PRICE CHECK II

A Follow-up Report on the Accuracy of Checkout Scanner Prices

A Report by the Staff of the Federal Trade Commission
and the U.S. Department of Commerce's National Institute of Standards and Technology

Based on Inspections by Weights and Measures Officials in Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Iowa, Idaho, Indiana, Kansas, Kentucky, Louisiana, Maine, Maryland, Michigan, Minnesota, Missouri, Montana, North Carolina, New Hampshire, New Jersey, Nevada, Ohio, Oklahoma, Pennsylvania, South Carolina, Tennessee, U.S. Virgin Islands, Utah, Vermont, Washington, and West Virginia

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This Report represents the views of the staff of the Bureau of Consumer Protection and Bureau of Economics. It does not necessarily represent the views of the Federal Trade Commission or any individual Commissioner.

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Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Iowa, Idaho, Indiana, Kansas, Kentucky, Louisiana, Maine, Maryland, Michigan, Minnesota, Missouri, Montana, North Carolina, New Hampshire, New Jersey, Nevada, Ohio, Oklahoma, Pennsylvania, South Carolina, Tennessee, U.S. Virgin Islands, Utah, Vermont, Washington, and West Virginia

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Executive Summary

This report is the result of an initiative by federal, state and local officials to monitor pricing accuracy and to ensure that consumers are

charged the correct price at checkout. It is a follow-up to a 1996 study of the accuracy of prices in stores with electronic checkout scanners. In both studies, state and local inspectors compared scanned prices with the lower of the posted or advertised price of a sample of randomly selected items in food, department, mass merchandise, drug, hardware, and other stores.

The 1998 study shows higher pricing accuracy compared to the 1996 study, but continues to show that there is considerable room for improvement in some retail chains and a number of individual stores. The 1998 study, conducted by state and local officials in 37 jurisdictions, was five times larger than the 1996 study, conducted by inspectors in seven jurisdictions.

Highlights from the 1998 study

- Some stores have achieved outstanding pricing accuracy. In 43 percent of the inspections, no price errors were found.
- Most stores have acceptable pricing accuracy: 71 percent of the inspections "passed," that is, at least 98 percent of the items checked were correctly priced. This is the level of acceptability adopted by most states and used in this study. In the 1996 study, only 45 percent of the inspections "passed."
- Some stores have pricing accuracy problems: 29 percent of the inspections did not pass, that is, less than 98 percent of the items checked were correctly priced. In these inspections, an average of 91 percent of the items checked were correctly priced.
- Among the types of stores inspected, food stores were the most likely to have acceptable pricing accuracy, while hardware stores were the least likely to have acceptable pricing accuracy.
- Wide variations were found in pricing accuracy from chain to chain and store to store. This was also found in the 1996 study.
- One of every 30 items checked was mispriced. Half of these errors were undercharges and half were overcharges. A total of 107,096 items were checked. In the 1996 study, one of every 21 items checked was mispriced. Slightly more than half of these errors were undercharges and the remainder were overcharges. A total of 17,928 items were checked.
- Each undercharge averaged $5.28, and each overcharge averaged $3.20. In the 1996 study, each undercharge averaged $2.96, and each overcharge averaged $3.02.

1998 Comparison of Pricing Accuracy Rates for "Sale" versus "Non-Sale" Items

The 1998 study examined whether there was a difference in pricing accuracy between sale and non-sale items. The study found that pricing errors occurred slightly more frequently for sale items than non-sale items. The results also showed that overcharges were more prevalent for sale items than non-sale items.

- For sale items, pricing errors were found in one of every 28 items checked. Almost two-thirds of the errors found were overcharges; the remainder were undercharges.
- For non-sale items, pricing errors were found in one of every 32 items checked. Slightly more than one-third of the errors found were overcharges; the remainder were undercharges.

Why do pricing errors occur?

With most stores offering thousands of items for sale, some scanner pricing errors are inevitable. Store employees maintain shelf tags and signs throughout the store, with errors occurring when prices on shelf tags and signs are not updated to match the prices in the store's computer. Errors also can occur when prices in the store's computer are not updated in a timely and correct fashion or when inaccurate prices are included in store advertising.

In this study, inspectors tried to identify the causes of the pricing errors found during the inspections. Inspectors shared their findings with store personnel, asked about the cause of the errors, and included this information in their inspection reports. Inspectors found that pricing errors on sale items resulted from numerous problems, including incorrect shelf and item prices, incorrect sign prices, out-of-date signs, and incorrect prices in the computer. For errors on non-sale items, incorrect shelf and item prices were largely responsible. Although no one cause was found, the findings suggest that, for sale items, all pricing locations must be checked rigorously to ensure the correct price is listed everywhere, and retailers need to pay more attention to shelf and item prices.

