SUPPORTING STATEMENT - PART B for

OMB Control Number 0584-[NEW]:

Understanding the Anti-Fraud Measures of Large SNAP Retailers

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B.1 Respondent Universe and Sampling Methods

Describe (including a numerical estimate) the potential respondent universe and any sampling or other respondent selection method to be used. Data on the number of entities (e.g., establishments, State and local government units, households, or persons) in the universe covered by the collection and in the corresponding sample are to be provided in tabular form for the universe as a whole and for each of the strata in the proposed sample. Indicate expected response rates for the collection as a whole. If the collection had been conducted previously, include the actual response rate achieved during the last collection.

Rationale for Definition of Universe and Sample Units

This study is an exploratory and descriptive study of the systems used by the 35 largest SNAP retailers to reduce fraud, not a study of all SNAP stores or chains. It is a study that seeks to gain an understanding of the presence and influence of loss prevention systems on reducing SNAP fraud, as well as any that are specific to SNAP fraud. Large SNAP retailers are defined as a specific segment of the SNAP authorized store population—large chains that are likely to have sophisticated loss prevention systems.

Recent FNS statistics indicate that four types of stores account for almost 93 percent of all SNAP redemptions—superstores, supermarkets, convenience stores, and combination/other stores.

Table 1: Number of Firms and SNAP Redemptions for Superstores, Supermarkets, Convenience Stores and Combination/Other Stores

Type of Store	Total Firms Authorized	Percent of Firms	Redemption Amount	Percent of Retail Redemptions
Superstore	19,405	7.6%	$34,337,302,850	51.9%
Supermarket	17,180	6.7%	$19,687,954,131	29.8%
Convenience Store	117,591	45.9%	$3,737,586,325	5.6%
Combination Grocery/Other (e.g., gas station, drug store)	57,002	22.3%	$3,568,751,566	5.4%
Total Large SNAP	211,178	82.5%	$61,331,594,872	92.7%

Type of Store	Total Firms Authorized	Percent of Firms	Redemption Amount	Percent of Retail Redemptions
Retailers				
Total SNAP Retailers	255,931	100.0%	$66,170,002,319	100%

Source: SNAP Retailer Management Year-End Summary: Fiscal Year 2016 At A Glance, p.2. Accessed February 6, 2016 at https://www.fns.usda.gov/sites/default/files/snap/2016-SNAP-Retailer-Management-Year-End-Summary.pdf

A chain refers to a set of stores that have the same store name (brand) and are owned, franchised or cooperatively/affiliated with the same corporation. Some chains can be a set of stores that were formerly independent or owned by another company, and were bought by a second company, but retain the store name (and perhaps some management practices) of the former chain owner. For instance, Albertsons acquired Safeway, completing a merger in January 2015. The Kroger Company owns more than 20 chains, including Kroger's supermarkets, convenience stores and combination/other stores.

Based on case study site visits to 9 large firms in 2016, the study team learned that loss prevention policies and practices can vary between chains belonging to a single corporate owner, depending on the degree of standardization the current corporate owner chooses to exert or the degree of integration that has occurred. Given the variations in how a company manages its chains, it is burdensome and complicated for a parent company to address loss prevention in all of its chains. The company survey asks parent companies to describe how their systems prevent loss and theft in one of their large chains that participates in SNAP. The store survey asks about loss prevention in a sample of the company's stores.

The researchers conducted a preliminary analysis of the FNS Store Tracking and Redemption System (STARS) database associated with OMB Control No.: 0584-0008, Expiration Date: TBD (currently at OMB under review), (as of October 4, 2015) to help define

the universe. The preliminary analysis revealed that companies that own chains of stores do not have unique identifiers in the STARS database, which makes it difficult to link all stores to a parent company. The analysis conducted to date included aggregating stores into chains by matching on name and address of the owner and by name of the store. These activities have been sufficient to make a reasonable determination of the chains with the most SNAP stores and with the most SNAP redemptions.

