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Is There Gold in California Data Mines?: Using Stakeholder Theory to Analyze the Tradeoff between Individual Privacy and the Public Good

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ABSTRACT

In the public sector, tradeoffs between individual citizen concerns and the public good can be complex, since individual goals can conflict with the government's goals for assuring equity and social welfare. This paper reports on a case study of the Integrated Non-Filer Compliance (INC) system used by the California Franchise Tax Board (CFTB). Data gathered from federal, state and municipal agencies and other organizations are analyzed by CFTB to identify citizens who fail to file taxes or under-report income. The paper uses stakeholder theory to analyze the privacy concerns raised by this inter-agency information-sharing initiative due to the potential for inaccurate judgments based on errors in data interpretation. Key stakeholders here include California citizens, the Franchise Tax Board, and other public sector actors, including politicians and various other state and federal agencies. The paper concludes that stakeholder theory can help identify and avoid privacy issues raised in e-government applications.

Keywords

Stakeholder theory; privacy; e-government; case study.

INTRODUCTION

IT applications frequently give rise to ethical quandaries related to privacy which, if addressed improperly, can jeopardize an organization's legitimacy (Mason, 1986; Greenaway & Chan, 2005; Smith and Hasnas, 1999; Smith, 2004). In the public sector, the tradeoff is especially complex given that individual goals, such as protecting privacy or a citizen's desire to minimize or evade paying taxes, come at the expense of the public good, such as assuring fair and equitable tax assessments or maximizing income for the state (McCrohan, 1989; Regan, 1995). This paper examines the tradeoffs involved when addressing the competing goals of public sector stakeholders. We apply stakeholder theory to a case study where a system developed for legitimate governmental purposes was jeopardized because data supplied by citizens was used in ways unsanctioned by the citizens required to submit it. The case pits the problem of privacy of citizen data against the public good benefit of reducing the "tax gap".

Privacy Issues in the Public Sector

The use of personal information raises privacy issues when people perceive that their personal information has been used unfairly (Culnan and Bies 2003). We apply Solove's (2006) information processing approach to identifying privacy harms, which consists of those resulting from unfair use due to *aggregation* of personal information across settings, in which the whole is greater than the sum of the parts, *secondary use*, in which personal information is collected for one purpose and used for other unrelated purposes without the person's knowledge or consent, and *distortion*, in which decisions are based on errors in the data. In the public sector, information asymmetry creates privacy risks as once citizens provide data, they lose

control over decontextualization, where information provided for one purpose may be used for any other purpose. Hence, with these public records, there is reduced freedom from others making inappropriate judgments (Introna and Pouloudi, 1999). This case raised privacy concerns driven in part by technical issues related to data quality and in part by the use of public information collected for purposes unrelated to taxes to identify individuals as potentially underpaying their taxes.

Stakeholders in the Public Sector

Stakeholder theory (ST) entails identifying relevant stakeholders and their interests, and to the extent possible, making decisions that reflect their interests, based on each stakeholder's power, legitimacy, and urgency (Mitchell, et al., 1997). As public administration involves the management of relations and interests of society stakeholders, ST is gaining acceptance as an appropriate theoretical basis for e-government research (e.g. Flak & Rose, 2005; Scholl, 2001; Scott et. al., 2004; Tan et. al., 2005; Zhang et. al., 2004). In particular, in the public sector, ST can enhance cultural acceptance of e-government applications (Scott et. al., 2004).

Given differences in values related to use of public record data, stakeholder analysis can help identify affected parties' concerns, gauge their likely responses to various tactics, and choose an acceptable solution. By considering the needs of vital stakeholders, it is theorized that an organization will achieve optimal long-term performance results. For example, Smith (2004; Smith and Hasnas, 1999) found that when faced with a privacy quandary, organizations chose different solutions depending on whether their analysis focused solely on financial considerations versus a stakeholder perspective. Here, we show how taking a stakeholder perspective can serve as a tool for more effective management.

The Case Study Context

The case study analyzes the Integrated Non-Filer Compliance (INC) system by the state of California's Franchise Tax Board (CFTB). INC is used to analyze data from various federal, state and municipal agencies as well as other organizations. While data mining has yielded "gold" in the form of recovered tax revenues (see Exhibit 1), concerns have been raised regarding the acceptable use of citizens' private information. A tradeoff arises when an IT-enabled benefit -- an increase in tax revenues, thanks to data mining-- is pitted against an undesirable outcome -- citizens feeling that overly aggressive tactics are unfairly employed to identify tax cheats. We analyze these privacy concerns from the points of view of several key stakeholder groups: California citizens, representing the individual privacy issue, the Franchise Tax Board, representing the public good achieved by fair tax collection, and other parties in the public sector, including politicians and other state and federal agencies which shared their data with the CFTB.