What is the impact of pricing errors?

Whatever the cause, scanner pricing errors adversely affect retailers and consumers. A failure to comply with pricing accuracy laws can lead to the imposition on retailers of substantial fines and administrative or judicial orders. Further, retailers lose profits on undercharges and consumers lose money on overcharges. In addition, consumer satisfaction with a retailer can be reduced when consumers detect a problem. Taking the time to bring the error to the store's attention is often inconvenient or not worth the consumer's time, especially when the error is detected after the item has been purchased or the amount at issue is small. Finally, inaccurate posted or advertised prices frustrate consumers' efforts to compare prices.

What can be done to avoid pricing errors?

Because overcharges occurred on both sale and non-sale items, we strongly recommend that consumers carefully compare advertised or posted prices to scanned prices at checkout. Ultimately, however, responsibility for accurate pricing rests with the individual store and its employees. The organizations participating in this study urge retailers to continue to examine and, if necessary, change their pricing practices voluntarily. Federal, state and local officials will discuss ways to coordinate more effectively their efforts to monitor retail pricing

accuracy, and they may take enforcement actions if significant problems are found.

Introduction

This study follows up on a 1996 federal/state study coordinated by the staff of the Federal Trade Commission (FTC) to examine the accuracy of prices in retail stores with electronic checkout scanners. The original project was, in part, a response to concerns about the accuracy of electronic checkout scanner prices. Inspectors in seven states found that, overall, about five percent of prices charged at checkout were incorrect, and that scanner errors may be a significant problem in some individual stores and retail chains.

Compared to the 1996 study, the results of the larger 1998 follow-up study show greater pricing accuracy, which may reflect, in part, growing retailer awareness of consumer and government concerns about pricing accuracy. The 1996 report, which was widely publicized and disseminated by government and industry representatives, focused attention on the adverse effects of scanner errors on both retailers and consumers and why retailers need to take additional steps to improve scanner accuracy.(1) It recommended how retailers can reduce scanner errors.

Part Two of this report provides information about scanner technology. The role of the organizations participating in this study is discussed in Part Three of this report. Part Four summarizes the methodology used in the 1996 and 1998 studies. A summary of the 1996 study results and a detailed analysis of the results of the 1998 follow-up study is included in Part Five. Part Six describes the implications for retailers when they do not have good pricing practices in place and discusses what retailers can do to reduce scanner errors. Part Seven describes steps consumers can take to detect and avoid scanner errors.

Scanner Use

Electronic checkout scanners are in retail stores everywhere. Most everyday items bear a Universal Product Code (UPC). This symbol--a series of numbers and vertical bars of varying thicknesses--is shorthand for product information. When a cashier passes the UPC symbol over an electronic scanner, a computer decodes the symbol, sending the price and other product information to the register. At the same time, the price is shown on a display screen, which is not always visible to customers, and a receipt is printed for the consumer.

For retailers, scanner technology has increased checkout productivity, and has improved sales and inventory records, creating greater efficiencies in reordering and shelf space allocation. The use of checkout scanners also has resulted in lower labor costs because stores no longer have to mark prices on individual items, unless required to do so by state or local law. Consumers have benefitted from faster checkout times and detailed receipts that provide both product and price information.

Electronic scanners can help retailers reduce pricing errors at checkout. Without electronic scanners, the cashier must enter prices manually. A study has shown that manual entry of prices by a cashier resulted in 4 to 16 percent errors in the prices charged to consumers.(2) Nonetheless, even with electronic scanners some pricing errors are inevitable. Store employees still must maintain shelf tags and signs on thousands of items throughout the store. In addition, stores may change prices on hundreds of items each week. When prices in the store's computer are not timely and correctly updated, or shelf tags and sale signs are not changed to correspond to the new computer prices or to new advertised prices, errors can occur. The 1996 and 1998 federal/state studies examine the accuracy of scanner checkout prices and describe why scanner errors occur.

Organizations Participating in this Study

The role and interests of each of the organizations participating in this study are described below.

Bureau of Consumer Protection, Federal Trade Commission

The Federal Trade Commission is a law enforcement agency charged by Congress to protect the public against unfair or deceptive acts or practices and anti-competitive behavior. The FTC's interest in scanner accuracy stems from its role in protecting consumers from deceptive practices. Through its Bureau of Consumer Protection, the FTC has been involved in retail pricing issues for many years. For example, the FTC's Trade Regulation Rule Concerning Retail Food Store Advertising and Marketing Practices, issued in 1971 and amended in 1989, requires food stores to have sufficient supplies of advertised specials on hand to meet reasonably anticipated demand and to sell the advertised special at or below the advertised price. 16 C.F.R. Part 424.