FNS' most recent published research on SNAP retail fraud[1] found that small independently-owned stores account for only 15 percent of SNAP redemptions, but are responsible for 85 percent of retail SNAP fraud. Therefore, it is of interest to study the companies that have affiliations with independent stores. The study universe includes large SNAP chain-affiliated stores that are independently owned. The corporate affiliate provides loss prevention services to their member stores that are believed to be similar in sophistication to those provided by other large SNAP chains in which stores are not independently owned. The loss-prevention services provided to independent stores are of interest because they may have potential for broader application to other independent stores. Affiliated stores are primarily supermarkets, but can fall into any of the four FNS store types.

The analysis of STARS identified the following list of Large SNAP chains classified according to FNS-designated store types that constitute the study universe (see Table 2). This universe will be updated prior to data collection, to assure that it includes the largest chains that are willing to participate in the study.

[1] Available at: https://www.fns.usda.gov/sites/default/files/trafficking2009.pdf

Table 2: Study Universe of the 35 Largest SNAP Retailers

Types of Stores					
Number	Large Convenience Store Chains	Large Combination Other Chains	Large Super Store Chains	Large Supermarket Chains	Large Independent Chains with a Corporate Affiliation
1	7-Eleven	Dollar General	Walmart	Kroger	ShopRite/Wakefern*
2	Circle K	Family Dollar	Target	Publix	IGA Stores
3	Big Lots	Walgreens	Big Kmart	Safeway	
4	Casey's General Store	CVS	Costco	Aldi	
5	QuickTrip	Rite Aid	Sam's Club	Stop & Shop	
6	Wawa	Dollar Tree		Food Lion	
7	Cumberland	Speedway		Save A Lot	
8	Sheetz	Kangaroo		Winn Dixie	
9	Stripes			Albertsons	
10				Trader Joes	
11				Piggly Wiggly	
Total Chain Sample	9	8	5	11	2

Note: Mergers, acquisitions and economic trends can affect the members of the universe. Wakefern is a cooperative whose members own and operate more than 250 ShopRite supermarkets across New Jersey, New York, Connecticut, Delaware, Pennsylvania and Maryland. Additionally, ShopRite Supermarkets, Inc., a wholly owned subsidiary of Wakefern Food Corp. operates 33 stores in NY and NJ. Wakefern recently acquired several Fresh Grocer stores (http://wakefern.shoprite.com/retail/shoprite/, accessed 2/6/2017). Wakefern offers loss prevention and other services to all stores in the cooperative, including stores it owns and stores owned independently.

The chains that make up the universe accounted for more than half of SNAP redemptions in 2014 in the selected store types (convenience, combination, super store, and supermarket (including independent supermarket chains), and they made up nearly half of all SNAP store redemptions in 2014. Further, the distribution of these chains by store/chain type is similar to the distribution of chains in each FNS-defined category, as shown in Table 3 below.

Table 3: Proportion of SNAP Redemptions by Store Types and Study Populations

Store/Chain Type	Percent of Redemptions by Store Types in SNAP Population	Percent of Redemptions by Store Types in Study Population
Convenience	5.2%	2.0%
Combination	7.2%	6.7%
Superstore	51.2%	50.8%
Supermarket*	36.4%	40.5%
(Independent) Supermarket	1.6%	4.3%
Total Percent of Store Types	100.0%	100.0%
Percent of All SNAP Redemptions by These Store Types Included in Sample	N/A**	50.9%
Percent of Total SNAP Redemptions by All Types of Stores Accounted for by These Types of Stores/Chains	95.2%	48.0%

Source: Analysis of STARS; 2014 redemptions; authorized stores as of 10/04/2015.
*Redemptions by the two largest independent supermarket chains account for 1.6 percent of all SNAP redemptions and 4.3 percent of the study population redemptions. Note that because the (Independent) supermarkets chains fall under authorization criteria, the percentages overlap with other store types.