The context in which the INC system was proposed and developed -- a state agency seeking to reduce the state's budget gap by identifying individuals who fail to file their taxes (so-called "ghosts;" see Erard and Ho, 2001) or who under-report their income -- addresses an issue which applies in many other states and at the federal level. In the United States the federal tax gap in personal and corporate income taxes (the difference between taxes collected and best guesses as to the amount of taxes that are owed) is conservatively estimated at \$311 billion, or 15%. Between 81 and 84 percent of taxpayers fail to pay their taxes, and according to Michel Brostek of the U.S. Government Accountability Office, each 1 percent reduction in the Federal tax gap could yield about \$3 billion additional tax revenue each year (Russell, 2006). While there are clearly benefits in finding new ways to identify tax delinquents, this need is weighed against privacy concerns, illustrating Solove's concepts of *distortion*, exemplified by citizen complaints that government agencies draw inferences about them based on faulty data, *secondary use*, based on data that citizens feel should not have been shared across agencies and *aggregation*, combining shared data in a data warehouse and employing data mining techniques to identify tax cheats.

This paper is organized as follows. We describe our research methodology, followed by descriptions of the CFTB and its Filing Compliance Bureau (hereafter, the Bureau), and key features of the INC system. Next, we discuss challenges in the Bureau's attempts to obtain and analyze data that could help reveal tax cheats. We discuss the quandaries that are revealed in this case, as well as the tactics employed by the Bureau to address various stakeholder concerns. We conclude with recommendations for effectively addressing these challenges in the future using stakeholder analysis.

Research Method

The case study was conducted as part of a larger study of inter-agency information sharing in eGovernment (Fedorowicz, Gogan and Williams, 2006). Data were gathered from publicly available sources as well as interviews with the Director of the Filing Compliance Bureau (the unit which worked with the INC system), and a section manager in the Bureau who worked closely with the system. A semi-structured interview protocol was utilized, based on a framework that guided all of the case studies in the larger project. Interviews were recorded and professionally transcribed. Data were open-coded using qualitative analysis techniques (Strauss and Corbin, 1998); the authors reviewed the data for emergent themes and sub-themes which were compared with information from published sources to triangulate on a timeline of events and key facts

about the INC system and the work of the Bureau. Informants reviewed a case history draft for factual errors, and minor changes were made based on their feedback.

The California Franchise Tax Board

CFTB's name reflects its mission; when founded in the 1920's it collected corporate taxes, which were then called "franchise" taxes. When in 1935 personal income taxation went into effect, the CFTB was asked to collect personal income taxes, but its name was not changed. CFTB employs 5,300 permanent employees and hires about 1,000 temporary employees during peak tax filing time. CFTB is organized around three primary business functions: tax filing and collections, auditing, and filing enforcement.

CFTB's 120-person Filing Compliance Bureau handles some income withholding programs as well as filing enforcement. The two-step compliance process for individuals works as follows: an individual identified as likely to have income on which California taxes were not paid is sent a notice, requesting them to either file a tax return or respond back explaining why they don't owe any money. Using information generated by the INC system (see below), the Bureau sends out non-filer notices. If a first notice does not yield a response, the individual is then sent a Notice of Proposed Assessment (NPA), specifying the estimated amount of taxes owed based on information that indicates that the person was either doing business in California or earning income in California during the applicable time period. During the period 2003—2006, approximately 500,000 NPA's were issued each year. Exhibit 1 shows the outcomes of the non-filer process.

The INC System

Bureau management wanted to extract tax-related data from other agencies' systems to improve the tax collection process. The Bureau's INC data warehouse and data mining system was launched in 2001, at a time when the state's tax gap was approximately \$6.5 billion. Its proponents argued that improved tax compliance would reduce the tax gap and give honest taxpayers the satisfaction of knowing that tax cheats were being brought to light and paying up. By 2005 the INC system's database contained 220 million income records on more than 35 million individuals and 4 million businesses. The database collects direct and indirect income indicator data from a variety of sources, which are matched against the CFTB's own accounts receivable data to reveal if a listed taxpayer has filed a tax return and if all known or imputed income has been reported.