For both the 1996 study and the 1998 follow-up study, staff of the FTC's Bureaus of Consumer Protection and Economics worked closely with federal and state officials in coordinating inspections and collecting and compiling inspection results.

National Institute of Standards and Technology, U.S. Department of Commerce

The Department of Commerce, which has no regulatory authority regarding retail pricing accuracy, participated in this study by assisting in the coordination of inspections and review and analysis of the inspection data. Through its National Institute of Standards and Technology (NIST), the Department helped develop the sampling techniques used in this study.

NIST works to ensure that the U.S. has the measurement and testing technology needed to support free and equitable trade. The Office of Weights and Measures (OWM) in Technology Services at NIST facilitates trade and protects businesses and consumers by promoting uniformity in weights and measures standards, laws and practices among the states. OWM sponsors the National Conference on Weights and Measures (NCWM), a voluntary standards organization of state weights and measures officials and representatives of industry, consumers and federal agencies. NCWM's goal is to achieve uniformity in laws, regulations and test procedures through local adoption of its standards.

In 1995, NCWM adopted the Examination Procedure for Price Verification (NCWM Procedure).(3) The NCWM Procedure sets forth a sampling and inspection procedure that can be used by weights and measures officials to conduct price verification inspections in all kinds of retail stores. Before the NCWM Procedure was adopted, pricing inspection procedures and enforcement practices varied widely from state to state. Currently, 42 states use the NCWM Procedure.(4)

For both the 1996 and 1998 studies, OWM trained the participating jurisdictions in the NCWM Procedure, and worked closely with FTC staff in coordinating inspections and evaluating inspection data. The Information Technology Laboratory at NIST assisted in the review and analysis of the inspection data.

State and Local Agencies

Generally, state and local weights and measures officials have authority to check the accuracy of prices in stores and impose fines for violations of the state weights and measures laws. The state Attorneys General may bring actions based on the state's consumer protection act or business and professions act. In addition, city and county attorneys often bring actions under state and local laws prohibiting price misrepresentations.

In the 1996 study, officials from Attorneys General's offices and weights and measures offices in seven states conducted inspections of scanner pricing accuracy in 294 stores. For the follow-up study, all states were invited to participate. Officials from weights and measures offices and other agencies in 36 states and the U.S. Virgin Islands conducted inspections over a three-month period in mid-1998. The participating jurisdictions were Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Iowa, Idaho, Indiana, Kansas, Kentucky, Louisiana, Maine, Maryland, Michigan, Minnesota, Missouri, Montana, North Carolina, New Hampshire, New Jersey, Nevada, Ohio, Oklahoma, Pennsylvania, South Carolina, Tennessee, U.S. Virgin Islands, Utah, Vermont, Washington, and West Virginia.

Study Methodology

In both the 1996 and 1998 studies, participating jurisdictions conducted price accuracy inspections in retail stores, including food, department, drug, mass merchandise, and hardware stores. Prior to beginning its inspections, each state selected the stores that would be inspected. Although the results of the follow-up study cannot be statistically projected to the U.S. as a whole, the total number of inspections and participating jurisdictions is large and provides a broad view of scanner pricing accuracy.(5)

Inspections in both studies were conducted in accordance with the NCWM price verification procedure. This procedure provides that a pricing error occurs when the price charged for an item at checkout does not agree with the lowest advertised, quoted, posted or marked price. Based on the assumption that some pricing errors are inevitable due to human and other errors, the procedure provides that a store "passes" an inspection if 98 percent or more of the items sampled are priced accurately, rather than requiring 100 percent accuracy. The total error rate--both undercharges and overcharges--is used to determine whether a store should be inspected more often. Higher levels of enforcement, such as state or local fines or penalties, are based only on overcharges.(6)

The NCWM Procedure provides for two sampling procedures for selecting items to be price checked.(7) In the "randomized" procedure, the store is divided into areas (such as departments or sections), and a portion of the total sample is selected from each area using a procedure designed to produce a representative sampling of the area covered. For example, a total sample of 100 items may be selected by dividing the store into four sections and obtaining 25 items from each section. The "stratified" procedure is used to confine the inspection sample to one or more specific merchandise groups, such as seasonal items, advertised specials or end-of-aisle displays. Within the designated merchandise groups, the "randomized" procedure is used to select items to be checked.