**This row pertains to the sample, not the population, so a population percentage is not applicable. The percentage of interest is in the next column which shows that the sample includes 50.9 percent of the redemptions by the 5 store types of interest, and the row below shows that the sample contains 48 percent of all SNAP redemptions.

Anticipated Survey Response

This is an exploratory survey of large businesses at the company and store levels, and response is voluntary. The most recent FNS survey of SNAP retailers involving farmers' markets and direct marketing farmers achieved response rates of 51.8 for non-authorized farmers' markets and 77.4 percent for farmers' markets authorized to redeem SNAP. However, because of the substantial differences in the types of retailer that will be used for the current study, the farmers' market study may not be a good indicator of expected response rates for this study.

Initially the study researchers sought to recruit four (4) large companies and five (5)

stores to participate in pretests. The four (4) companies contacted yielded one (1) completed company pretest, and the five (5) stores contacted indicated that they could not complete the surveys without parent company authorization. Subsequently, the five (5) parent companies of the selected stores were contacted to request authorization for their stores to participate in the pretest. That effort yielded one (1) completed store pretest. The National Grocers Association (NGA) was enlisted to aid in recruiting. NGA contacted another company and that company and one of its stores completed one (1) company and one (1) store pretest survey. In total ten (10) companies and five (5) stores were contacted. Out of the three (3) companies that chose to participate, a total of four (4) respondents completed the pretest surveys and six (6) did not. The pretest, along with separate case study site visits to nine (9) companies in 2016, revealed that companies view SNAP primarily as a form of tender, and do not manage SNAP as a separate program. Consequently, SNAP is not a priority at the corporate level. Consistent with FNS's findings that large chain stores do not experience high rates of SNAP fraud, large SNAP retailers do not view SNAP fraud as an issue of importance because it is not common in their stores.

Since only three of 10 companies contacted cooperated with survey pretests, it is anticipated that the response rate from the universe of companies could be as low as 30 percent. This exploratory study will rely on the company contacts of the University of Florida and its affiliated Loss Prevention Research Council to encourage response, in conjunction with the traditional procedures used to increase responses. These are described in more detail in section B.3.

B.2 Procedures for the Collection of Information

Describe the procedures for the collection of information including:

- **Statistical methodology for stratification and sample selection,**
- **Estimation procedure,**

- **Degree of accuracy needed for the purpose described in the justification,**
- **Unusual problems requiring specialized sampling procedures, and**
- **Any use of periodic (less frequent than annual) data collection cycles to reduce burden.**

a. Statistical methodology for stratification and sample selection

Sample Design

Including the 10 pretest respondents, this study uses a defined universe of 45 Large SNAP companies and a sample of their stores. The store sample seeks to include 2,000 stores owned or affiliated with the company universe, to provide diversity among store respondents.

Store Sample Size and Stratification

The target store sample size is set at 2,000 stores to be drawn from the 83,858 stores in the 35 chains. Site visits and pretests revealed that if a company agrees to participate in the study and authorizes a store to complete the survey, the store will complete the survey.

Within type of store and chain, these additional variables will be considered for stratification:

1) Geographic diversity indicator, such as FNS region or Census region.
2) Level of urbanization, derived from zip code of the store.
3) Size of store, measured as number of registers.
4) Value of redemptions, which may or may not overlap with the number of registers.

The ratio of redemptions to cash registers could provide an indication of the centrality of SNAP to the store's total revenues, relative to other stores in the sample.

Fall 2017 STARS data will be reviewed for the sampled chains relative to candidate stratification variables, and we will recommend the strata that appear to add value. Our

recommendation will be a subjective judgment based on the variability of the stores on these factors. After the strata are selected, the sample itself will be drawn, sorting it by a set of random numbers.

b. Estimation procedures

After the final allocation, the initial weight for each store would be the number of stores in the stratum divided by the number of sampled stores (N_s/n_s). Assuming an equal propensity to respond within a stratum, and n_s as the number of respondents in the stratum, then N_s/n_s would be a reasonable weight for each store. However, it is quite possible that companies may not allow all sampled stores to respond or could suggest alternate stores. There are several possible adjustments that can be applied to account for what is in effect differential nonresponse. Only after an examination of the data can the advisability of each method be determined.