Direct income indicator data are collected from such agencies as the California Employment Development office and the US Internal Revenue Service (which provides a listing of Californians filing Federal returns, as well as interest income, pension income, and other data provided on federal income tax returns) and reflect actual income data that might have gone unreported to CFTB. *Indirect* income indicator data are collected from such sources as the IRS Federal 1098 form for mortgage interest paid (the idea being: if an individual reports very low income yet claims high mortgage interest payments, possibly they are under-stating their income) and reflect indicators of potential sources or uses of income. Other indirect income indicator data include lists of occupational and professional license holders (realtors, barbers, cosmetologists, physicians, veterinarians, attorneys, etc.), property taxes paid and records of the makes and models of automobiles registered in the state, obtained from a variety of state agencies and associations (such as the California Bar Association or the Division of Motor Vehicles). In information processing theory terms, the INC system *aggregates* both direct and indirect income indicators for *secondary use* as non-filer identification aids. Indirect indicators also may lead to *distortion*, as assumptions about income estimates lead to inaccurate or improper assessments against complying taxpayers.

The system was highly successful in its public good mission of collecting taxes from "ghosts". Its use yielded more than \$4 billion in 2005/2006. In addition, the Bureau Director stated that the INC system enables better customer service and communication and has reduced the number of letters and phone calls made to taxpayers. Because the system handles the majority of filing enforcement cases, the Filing Enforcement team has increased the proportion of para-professionals who assist highly-skilled auditors, thereby reducing operational costs. While the operational and financial benefits to government stakeholders have been impressive, the INC system also posed privacy and other challenges which we review next.

The Role of IT in Compromising Privacy

Although the manager in charge of the INC initiative felt that "technology issues are secondary," a number of technical challenges contributed to stakeholder concerns, thanks to variations in partnering agency's data management choices, legacy systems, and IT expertise. US Internal Revenue Service data (such as from forms 1098 or 1099) integrates easily into INC, because the INC database conforms to the uniform data formats laid out by the IRS. Bureau managers are confident that since IRS data transfers easily and in standard formats, it is of high quality. However, the same cannot be said of data provided by some other state and local agencies, which store citizen data in a variety of non-standard formats. While some utilize Social Security numbers to identify individuals' records, others do not, which creates problems in matching records across multiple

databases, and thus makes it difficult for the Board to be certain that they have correctly identified all applicable taxpayers and not double-counted taxpayers. Automated record matching through the use of names and addresses is also an error-prone process, thanks to minor misspellings (“Janice” vs. “Janis”), postal address inconsistencies (“Road” vs. “Street” or “unit” vs. “apt.”), and other issues (John Smith Sr. vs. John Smith Jr. at the same address). Technical issues thus created privacy concerns, in that inferences were drawn on the basis of data that were of questionable quality, leading to the possibility of data distortion and inappropriate tax demands.

While the potential for distortion was an understandable concern on the part of the affected citizenry, there was also pushback among some other agencies asked to contribute indirect income indicator data to the INC system. The resistance was not due to concern for citizen privacy, but rather resulted from sister agency stakeholders not perceiving the request as one contributing to the public good. As is true in many states, California agencies face resource constraints which force them to retain legacy applications and databases. The request to submit needed data was not easy to meet given their antiquated systems. For example, a law proposed in 2004 would require cities to share data about license owners with the Bureau. An interviewee recalled the reaction from sister agencies:

“The cities made a huge stink, saying ‘Oh, my gosh, we can’t provide the data; we don’t have the right IT platform to do that. We need money from the State of California.’ The non-revenue part of government does not view sharing data as an opportunity for the greater good. We could say to them, if you give us that data we are going to generate \$10 million of additional revenue for the state of California. The response will be ‘But that’s not revenue that accrues to our agency, we don’t get credit for it.’”

Legacy system incompatibilities forced several agencies to provide data by means of Excel spreadsheets or similar semi-manual processes, which can themselves be error-prone and insecure. This again led to an ethical quandary in that inferences about non-compliance were based on data of questionable quality. Bureau managers expressed the hope that taxpayer identification standards (such as mandatory use of Social Security numbers or other unique taxpayer identification number) will be set some day. Shorter term, they hoped to improve the quality of the shared data by establishing data formatting standards for common data fields such as dates, counties and cities.