For the 1996 study, inspectors used the stratified procedure, with items selected from several merchandise groups. For the 1998 study, inspectors conducted two separate inspections in each store when possible. One inspection focused on sale items, and the second focused on non-sale items. In some instances, sale and non-sale items were included in a single inspection, referred to as a "combined inspection" in this report.

Study Results

The results of the current study are presented below, followed by a summary of the 1996 study for comparison purposes.

1998 Study: Inspection Results

For the 1998 study, inspectors from 36 states and the U.S. Virgin Islands visited 1,033 stores with checkout scanners and conducted 1,776 inspections.(8) The results are reported by type of inspection (sale, non-sale and combined sale/non-sale), type of store, and jurisdiction. Retail stores are divided into six categories: food, department, drug, mass merchandise, hardware (home improvement), and other (including a number of specialty stores and convenience stores). Inspectors visited 303 food stores, 138 department stores, 151 drug stores, 205 mass merchandise stores, 94 hardware stores, and 142 other retail stores.

In the following analyses, Tables I and II provide information about the pricing accuracy and pass/fail results of 1,669 inspections, rather than 1,776 inspections. Because 107 inspections did not fully conform to the NCWM Procedure, they cannot be evaluated as "passing" or "failing" under the NCWM Procedure, and, therefore, have been excluded from Tables I and II.(9) These 107 inspections, however, provide useful information about pricing errors and their causes. Tables III, IV, V, and VI, therefore, include the results of all 1,776 inspections.

Table I

DISTRIBUTION OF INSPECTIONS BY PRICING ACCURACY

	< 90% Accuracy	90-91% Accuracy	92-93% Accuracy	94-95% Accuracy	96-97% Accuracy	98-99% Accuracy	100% Accuracy
% of Inspections*	8%	3%	5%	8%	4%	28%	43%
# of Inspections**	134	53	90	138	66	468	720

* Due to rounding, the sum of the percentages does not equal 100 percent.
** This table is based on the results of the 1669 inspections. It excludes the results of 107 inspections that did not fully conform to the NCWM Procedure.

Table II

PERCENTAGE OF INSPECTIONS THAT "PASS" BY TYPE OF STORE*

STORE TYPE (# of Inspections)		FOOD (515)	DEPT (244)	DRUG (229)	MASS MDSE (354)	HARD-WARE (142)	OTHER (185)	TOTAL (1,669)
Inspections that PASS	%	77%	67%	72%	70%	55%	73%	71%
	#	398	164	164	249	78	135	1,188
Inspections that FAIL	%	23%	33%	28%	30%	45%	27%	29%
	#	117	80	65	105	64	50	481

* This table provides "pass-fail" results for 1669 inspections. It excludes the results of 107 inspections that do not fully conform to the NCWM Procedure.

Tables I and II provide information on the 1,669 inspections that can be evaluated as passing or failing under the NCWM Procedure. Table I shows that 43 percent (720) had an accuracy rate of 100 percent. In other words, no pricing errors were found. An additional 28 percent of inspections (468) had 98 or 99 percent accuracy. Thus, 71 percent of the inspections (1,188 of 1,669) passed inspection with 98 percent or higher accuracy. Another 21 percent of inspections (347) had an accuracy rate between 90 and 97 percent. The remaining 8 percent of inspections (134) had an accuracy rate below 90 percent.

Table II shows that there was some variation in passing rates among the different types of stores. Food store inspections had the highest passing rate (77 percent). Hardware store inspections had the lowest passing rate (55 percent). There was wide variation from chain to chain and within retail categories. Inspection pass and fail results are provided in Appendix A for retail chains.

Table III

PERCENTAGE OF ERRORS: SUMMARY OF RESULTS BY TYPE OF STORE

STORE TYPE (# of Inspections)	FOOD (555)	DEPT (251)	DRUG (253)	MASS MDSE (369)	HARD-WARE (151)	OTHER (197)	TOTAL (1,776)
Total # of Overcharges	447	266	310	297	348	157	1,825
% of Overcharges	1.36%	1.81%	2.11%	1.23%	3.49%	1.44%	1.70%
Total $ of Overcharges	$295.20	$1,964.79	$413.46	$899.07	$1,215.24	$1,052.81	$5,840.57
Average $ of Overcharges	$0.66	$7.39	$1.33	$3.03	$3.49	$6.71	$3.20
Total # of Undercharges	348	379	134	432	273	203	1,769
% of Undercharges	1.06%	2.58%	0.91%	1.79%	2.74%	1.87%	1.65%
Total $ of Undercharges	$254.03	$4,206.21	$167.70	$1,651.28	$1,143.73	$1,916.22	$9,339.17

Average $ of Undercharge	$0.73	$11.10	$1.25	$3.82	$4.19	$9.44	$5.28
Total # of Items Checked	32,753	14,673	14,685	24,151	9,965	10,869	107,096
Total % of Errors	2.43%*	4.40%*	3.02%	3.02%	6.23%	3.31%	3.35%

* Due to rounding, the percentage of overcharges and percentage of undercharges do not add up to the total percentage of errors.

