). In times of economic uncertainty households "allow their stocks of durables depreciate" (Bernanke 1984) or more simply stated they defer durables purchases when the investment is irreversible or costly to reverse. Some researchers have even proposed that a consumer's normal state of action with regard to durables purchases is one of "usually doing nothing" requiring a significant series of events or influences to facilitate a durables purchase (Bar-Ilan and Blinder 1992). In particular, a consumer's expectation or confidence in the stability of future income plays a significant role in moving inertia toward a durables purchase (Bertola, Guiso et al. 2005). (Eberly 1994) refers to this phenomenon as "inaction range" an notes that the inaction range increases when income variability increases (Eberly 1994). In light of these studies it is important to examine a consumer's level of confidence in future income or earnings in relationship to the likelihood of transacting a durable goods purchase:

H_3 Consumers exhibiting higher levels of consumer confidence will be positively related to the likelihood to facilitate a CARS transaction.

Methodology

The nature of consumer durable products is characterized with high purchase prices and relatively long interpurchase cycles (Bayus 1991). As the purpose of this study is to measure consumer intent toward a large consumer durable product, automobiles, a purchase a survey interview experiment design is proposed to interview a randomly selected sample of student, faculty and staff study participants at a southeastern university. The utilization of randomly selected students, staff or faculty in a university setting is frequently

used to approximate behavior of the general population with regard to purchase-decision behavior (Chenting, Edward et al. 2003; Devon, Krishnan et al. 2007).

Conceptual Model

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Dependant Variable

The dependant variable to be evaluated is a consumer's likelihood or intent to participate in the CARS program by transacting an automobile purchase. Prior research in social psychology suggests that consumer intentions "should be the best predictor of an individual's behavior because they allow each individual to independently incorporate all relevant factors that may influence his or her actual behavior" (Martin, Wayne et al. 1998); Fishbein and Ajzen 1975). While self-reported intention is noted as a strong predictor of consumer behavior, researchers have noted the limitation that purchase intentions do not always result in actual purchase behavior (Martin, Wayne et al. 1998). Over the past fifty years a large body of empirical research has developed in modeling the variation between consumer intent and actual purchase (Tobin 1959; Martin, Wayne et al. 1998). These researchers note the importance of framing questions of intent in terms of a time horizon affording the potential to apply various models predicting the degree of accuracy of stated intent and/or the execution of a follow-up study measuring purchase activity against stated intent (Martin, Wayne et al. 1998).

Independent Variables:

Depth of Knowledge of Program Parameters "Deal Knowledge"

Advertising messages commonly achieve a level of attention to attract media coverage compounding the effective message communication (Jin 2003). An intense level of coverage has been achieved for the CARS program as a Google search returns over 2.7 million results and a search of headlines for articles in The Wall Street Journal's online version returns over 160 articles over a period of 60 days. Message awareness or recall is often cited as an important factor in consumer decision making (Lee 2000; Jin 2003). This study proposes to measure the affect of the depth of knowledge of the CARS program elements and parameters with regard to intent to transact a consumer durables purchase.

Perceived Incentive Value – Reference Price

Consumer perceptions with regard to price and timing of incentives is cited as an important determinate in the timing of a decision to transact a consumer durables purchase (Howard and Kerin 2006). This study

proposes evaluating the role of the CARS program effect of temporarily lowering a consumer's reference price for a consumer durable (an automobile) through a limited time increase over the market value of a consumer's trade-in vehicle. In effect this program element is hypothesized to lower a consumer's reference price for the purchase of a new automobile. As noted earlier, certain consumers are believed to monitor durables prices forming expectations for current a future prices of a durable good leading to a sense of "deal knowledge" (Howard and Kerin 2006). This study will measure the impact of this deal knowledge with regard to intent to transact a CARS purchase.

Consumer Confidence in future income/earnings

As consumer expectations of future income and earnings have been noted to have significant influence over a consumer's willingness to transact a large durables purchase, consumer confidence in future earnings and income will be measured against intent to transact a CARS purchase (Bertola, Guiso et al. 2005).

Implications

This research is proposed as an application of existing theory to gain additional understanding into prompting specific consumer behavior in the setting of a government sponsored incentive program targeting high cost consumer durables in a period of high economic uncertainty. This understanding is hoped to provide useful insights to industry participants.

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Figure 1: Concept Model