Interviews also revealed that a “law of diminishing returns” plays a role, in that some new data sources provide only incremental benefit. Some seemingly promising indirect income indicators point to the same individuals revealed by other data. For example, analysis of property tax data collected by counties compared with other direct and indirect indicators already stored in the INC database -- such as state and federal wage information, banking and other financial records, and mortgage interest paid -- reveals that this category of data does not yield much additional useful information. In these instances, the Board made the decision not to use this data, saving collection cost as well as reducing the range of privacy harm.

Politics, Regulations, and Privacy Protection

With a \$6 billion tax gap a strong case can be made for mining for tax-cheat “gold.” Still, Bureau managers encountered push-back from citizens who felt the Bureau employed heavy-handed tactics.

In one critical incident, the INC system calculated the average reported income for all barbers, and letters were sent to all holders of barber licenses who had not reported barbering income. Inactive license holders were instructed to contact the Bureau and prove they had not been working as barbers. For reasons including poor health or family situations some individuals held licenses but were not currently working as barbers. Many felt that they were inappropriately being required to shoulder the burden of proof when, in their view, they were doing nothing wrong. After dealing with considerable backlash from that incident, a manager described subsequent changes that were made in customer service:

“... The letter is phrased a little differently now: ‘This is an indication that you may have earned money in the State of California using this occupational license.’ On the back side the recipient is allowed a chance to respond and tell us that they didn’t use the license. ... I think we now phrase the letter in such a manner that it kind of takes that accusatory tone out of it.”

Thus, political costs were incurred when individual citizens felt that the Bureau was behaving inappropriately based on data of questionable quality that was obtained from external sources and used for an unintended purpose.

Proposed new sources of direct and indirect income indicators are evaluated on a continuing basis. Interviewees indicated that indirect income indicators were more controversial than direct income indicators, but were also more likely to identify tax cheats who were operating outside of the scope of the Bureau’s auditors. The Bureau faced a variety of issues in evaluating the benefits of each new data source as compared with the costs of obtaining it. For example, some evidence indicates that many non-filers operate in a cash economy (being paid “under the table”). People who don’t have bank

accounts often cash payroll checks at check-cashing storefront establishments, which retain data only for large transactions that, by law, must be reported. In 2004 the Bureau estimated that if it could analyze data collected about transactions in excess of \$10,000, nearly \$2.3 million in additional tax revenues would come in. However, new legislation would be needed to require check-cashing establishments to share data with the Bureau, and managers did not want to push for such legislation unless they were confident the data would prove worthwhile. Interviewees reported that some legislators were reticent to sponsor new laws that would be unpopular with their constituents, even though the resulting public good benefit would be a more equitable distribution of tax payments. In summer 2004 the Bureau did petition the State Assembly for authorization to obtain data from check cashing institutions and four other sources (Exhibit 2).

Even though the INC system was able to aggregate a broad range of data, the CFTB still had to be careful about when it could be used. The Bureau needed to establish a reasonable basis for looking into a person's finances, thanks to federal and state privacy laws such as California's Information Practices Act of 1977. California prohibits the use of "economic reality" audit techniques; an individual cannot be audited merely because s/he owns an expensive house or automobile (it is interesting to note that in some countries, such as Australia, owners of certain high-end automobiles can be targeted for tax audits—see McKenna, 2007). The Bureau must have a reasonable basis (similar to "probable cause" for conducting search warrants) for investigating the veracity of a taxpayer's claims. If, for example, an individual claims only \$50,000 in income, yet pays out nearly \$50,000 per year in property taxes, there is a reasonable basis to question the reported income. However, Bureau managers are unclear as to what specific rules to set in the INC system to guide such investigations. Hence, it is clear that a significant difference prevailed between what the citizenry and various governmental stakeholder groups considered appropriate use of the aggregated, secondary data in the INC system.

Discussion and Recommendations for Practice

Other states have begun to explore the development of systems similar to INC. It is interesting to note that in 1984, the US Internal Revenue Service conducted a pilot project, in which it attempted to rent commercial mailing lists to identify individuals who underpaid their taxes (Zahn 1995). The program was cancelled as the result of a public backlash, again demonstrating the ethical conflict between individual privacy and government's obligation to assess taxes fairly and equitably. One significant issue from both INC and the IRS example concerns the inability of the individual to choose whether to provide personal information to the government (Culnan and Bies, 2003; Regan, 1995). One can choose not to purchase goods over the Internet in order to protect information privacy; one does not have the same option when it comes to obtaining a professional license or registering a car. Thus, it is imperative that government bodies weigh the legal and ethical implications of post-hoc reuse of data collected for another, mandatory purpose against the financial benefits that would accrue.