Table III shows that pricing accuracy varies among types of stores. For all stores, 3.35 percent of the items checked had pricing errors. Food stores had a lower percentage of errors (2.43 percent) than mass merchandise stores (3.02 percent), drug stores (3.02 percent), department stores (4.40 percent) and hardware stores (6.23 percent).

The data show that, overall, the number of overcharges was slightly higher than the number of undercharges (1,825 overcharges compared 1,769 undercharges). On the other hand, the total dollar amount of undercharges ($9,339.17) substantially exceeded the total dollar amount of overcharges ($5,840.57). There were differences among types of stores. For food, drug and hardware stores, there were more overcharges than undercharges, both in number and total dollar amount. Food stores had 447 overcharges totaling $295.20 and 348 undercharges totaling $245.03. Drug stores had 310 overcharges totaling $413.46 and 134 undercharges totaling $167.70. Hardware stores had 348 overcharges totaling $1,215.24 and 273 undercharges totaling $1,143.73.

In contrast, for mass merchandise stores, the total number and dollar amount of undercharges (432 undercharges totaling $1,651.28) was greater than the total number and dollar amount of overcharges (297 overcharges totaling $899.07). Similarly, in department stores, there were 379 undercharges totaling $4,206.21 compared to 266 overcharges totaling $1,964.79.

The average dollar amount of an overcharge or undercharge varied widely. Food stores had the lowest average overcharge ($0.66) and undercharge ($0.73); department stores had the highest average overcharge ($7.39) and undercharge ($11.10). The difference in the average dollar amount of errors appears to be due, in large part, to the differences in the prices of the items offered for sale. For example, food and drug stores tend to have more items with lower prices, while department and hardware stores tend to have more items with higher prices. Appendices B and C provide detailed information about the average prices of items that were overcharged or undercharged at checkout.

This study also found that pricing accuracy and the number and dollar amount of errors varied widely from chain to chain and among retail categories. Inspection results for each of the 294 retail chains included in this study are shown in Appendix D.

Table IV

PERCENTAGE OF ERRORS:
SUMMARY OF RESULTS BY TYPE OF INSPECTION

	SALE INSPECTION (762 inspections)	NON-SALE INSPECTION (891 inspections)	COMBINED INSPECTION (123 inspections)	TOTAL INSPECTIONS (1,776 inspections)
Total # of Overcharges	1,008	691	126	1,825
% of Overcharges	2.28%	1.22%	2.00%	1.70%
Total $ of Overcharges	$4,244.16	$1,308.16	$288.25	$5,840.57
Average $ of Overcharges	$4.21	$1.89	$2.29	$3.20
Total # of Undercharges	566	1,100	103	1,769
% of Undercharges	1.28%	1.94%	1.63%	1.65%
Total $ of Undercharges	$2,648.40	$5,929.88	$760.89	$9,339.17
Average $ of Undercharge	$4.68	$5.39	$7.39	$5.28
Total # of Items Checked	44,137	56,642	6,317	107,096
Total % of Errors	3.57%**	3.16%	3.63%	3.35%

* Due to rounding, the percentage of overcharges and percentage of undercharges do not add up to the total percentage of errors.

Table IV compares the results of the sale and non-sale inspections, as well as the combined inspections that included both sale and non-sale items. For this study, inspectors, where possible, conducted separate inspections of sale and non-sale items. For the sale inspection, inspectors examined a sample of items that were advertised or posted as being on sale, that is, lower than the store's regular price. For the non-sale inspections, inspectors examined a sample of regularly priced items.

The results of these inspections show that pricing errors on sale items are more likely to be overcharges, whereas pricing errors on non-

sale items are more likely to be undercharges. For sale inspections, the number and dollar amount of overcharges (1,008 overcharges totaling $4,244.16) was substantially greater than the number and dollar amount of undercharges (566 undercharges totaling $2,648.40). In contrast, for non-sale inspections, the number and dollar amount of undercharges (1,100 undercharges totaling $5,929.88) substantially exceeded the number and dollar amount of overcharges (691 overcharges totaling $1,308.16).