The first step is to determine if any nonresponse adjustments are necessary. This can be established by determining if there are variables correlated with both which stores are permitted to respond and the response that is given. Adjustments would not be necessary if the variables are already part of the sampling design. Given that variables available from STARS are likely to be part of the design, it is unlikely that adjustments will be needed.

However, if adjustments are necessary, one method is the use of propensity scores. Using logistic regression with store characteristics as predictors, the propensity of each store to respond can be established. Then the sample can be seen as a two-stage sample, with the first stage being the selection of stores from the respective strata with probability equal to ns/Ns and the second seen as the actual decision to respond, which is assigned the propensity score emerging from the logistic regression.

One easy procedure to evaluate the nonresponse adjustments is to select some variables available in the STARS database and both calculate population values from the STARS database and estimate them from the sample using adjusted weights.

If there were no nonresponse adjustments, variance estimates could be calculated using the standard formula for a stratified random sample. However, the use of nonresponse adjustments means unequal weights within stratification cells. That makes the use of a jackknife procedure ideal for the estimation of variances, means, proportions and totals. Medians and other percentiles can be estimated using a bootstrap.

c. Degree of accuracy needed for the purpose described in the justification

The purpose of this study is to increase understanding of the measures taken by large retailers to avoid fraud and SNAP fraud in particular. This is an exploratory, descriptive study whose major purpose is increasing the understanding of the range of procedures in use and their potential for helping FNS reduce and prevent SNAP fraud. Accuracy is important given the purposes of the study, but it is not critical as would be for a study used for purposes such as benefit estimation or fraud estimation.

The companies selected are defined as the 35 largest SNAP retailers in four store types, and therefore the corporate responses are not subject to sampling error. The study does not seek to make statistical estimates to any other companies beyond these largest retailers. Despite the absence of estimates to the entire population, this study's results are useful to FNS beyond the sampled companies for the following reasons. These companies influence about half of SNAP redemptions. Consistent practices among the sampled largest retailers may be generalizable to other retailers based on expert judgment, and could be informative to FNS in developing

guidance for other retailers. Inconsistent practices could indicate that large retailers use a range of processes that they find to be effective in controlling losses. It could also indicate the maturation of retailers' systems. Some retailers may be using emerging practices (e.g., sophisticated central office "command centers" generating company-customized analytics combined with video in real time); some may be using intermediate practices (e.g., standardized exception reports developed typically by a third-party vendor and run on a fixed schedule) while others may be using traditional practices (e.g., investigation based on the observations of in-store LP staff). Through this analysis, FNS would become aware of the spectrum of possibilities, including emerging practices.

The store sample, however, is subject to sampling error. The sample is designed to obtain 400 respondent stores for each store type. The sample is stratified, and the allocation to each stratum is proportional to the stratum size after adjusting for the heterogeneity of the stratum. As a result, the design effect would be less than 1.0 if nonresponse adjustments were not necessary. If this was a random sample of 400 stores from a very large population, an estimate of the percentage of stores following a certain practice would yield a 95% confidence interval of plus or minus five percent. The stratified design presented here will necessarily improve the precision, as it will oversample strata with larger variances, so if there were no weight adjustments or differential nonresponse, the 95/5 estimate would be a worst-case scenario.

This figure, however, can be affected differentially by two factors—the fact that the population of stores is finite, and nonresponse can affect precision. If the finite population correction is applied to the precision estimates, the confidence interval will be smaller. Alternatively, differential nonresponse leads to weight adjustments that could increase the confidence intervals and reduce precision. The two factors should offset each other, so it is

reasonable to expect point estimates with a precision close to that of a random sample of four hundred stores taken from an infinite population.

