Justice Quarterly ›
Volume 28, 2011 - Issue 3

ARTICLES

How Much is the Public Willing to Pay to be Protected from Identity Theft?

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Pages 437-459 | Published online: 04 Sep 2010

Cite this article https://doi.org/10.1080/07418825.2010.511245

Abstract

Identity theft has become one of the most ubiquitous crimes in the USA with estimates of the number of households being victimized annually ranging between 5% and 25%, resulting in direct losses totaling hundreds of billions of dollars over the past few years. Government efforts to combat identity theft have included legislation criminalizing and increasing penalties as well as regulatory efforts designed to protect individual identifying information held by financial and other business organizations. At the same time, individuals are taking their own preventive actions and purchasing private protection such as credit monitoring and identity theft insurance services. We use data from a large sample of residents from four states (Illinois, Louisiana, Pennsylvania, and Washington) in order to assess the public's willingness to pay (WTP) for a government program designed to reduce identify theft under two separate conditions, one promising a 25% reduction in identity theft and the other promising a 75% reduction in identity theft. Results indicate that: (1) between 40% and 66% of the public is willing to

pay an additional tax for identity theft prevention, more so when the promise of a reduction is highest (75% compared to 25%) with an average WTP of $87, and (2) WTP is highest among individuals who carry many credit cards, who subscribe to an identity theft protection service, and who take active steps in preventing fraud by shredding bills and paying with cash, but is lowest among individuals who believe that taxes are too high. Converted into a “per crime” cost and combined with the portion of identity theft costs that are borne directly by business, we estimate the average cost per identity theft to range from approximately $2,800 to $5,100.

Keywords:

identity theft | white-collar crime | willingness to pay | financial crime

Notes

1. Identity theft became a crime in the USA when Arizona passed the first statue in 1996 followed by legislation in California in 1997 (Allison et al., 2005; Pontell, 2009). It became a federal crime with the passing of the Identity Theft and Assumption Deterrence Act of 1998.

2. “U.S. identity theft losses fall: study.” Javelin Strategy and Research, February 1, 2007 (http://www.javelinstrategy.com/2007/02/01/us-identity-theft-losses-fall-study).

3. The NCVS defined identity theft to include: (1) unauthorized use or attempted use of existing credit cards; (2) unauthorized use or attempted use of other existing accounts such as checking accounts; and (3) misuse of personal information to obtain new accounts or loans, or to commit other crimes.

4. The most recent National Public Survey on White Collar Crime (2005) asked respondents about crime victimizations, including varieties of identity theft, in their household over the past 12 months. Results showed that 24.5% of survey respondents reported a household victimization involving credit card fraud, 12.6% reported existing account fraud, and 8.1% reported new account fraud (Kane & Wall, 2006).

5. Extant research does indicate a close relationship between hypothetical answers and actual payments. For example, evidence against hypothetical bias comes from

experimental designs that compare reported with actual WTP, and from comparisons of CV responses with estimated travel times to use parks and other public goods or to wage premiums associated with health risks (e.g., Brookshire & Coursey, 1987; Hanemann, 1994; Viscusi & O'Conner, 1984). More generally, CV responses are typically consistent (at least broadly) with economic theory, in the sense that WTP increases with income (Ludwig & Cook, 2001). (Note: The correlation between WTP and income in our study is positive and increases linearly as bid levels increase.) Finally, a recent meta-analysis of hypothetical bias in 28 stated preference valuation studies finds that the median ratio of hypothetical to actual value is only 1.35 (Murphy, Allen, Stevens, & Weatherhead, 2005).

6. There were no between-state differences with respect to reasons for ineligibility or refusal patterns and rates.

7. There are several ways that one could calculate the overall response rate. For example, The Council of American Survey Research Organizations (CASRO) has a standard method for estimating the “eligible sample” and hence the response rate—that allows for dropping unusable numbers such as business or fax machines; however, it does not allow for dropping those whose answering machine picks up, are never home, etc. Using this more stringent method, our response rate would be 24.3% (2,282/9,402) instead of 32.1%. This compares to a 43% response rate (58% using the CASRO method) reported in Cohen et al. (2004), the 61% rate (unreported methodology) in Ludwig and Cook (2001), and the 45% rate (35.9% using CASRO methodology) reported by Nagin et al. (2006). However, those latter studies used an expensive follow-up procedure to increase response rates. Keeter, Kennedy, Dimock, Best, and Craighill (2006) report that response rates from standard PEW surveys conducted in 2003 ranged from ~22% to 32%, while they were able to achieve response rates nearly double that amount using a more expensive follow-up method. More importantly, Keeter et al. (2006) report little or no response rate bias and also report on various other studies and meta-analyses that find little or no response bias in results when comparing studies with different response rates. Thus, while our 32% response rate is not ideal, it is acceptable, especially given the similarity in the demographics of the sample to the state-specific demographics. Further, because there are no existing sources of data on WTP for identity theft, our exploratory study is designed to offer some preliminary inferences about the publics' WTP for identity theft protection. Such information serves as a source of important baseline estimates that can be compared against in future studies, but that should not be regarded as final.