As illustrated in Exhibit 2, Bureau managers routinely evaluated potential new data sources in terms of financial costs and benefits. However, they apparently did not fully incorporate the citizens' privacy concerns in assessing the costs and benefits. This is particularly important as indirect income indicator data were used to make questionable inferences, and while many of the data sources consisted of public records, they nonetheless represented an incompatible use of that information.

Further, the agency violated the "representation principle," which proposes that the claims of all key stakeholders should be represented (Introna and Pouloudi 1999). This suggests that in fact government agencies will achieve better outcomes by performing a stakeholder analysis than they would by using other management approaches such as focusing solely on financial costs and benefits as was the case here, and this is consistent with prior research (e.g. Flak and Rose, 2005). What is particularly notable here is that a failure to consider stakeholder interests in developing e-government applications that raise privacy issues can present serious roadblocks to implementation.

One way to represent the concerns of key stakeholders and to subsequently avoid a backlash is to conduct a privacy impact assessment (PIA) early in the process. A PIA is a risk management tool used to assess the privacy implications of new information systems. The goal is to ensure that systems are consistent with fair information principles related to what information is being collected or acquired and how it will be used, data quality, user access to their personal information, and ensuring appropriate controls are implemented to avoid unauthorized access. The E-Government Act of 2002 mandates US federal agencies to conduct a PIA for all electronic information systems and to make the results available to the public. Had the Bureau conducted a PIA assessment before it started to make use of the shared data, they might have made different choices about the sources or data they used, or adopted rather different tactics in communicating with citizens.

Conclusions and Suggestions for Further Research

In this case study, several key stakeholder groups are identifiable: California citizens (who can be segmented into different groups, such as self-employed individuals, employees, and various occupational groups), the California Franchise Tax Board, legislators, financial and non-financial state agencies, federal agencies, non-financial corporations, financial institutions, and

small businesses. Here we focused primarily on three stakeholder categories: citizens for whom data privacy is a major consideration, the CFTB, who values the public good derived from the system, and other governmental entities, whose goals, information systems and processes do not always coincide with the CFTB.

Just as businesses seek to improve their operations by sharing data across organizational boundaries, government agencies are setting up inter-agency data sharing arrangements to benefit the public good. However, interorganizational data sharing and data mining give rise to new privacy concerns by taxpayer stakeholders. The INC system proved to be a “gold mine” for the Bureau to identify new tax income for the state, taxes which would enhance the fairness and equality of an already burdened taxpayer base. But compliance managers at the CFTB faced the challenge of acting on data which was of questionable quality due to shortcomings in others’ systems, and because data were used in ways other than originally intended.

Clearly, there are many research questions that remain to be answered about the tradeoffs inherent between privacy and the public good and the ways public organizations can make effective decisions that address competing values held by key stakeholders. Reuse of personal information, even when such information is in the public domain, raises privacy issues that are unique to e-government applications. There is a need for further research on how to represent the competing claims of key stakeholders around these complex issues. Studies of e-government may benefit from lessons learned from the privacy challenges private sector organizations face. Although e-government is a relatively young field, it has much to gain from the emerging body of empirical research examining how stakeholder theory improves outcomes across a range of applications and cultures.

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REFERENCES

1. Culnan, M.J. and R.J. Bies. (2003) Consumer privacy: Balancing economic and justice considerations. *Journal of Social Issues* 59(2): 323-342.
2. Erard, B. and Ho, C.-C. (2001) Searching for ghosts: who are the nonfilers and how much tax do they owe? *Journal of Public Economics* 81(1): 25-50, July.
3. Fedorowicz, J., Gogan, J. L., & Williams, C. B. (2006) The challenge of interagency integration: Lessons learned in five eGovernment cases. Washington, DC: IBM Center for the Business of Government Monograph.
4. Flak, L.S. and Rose, J. (2005) Stakeholder governance: Adapting stakeholder theory to e-government. *Communications of the AIS* 16: 642-664.
5. Freeman, R. E. (1984) Strategic management: a stakeholder approach. Boston: Pitman.
6. Greenaway, K.E. and Chan, Y.E. (2005) Theoretical explanations for firms’ information privacy behaviors. *Journal of the AIS*, 6(6):171-198, June.
7. Introna, L. and Pouloudi, A.. (1999) Privacy in the information age: Stakeholders, interests, and values. *Journal of Business Ethics* 22(1): 27-39, October.
8. Mason, R.O. (1995) Four ethical issues of the information age. *MIS Quarterly* 10(1): 4-12.
9. McKenna, M. (2007) Data mining hits luxury cars. *Australian IT*, August 24. Online at www.australianit.news.com.au/story/0,24897,18855525-15306,00.html
10. McCrohan, K.F. (1989) Information technology, privacy, and the public good. *Journal of Public Policy and Marketing*, 8(1): 265-278.