Table V

REASONS FOR OVERCHARGES:
SALE VERSUS NON-SALE INSPECTION*

		SALE INSPECTION** (1,008 Overcharges)	NON-SALE INSPECTION** (691 Overcharges)	TOTAL SALE/NON-SALE (1,699 Overcharges)
Incorrect Shelf/Item Price	%	23%	53%	35%
	#	232	369	601
Problem with Sign	%	30%	17%	25%
	#	307	118	425
Incorrect Computer Price	%	32%	20%	27%
	#	323	137	460
Incorrect Advertised Price	%	3%	1%	3%
	#	35	10	45
Other Reason or Don't Know	%	11%	8%	10%
	#	111	57	168

* This table excludes errors found in "combined" inspections.
** Due to rounding, the sum of the percentages in these columns does not equal 100 percent.

Table VI

REASONS FOR UNDERCHARGES:
SALE VERSUS NON-SALE INSPECTION*

		SALE INSPECTION (566 Undercharges)	NON-SALE INSPECTION** (1,100 Undercharges)	TOTAL SALE/NON-SALE (1,666 Undercharges)
Incorrect Shelf/Item Price	%	34%	44%	40%
	#	190	481	671
Problem with Sign	%	32%	27%	29%
	#	182	297	479
Incorrect Computer Price	%	18%	20%	19%
	#	103	217	320
Incorrect Advertised Price	%	8%	4%	5%
	#	47	39	86
Other Reason or	%	8%	6%	7%
Don't Know	#	44	66	110

* This table excludes errors found in "combined" inspections.
** Due to rounding, the sum of percentages in this column does not equal 100 percent.

Retailers provide prices for thousands of items in a variety of ways: on a shelf tag, on the item itself, on a sign or in an advertising

brochure. For sale items, retailers may list a "percentage off" or a "2 for 1" special in an advertisement, on the item tag, or on a sign. Under the NCWM Procedure, the inspector compares the lowest price posted or advertised for an item to the price charged at checkout. The differences are reported as overcharges or undercharges.

This study recorded the causes of these pricing errors. When possible, inspectors shared their findings with store personnel, asked about the cause of the errors and included this information in their inspection reports. A single reason for error was recorded for each error. The reasons for errors, which are tabulated in Tables V and VI, have been divided into five major groups: incorrect shelf/item price, problem with sign, incorrect computer price, incorrect advertised price and other reason/don't know.

The first group of reasons for error, incorrect shelf/item price, includes errors that resulted when the shelf tags and item prices were not updated to match the computer price. The second group, problem with sign, includes instances where the wrong price or "percentage off" appeared on the sign, where the sign was outdated or where the sign was in the wrong place or missing. The third group, incorrect computer price, includes errors that resulted when the computer database was not updated to match the posted or advertised price or when a data entry error occurred (that is, when the wrong price was entered in the database). The fourth group, incorrect advertised price, includes errors that resulted when an incorrect price was included in an advertisement. The fifth group, other reason/don't know, includes reasons for error that were reported infrequently, such as incorrectly shelved items, as well as "don't know" responses.

Table V tabulated the reasons for overcharges. There were three main reasons reported for the 1,008 overcharges found in the sale inspections. They were incorrect shelf/item prices, 23 percent (232), problems with signs, 30 percent (307), and incorrect computer prices, 32 percent (323). For the 691 overcharges found in non-sale inspections, the primary reason for error was incorrect shelf/item price, 53 percent (369). Non-sale overcharges also resulted from problems with sign, 17 percent (118) and incorrect computer prices, 20 percent (137). For both sale and non-sale overcharges, relatively few errors resulted from incorrect advertised prices, 3 percent (45).

Reasons for undercharges are tabulated in Table VI. For the 566 undercharges found in sale inspections, 34 percent (190) occurred as a result of incorrect shelf/item prices, 32 percent (182) occurred as a result of problems with signs, and 18 percent (103) occurred as a result of incorrect computer prices. For the 1100 undercharges found in non-sale inspections, the primary reason was incorrect shelf/item prices, 44 percent (481). For both sale and non-sale undercharges, relatively few errors occurred due to incorrect advertised prices, 5 percent (86).

These results show that errors on non-sale items, whether overcharges or undercharges, are primarily caused by incorrect prices on shelf and item tags. In contrast, errors on sale items, whether overcharges or undercharges, have several causes, reflecting the fact that, for sale items, there are generally more possibilities for pricing errors. For each new sale, store personnel must post signs and change computer prices, as well as prices on shelf and item tags, to match the advertised sale price, and they must do this within a very short time period.