Another analytic purpose, beyond point estimates, is to determine if there are significant differences in the proportion of stores following a certain practice by type of store. With an effective sample size (i.e. a sample with the same precision of a random sample of 400) we could establish significance if there were a difference of ten percentage points (e.g. 45% for one type and 55% for another) with a 5% level of precision and 80% power (i.e. beta=.80).

It is important to remember that this is an exploratory study. Although the researchers conducting this study seek the most statistical rigor possible, the actual results are dependent on cooperation from large SNAP retailers who are not required to respond to this study.

d. Unusual problems requiring specialized sampling procedures

The absence of a linkage between stores and company ownership or affiliation in FNS STARS data prevents the development of a broader universe of large SNAP retailers. Given the purpose of the study, full development of the universe is not needed and the project objectives can be met with the specified universe of companies and sample of stores.

e. Any use of periodic (less frequent than annual) data collection cycles to reduce burden

This is a one-time data collection.

B.3 Methods to Maximize the Response Rates and to Deal with Nonresponse

Describe methods to maximize response rates and to deal with issues of non-response. The accuracy and reliability of information collected must be shown to be adequate for intended uses. For collections based on sampling, a special justification must be provided for any collection that will not yield "reliable" data that can be generalized to the universe

studied.

Approach to Recruiting Retailers

There are two levels of response encouragement—first, the context for the study, and second, proven methodological approaches to achieve desired response rates.

Contextual Response Enhancement Procedures. The magnitude of the SNAP program, its effect on corporate revenues, and corporate interest in loss prevention provide the context for some level of corporate interest in this study. Although there is interest, it is not a guarantee that all selected retailers will participate fully in the study. The following approaches will/have been used to generate awareness and interest:

- A roundtable discussion on SNAP fraud was conducted with six large retailers at the October 2015 UF and Loss Prevention Research Council's (LPRC's) Annual *Impact* Conference. The announcement for the roundtable was made at a general session, making all LPRC attendees aware of the study. Three case study respondents were recruited at the 2016 UF/LPRC Conference. UF will also feature the study and encourage company participation at the 2017 Loss Prevention Research Council's Annual *Impact* Conference.
- The Food Marketing Institute and the National Grocers Association have been contacted to encourage their members to respond. The Food Marketing Institute has indicated support for the study but has not agreed to provide a letter of support. The National Grocers Association (NGA), the national trade organization representing retail and wholesale grocers in the independent sector of the food distribution industry, stated that they would support the study and encourage their members to respond via its communications with members. NGA arranged for one of its members to participate in the pretest.

General Response Enhancement Procedures**.** The planned response enhancement procedures that will be used in this study are based on the Dillman method:[2]

- Personalized company pre-notification letters from FNS for companies and stores that underscore the importance of the study (Appendix D1: FNS Survey Pre-Notification for

[2] Dillman Donald A. Mail and Internet Surveys: The Tailored Design Method. Second Ed. John Wiley & Sons. New York. 2000.

Company Representatives and Appendix D2: FNS Survey Pre-Notification for Store Managers)

- Engagement of companies (through their shared interest with FNS in preventing fraud and theft) to participate in the study (Appendix D3.1: Company Recruitment Call Script)
- Request for store authorization to participate by a company referral, used when original contact does not have authority to approve store participation (Appendix D3.2: Company Referral Call Script)
- Facilitate corporate authorization of store participation by providing suggested text companies could use to authorize store managers to complete the survey (Appendix D3.2: Suggested Text for Company Authorization of Stores)
- Announce the surveys and provide Internet access and instructions (Appendices D3 and D4: Company and Store Survey Announcements)
- Follow-up reminders dispatched weekly for four weeks to non-responding companies and stores (Appendices D5 and D6: Company and Store Survey Reminder Emails)
- For nonresponders who receive four email reminders, telephone follow-up with option for completing surveys by phone (Appendices D7 and D8: Company and Store Survey Nonresponder Call Scripts)
- Caller training for company recruitment and for nonresponders who have received the four email reminders (Appendix E: Call Training Description)
- FSRC toll-free number for respondents with questions
- Locating efforts using STARS contact information