11. Mitchell, R. K., Agle, B.R., and Wood, D.J. (1997) Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts. *Academy of Management Review* 22(4): 853 – 888.
12. Regan, P.M. (1995) Legislating Privacy: Technology, Social Values, and Public Policy, University of North Carolina Press, Chapel, NC.
13. Russell, R..(2006) GAO: Reforming the tax system will close tax gap. *WebCPA*, September 4. Online at www.webcpa.com/article.cfm?articleid=21721&pg=tax&print=yes
14. Scholl, H.J. (2001)Applying stakeholder theory to e-government. *IFIP Conference Proceedings* 202: 735-748.
15. Scott, M., Golden, W. and Hughes, M. (2004) Implementation strategies for e-government: A stakeholder analysis approach. *Proceedings of the Twelfth European Conference on Information Systems*, Turku, Finland.
16. Smith, H.J. (2004) “But what’s the ‘right thing’”? Ethics and information systems in the corporate domain. *MIS Quarterly Executive*, 3 (2): 105-115.
17. Smith, H. J. and Hasnas, J. (1999) Ethics and information systems: The corporate domain. *MIS Quarterly* 23(1): 109-127, March.
18. Solove, D.J.(2006) A taxonomy of privacy. *University of Pennsylvania Law Review* 154(3): 477-599, January.
19. Strauss, A. and Corbin, J. (1998) *Basics of Qualitative Research: Grounded Theory Procedures and Techniques* (Second Edition). Sage.
20. Tan, C.W., Pan, S.L. and Lim, E.T.K. (2005) Managing stakeholder interests in e-government implementation: Lessons learned from a Singapore e-government project. *Journal of Global Information Management* 13(1), January.
21. Zahn, M. Electronic Footprints. (1995) *Milwaukee Sentinel*, January 16. Online at: http://findarticles.com/p/articles/mi_qn4208/is_19950116/ai_n10181269/print
22. Zhang, J., Dawes, S.S. and Sarkis, J. (2005) Exploring stakeholders’ expectations of the benefits and barriers of e-government knowledge sharing. *Journal of Enterprise Information Management* 18(5): 548-567.

Exhibit 1 Nonfilers Detected Through the INC System (latest data available)

Source: http://www.ftb.ca.gov/aboutFTB/taxpayer_advocate/2006_BillRightsAnnRpt.pdf

Fiscal Year	Notices of Proposed Assessment Issued	Returns Filed¹	Total Assessments (in millions)²
2000/2001	87,647	99,376	\$ 261
2001/2002	294,216	151,102	\$ 1,669
2002/2003	594,212	258,629	\$ 4,122
2003/2004	499,602	252,103	\$ 2,986
2004/2005	528,856	248,766	\$ 2,115
2005/2006	509,066	195,034	\$4,140

Notes:

1. The system tracks nonfiler accounts from issuance of the demand for a return until account resolution
2. Total assessments include tax, penalties, fees, and interest.

Exhibit 2 Expected Value of Indirect Income Indicator Data Sources

Proposed Source	New Taxpayers¹	Expected Value²	Explanation of Indicator
City Business Tax	14,287	\$1,271,543	Self-employed in cities with license
Community Care Licensing	4,312	\$ 866,712	Self-employed care facility providers
Alcoholic beverage control	3,569	\$ 717,369	Self-employed seller of liquor/wine
Motor fuel data	1,664	\$ 334,866	Self-employed truckers

Notes:

1. "New taxpayers" are non-filers identified via this source.
2. Example calculation for Community Care Licensing:

The California Department of Social Services licenses more than 88,000 care facilities for children, adults, and the elderly. Applying the typical self-employed non-filer rate of 4.9% X 88,000 = 4,312 contracts X \$201 taxes owed = \$866,712.