This should not diminish what will turn out to be an important take-away message: that there is public support for paying for identity theft protection and that citizens in four different states are willing to pay a non-negligible amount of dollars for it. Future research should consider these results as preliminary baseline figures to which more complete estimates can be considered and compared against.

8. Upon conducting the phone survey, the interviewers were unable to select a particular survey to administer because the two surveys (one containing the 25% reduction scenario and the other containing the 75% reduction scenario) appeared randomly on their computer screen and they simply followed the survey protocol and administered whichever survey was displayed on their screen. This ensured complete randomization in the factorial survey design.

9. To be sure, the WTP estimates are conservative because it is only known that respondents would be willing to pay at least a certain figure and some may even be willing to pay more than our $200 top estimate.

10. Although space constraints preclude a detailed discussion of these issues, it is worth noting here the rationale for including independent variables on protective measures against fraud. We expect those who take the time and/or spend money on private protection will have a different demand for government protection activities than those who do not. In this case, however, we do not know a priori whether government actions are substitutes or complements to private protection. For example, individuals who already take preventive measures might not want to spend taxpayer dollars on further protections (which are likely to affect them directly much less than those who do not take such preventive measures). Alternatively, those who currently spend money on private protection might reduce their expenditures in response to a government-wide crackdown on identity theft—hence, they might demand more government protection which is less costly than individual private action. Yet another possibility is that those who take private protection activities are those who have the highest demand for identity theft protection and thus demand more government activities as a complement to their own efforts.

11. The latter item was originally coded as never, 3 or less, 4–11, and 12 or more, but was recoded into never/no vs. at least once/yes. We should also note that we had a second item assessing internet use that asked respondents how often they used the internet over the past month (once a week, more than once per week, daily, did not use

the internet in the past month). Because this variable was positively and strongly correlated with the seven-item measure and because the seven-item measure asks about respondents' actual activities for which they may fall prey to identity theft, we opted for the seven-item measure in the analyses that follow.

12. That we arrive at two different estimates of the public's WTP for identity theft protection depending upon the level of crime prevention obtained is not surprising. In many public policy choices, there are diminishing marginal benefits of prevention. For example, in the case of pollution, the public might be willing to pay an enormous amount for the first units of pollution reduction if pollution is so bad that it causes respiratory distress. However, as the air becomes cleaner, the value of each additional unit of pollution reduction might decline as other priorities emerge. Similarly, with identity theft, if the risk is very high it might deter so many people from shopping on the internet that commerce is stifled as people take very expensive precautionary measures. However, as the risk diminishes, the benefits of additional risk reductions become much smaller. Previous WTP estimates of the cost of crime have not been able to examine the marginal valuations in this way because they have not varied the level of crime reductions. Thus, for example, Cohen et al. (2004) only asked about a 10% reduction in specific crime types, and did not explore the difference there would be between that first 10% and the next 10%. We should also note that it is possible that we could have found a higher per unit valuation for the larger identity theft reduction. For example, it is possible that if we were to have provided a scenario that reduced identity theft to zero, the per unit value would have been higher as people who now refuse to use the internet for shopping would jump into the market and derive tremendous value from an “identity theft-free” world. In such a world, the cost of identity theft insurance would be eliminated, prices for credit card transactions might be reduced, etc. Thus, if the benefits of crime reduction have this type of threshold effect, WTP could be much higher.

13. Although not shown here, we also included an income variable. While income is positively (and significantly) associated with WTP, inclusion of that variable, which is correlated with education ($r = .40$) and internet use ($r = .46$), did not substantively affect other associations or conclusions. We did not include the income variable in the regressions and overall results for three reasons. First, education attainment (in terms of highest grade completed) is typically viewed as a more accurate barometer of socioeconomic status, especially when compared to the income variable in this data collection (which asked about income in the 2006 calendar year before taxes). Second,

the correlation between the two variables was positive and of moderate strength so we were concerned about their potential overlap. Still, multicollinearity was not of concern as the correlation between education and income was r = .44. Finally, there were slightly more “don't know” responses in the income question compared to the education question (as other polling studies reveal), and we opted to preserve as many cases as possible. All of this notwithstanding, regression analysis using income in lieu of education revealed the same pattern of findings with respect to all variables and inserting income into the model did not alter coefficient size and significance for any of the terms.

14. A reviewer provided a slightly different interpretation: “If the average citizen is skeptical about the efficacy of hypothetical programs, it may be that promising them a 25% reduction in offending by use of ‘a new technology’ that the government is ‘considering’ as compared to a 75% reduction does not get them to invest more for each unit of promised returned value. If results that meet inflated estimates of success are not delivered, they will be out less for each fairy tale percentage promised.” This is a fair point. Of course, further data are needed with respect to the extent to which citizens are skeptical of such programs and their overall effectiveness. It is an important empirical question.