1996 Study: Summary of Inspection Results

For the 1996 study, seven states (Florida, Massachusetts, Michigan, Missouri, Tennessee, Vermont and Wisconsin) conducted scanner pricing inspections using the NCWM Procedure.(10) Inspection results for 294 stores with checkout scanners were tabulated and included in the 1996 report.

Of the 294 inspections, 45 percent (132) had an accuracy rate of 98 percent or more and thus "passed" inspection. Of these 132 passing inspections, 66 had an accuracy rate of 100 percent, and 66 had an accuracy rate between 98 and 99 percent. The remaining 55 percent (162) of inspections had an accuracy rate below 98 percent and thus "failed." Of these 162 failing inspections, 128 had an accuracy rate between 90 and 97 percent, and 34 had an accuracy rate below 90 percent.

The data showed that, overall, 4.82 percent of the almost 18,000 items checked were incorrectly priced, and that all types of stores experienced pricing errors. First, checkout scanner pricing accuracy varied among the inspected stores. Food stores as a group had fewer errors (3.47 percent) than other kinds of stores (5.54 percent). Second, the data showed that, overall, the percentage and total dollar amount of undercharges (2.58 percent, $1,320) were slightly greater than the percentage and total dollar amount of overcharges (2.24 percent, $1,173). Overcharges and undercharges did not, however, balance out for most individual retailers. Third, there were wide variations in pricing accuracy from chain to chain and store to store.

Implications for Retailers

Implementation of good pricing practices requires a substantial commitment of resources, but, in the long run, is likely to provide net benefits to the retailer. Scanner pricing errors can reduce profits and sales. Stores can lose thousands of dollars through undetected undercharges, and can lose sales when consumers decide not to purchase items because the inaccurate advertised or posted price appears too high.

Consumers are affected in several ways by scanner pricing errors. First, consumers lose money when they are overcharged, and they are not likely to be mollified by the knowledge that other consumers are being undercharged. Second, consumers are inconvenienced by errors. If a consumer points out a mistake at checkout, the consumer (and everyone else in line) must wait while the cashier corrects the mistake. Consumers who discover overcharges after they have left the store must return to the store and wait in line at the customer service desk to correct the problem. Poor customer service practices can lead to consumers taking their business elsewhere.

Some retailers may believe that good pricing practices are just a matter of devoting substantial resources to computer hardware and the development of software. The sole focus of good pricing practices, however, should not be on the accuracy of prices in the store's database. To the customer, the price in the store's computer is not the most important price. The customer expects to be charged the lowest price posted or advertised. Thus, good pricing practices must ensure that the price at checkout matches the posted or advertised

price--a goal that can be achieved through updated technology, proper procedures, employee training and periodic price inspections.

The 1996 report provides many sources of information for retailers interested in evaluating the adequacy of their pricing practices and implementing necessary changes.(11) For example, the Food Marketing Institute and the National Retail Institute, the research foundation of the National Retail Federation, publish and sell detailed manuals on pricing procedures.(12) Retailers also can contact their local weights and measures officials for information about the NCWM Procedure and pricing accuracy laws.

Recommendations for Consumers

Consumers expect and demand accurate pricing. Obviously, they do not want to lose money from overcharges. They also want to be able to make informed and correct purchasing decisions based on shelf tags and signs. For example, a consumer may be led into making value comparisons that are incorrect because of inaccurate posted prices. Thus, a consumer may choose to buy Brand X because its posted price is lower than the price posted for Brand Y. This decision turns out to be incorrect if the price charged for Brand X at checkout is higher than the price of Brand Y.

The FTC has published Making Sure the Scanned Price is Right, which focuses on the issue of scanner accuracy and what consumers can do to ensure that the price charged is the right price.(13) Here are some of the steps consumers can take to protect themselves against scanner errors and paying the wrong price.

Spotting Scanner Errors

Consumers should watch the display screen for prices as they are rung up. If an error occurs, consumers should immediately point the error out to the cashier, ask about the store's policy on pricing errors and ask the cashier to make the appropriate adjustment before paying. Although some stores simply adjust the price, other stores may offer a bonus, such as giving the consumer one item free. Even after consumers have left the checkout line, they should review their receipt and identify and report errors to the store manager or customer service desk. After leaving the store, consumers still may be able to correct errors, but this requires more effort.

Because any errors on sale items are more likely to be overcharges, consumers should compare the sale price to the checkout price. Consumers can bring a copy of the store's flyer or newspaper ad to the checkout counter and compare prices as they are rung. Some advertised specials--15 percent off an item for two hours, for example, or a two-for-one promotion--may not be in the computer. These types of promotions merit particular attention from consumers to ensure that the cashier enters the correct price manually.