The pre-notification letter carries the USDA imprimatur and USDA/FNS sponsorship of the survey to help engage sample members and to provide immediate assurance that the survey and the contractor are legitimate. It explains the purpose of the study and the reason they are being asked to participate. The letter includes the estimated completion time of the survey, and assurances of privacy. According to research on survey methods, the likelihood of acceptance is increased when sample members are told early why the survey is being conducted and why their

responses are important.[3]

B.4 Test of Procedures or Methods to be Undertaken

Describe any tests of procedures or methods to be undertaken. Testing is encouraged as an effective means of refining collections of information to minimize burden and improve utility. Tests must be approved if they call for answers to identical questions from 10 or more respondents. A proposed test or set of tests may be submitted for approval separately or in combination with the main collection of information.

Initially, five (5) companies were selected from the universe of large SNAP retailers to pretest the company survey and four (4) stores in four (4) more companies were selected to pretest the store surveys. One (1) company pretest survey was obtained and four (4) companies did not participate. Stores would not complete the pretest with corporate approval. One (1) store completed the pretest after the parent company authorized participation and three (3) stores did not participate because their parent companies did not respond or refused to authorize participation. The National Grocer Association was enlisted to contact a tenth company to participate in the pretest, and both that company and one of its stores completed pretest surveys. The pretest yielded a total of two (2) company and two (2) store pretests out of 10 companies contacted. The Company and Store pretest surveys are shown in Appendices F1 and F2, respectively.

Completers included one superstore (store survey), one supermarket (company survey) and one independent grocery chain (both company and store surveys). Refusals included a superstore, a supermarket, convenience stores and combination/grocery stores.

The pretest found that survey language and organization are clear and understandable to target recipients. Companies and stores indicated that they considered some items pertaining to

[3] "Research has shown consistently that a pre-notice will improve response rates…" He provides several citations to support his statement. (Dillman, 2000, p. 156.)
"The second important message of the letter explains why the action requested (participation in the survey) of the recipient is useful and important." (Dillman, 2000, p. 161).

their staff to be company confidential and/or difficult to obtain. Items that asked about the number of staff in various LP functions were originally asked to operationalize the priority given to those functions. The operationalization was revised to ask for a percentage estimate of resources devoted to various functions. Questions about how many staff were terminated due to violations of company policy were also dropped; instead, respondents are asked to indicate the types of outcomes that can occur if company policies are violated. Items that requested detailed information on how store associates are trained in SNAP were also dropped because LP respondents are not involved in (and therefore are not knowledgeable about) general staff training. These revisions, plus deletions made by FNS to remove items on topics that FNS policy cannot affect (such as company structure and organization, and staffing levels) shortened the surveys and reduced respondent burden.

Both company and store respondents said that the pretest survey took an hour to obtain information and an hour to complete. The deletion of items is estimated to reduce completion time to 45 minutes for companies. The store completion time is estimated to take 45 minutes because the pretest showed that if company approval for stores to participate is obtained in advance, store managers do not need to spend time seeking corporate authorization to participate. FSRC's initial contact with companies (see Appendices D3, D3.1 and D3.2) will ask for corporate approval for sampled stores to participate.

The instruments were revised based on reviews by the Economic Research Service (ERS), the FNS Planning and Regulatory Affairs Office (PRAO) and the National Agricultural Statistical Service (NASS) prior to submission to OMB. Revisions included correcting wording discrepancies between stem and response choices, re-stating two questions to increase precision, and clarifying instructions.

B.5 Individuals Consulted on Statistical Aspects & Individuals Collecting and/or Analyzing Data

Provide the name and telephone number of individuals consulted on statistical aspects of the design and the name of the agency unit, contractor(s), grantee(s), or other person(s) who will actually collect and/or analyze the information for the agency.

Individuals who contributed to or commented on the survey, sample frame, statistical methods or other aspects of the collection:

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