15. We controlled for Cajuns because they represent a minority population in one of the four states (Louisiana), and have been considered an ethnic group (Henry & Bankston, 1999).

16. The fact that those who are currently taking more precautions against identity theft are willing to spend additional tax dollars for identity theft protection is interesting, but raises additional questions. Since public and private expenditures are often substitutes in crime protection, one possible outcome of increased government expenditure would be a reduction in private expenditures. In other words, one of the reasons individuals might be willing to pay more for government protection is that they then expect to reduce their own private expenditures on identity theft insurance, etc. Future research on this issue would be of value.

17. According to U.S. Census data from 2007, the average earnings for full-time, year-round workers in the USA were $51,588, or $24.80 based on a 40-hour work week (U.S. Census Bureau, Current Population Survey, 2007 Annual Social and Economic Supplement, http://www.census.gov/hhes/www/macro/032008/perinc/new04_001.htm).

18. Other kinds of costs are also incurred by identity theft victims. Sharp, Shreve-Neiger, Fremouw, Kane, and Hutton (2004) interviewed 37 identity theft victims recruited from police departments and victim assistance agencies. While not necessarily a random sample of identity theft victims, their findings are still of interest. In particular, 26 weeks after the incident, 26% of participants “indicated that they were distressed and desperate, 24% stated that they were irritated and angry, and 14% endorsed feelings of anxiety, fear, mistrust and paranoia.” In fact, a majority reported suffering from “anxiety and nervousness, gastrointestinal problems, and headaches” (pp. 132–133).

19. According to Census data, the average household in the USA has 1.9 members age 18 or older (see Day, 1996).

20. Estimates of lost time dealing with identity theft victimization are not trivial. Baum (2006, p. 4) found that while 34.2% of households victimized by any type of identity theft reported that problems with the theft were resolved in one day, 14.2% reported that it took one to two months to resolve the problem. Moreover, when time spent resolving problems was examined across types of identity theft, results showed that households experiencing theft of personal information were more likely to spend three or more months resolving problems (9%) than were households experiencing theft of credit cards (4%) or other existing accounts (4%).

21. Note that these figures differ from those in our survey, since we now report on the most recent data. However, for purposes of calculating the difference between tangible and intangible losses, we use the reported out-of-pocket and wage losses that were used in the survey. We also note that these figures are similar to estimates in the NCVS reported in Baum (2007, Table 7). The NCVS only reports total theft amounts—whether recovered by the victim (through credit card insurance, etc.) or not. For the 69% of victims who reported losses, the mean theft was $1,620.

22. Incidence of street crimes are taken from Rand and Catalano (2007, Table 2). The estimates are 711,000 for robbery, 3.5 million for burglary, 993,000 for motor vehicle theft, and 14.3 million for larceny. Cost estimates are $39,000, $35,000, $17,000, and $4,000, respectively, based on WTP figures reported in Cohen and Piquero (2009, Table 5).

Related Research Data

It's Not Always about the Money: Why the State Identity Theft Laws Fail to Adequately Address Criminal Record Identity Theft
Source: The Journal of Criminal Law and Criminology (1973-)
LOUISIANA CAJUN ETHNICITY: SYMBOLIC OR STRUCTURAL?
Source: Sociological Spectrum
Offenders or opportunities: Approaches to controlling identity theft
Source: Criminology & Public Policy
Stated Willingness to Pay for Public Goods: A Psychological Perspective
Source: Psychological Science
Understanding Identity Theft
Source: Criminal Justice Review
Should Social Security numbers be replaced by modern, more secure identifiers?
Source: Proceedings of the National Academy of Sciences
Causes and Prevention of Intellectual Property Crime
Source: Trends in Organized Crime
Criminal Victimization, 2006
Source: Unknown Repository
Identity theft: Bounded rationality, research, and policy*
Source: Criminology & Public Policy
PUBLIC PREFERENCES FOR REHABILITATION VERSUS INCARCERATION OF JUVENILE OFFENDERS: EVIDENCE FROM A CONTINGENT VALUATION SURVEY*
Source: Criminology & Public Policy
Exploring the crime of identity theft: Prevalence, clearance rates, and victim/offender characteristics
Source: Journal of Criminal Justice
Estimating the willingness to pay for drug abuse treatment
Source: Journal of Substance Abuse Treatment
Valuing Crime Control Benefits Using Stated Preference Approaches
Source: SSRN Electronic Journal
How Well Do Consumers Protect Themselves from Identity Theft?
Source: Journal of Consumer Affairs
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Public perceptions of white-collar crime and punishment
Source: Journal of Criminal Justice

Dialing for Dollars: Opportunities, Justifications, and Telemarketing Fraud
Source: Qualitative Sociology
A Meta-Analysis of Hypothetical Bias in Stated Preference Valuation
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