When purchasing higher priced items, consumers should pay close attention at checkout because the dollar amount of any error is likely to be higher than on lower priced items. Because it can be difficult to remember prices, consumers may want to jot down regular prices or special sale prices as they walk through the store. Some grocery stores provide marking pens so that consumers can write the prices on the packages.

Effective Complaining

Consumers who notice a pattern of electronic scanning errors in a particular store should talk to the customer service department or the store manager. They also can write a letter to the company's corporate headquarters. The retailer may not realize a problem exists until it is pointed out.

Reporting recurring problems to state Attorneys General's offices, state or local consumer protection offices, or state or local weights and measures officials is also a good idea. In many states, weights and measures offices will follow up on consumer complaints with an inspection of the store's prices.

Finally, consumers can file a complaint with the Federal Trade Commission. Although the FTC usually does not intervene in individual cases, the information provided by consumers will help the FTC in its continued monitoring of scanner pricing accuracy. Consumers can file a complaint with the FTC by contacting the Consumer Response Center by phone: 202-FTC-HELP (382-4357), TDD: 202-326-2502; by mail: Consumer Response Center, Federal Trade Commission, 600 Pennsylvania Ave., N.W., Washington, D.C. 20580; or by e-mail: use the complaint form at http://www.ftc.gov on the Internet.

Conclusion

The results of the 1998 study showed an overall higher level of pricing accuracy compared to the results of the 1996 study. But wide variations remain. Although many retailers have achieved high levels of pricing accuracy, pricing errors continue. For some retail chains and a number of individual stores, pricing accuracy is low.

The government participants in this study urge retailers to examine and, if necessary, change their pricing practices. Achieving higher levels of scanner accuracy will benefit both consumers and retailers. By reducing the number of scanner errors, stores ensure compliance with pricing accuracy laws, reduce losses from undercharges and prevent customer dissatisfaction caused by overcharges. Federal, state and local officials will work to develop more effective ways to coordinate their efforts to monitor retailers' pricing accuracy, and they may take enforcement actions if significant problems are found.

Endnotes

1. The results of the 1996 study were reported on October 22, 1996. For copies of the 1996 report, titled Price Check: A Report on the Accuracy of Checkout Scanners, contact the FTC's Consumer Response Center, 600 Pennsylvania Avenue, N.W., Washington, D.C. 20580; Tel: 202-FTC-HELP (382-4357), TDD: 202-326-2502. The report can also be found at http://www.ftc.gov/reports/scanners.shtm on

the Internet.

2. Edward M. Harwell, Checkout Management 2-7 (1963). It also should be noted that receipts printed by older manual cash registers merely listed a series of prices and did not identify the items purchased, thus making it difficult to check prices charged for specific items. Today, most cash register receipts specify the item purchased next to the price.

3. NCWM Publication 19 (Aug. 1995). For copies of the NCWM Procedure, contact NCWM c/o Management Solutions Plus, Inc., 15245 Shady Grove Road, Suite 130, Rockville, MD 20850, Tel: 301-258-9210, Fax: 301-990-9771.

4. Eight states currently do not use the NCWM Procedure: California, Illinois, Indiana, Mississippi, Nebraska, New Mexico, New York, and Virginia. All jurisdictions participating in this follow-up study, however, used the NCWM Procedure in conducting inspections for this study.

5. Because inspection sites were not selected by a statistically designed survey procedure, the results of the study cannot be statistically projected.

6. The FTC, in authorizing the release of this Report, does not endorse any particular level of retail pricing errors as warranting enforcement. Forty-two states and NIST, however, endorse the levels in the NCWM Procedure, which was used in this study.

7. The NCWM Procedure divides retail stores into two groups--small stores, such as convenience stores, and larger stores, such as food, department or drug stores. Sampling can be done in a single or two-stage process. In the single-stage process for small stores, the inspector will check a single sample of 50 items. With one error or less, the store passes inspection. If there are two or more errors, the store fails inspection. In a two-stage process for small stores, the inspector will check an initial sample of 25 items. If two or more items are incorrect, the store fails inspection. If one item is priced incorrectly, the inspector will check a second sample of 25 items. With two or more errors in the sample of 50, the store fails.

For larger stores, in a single-stage inspection, the inspector will check a single sample of 100 items. With two errors or less, the store passes, and with three or more errors, the store fails. In a two-stage inspection of larger stores, the inspector will check an initial sample of 50 items. If more than two items are priced incorrectly, the store fails inspection. If two items are incorrect, the inspector will check a second sample of 50 items and then will total errors found in the entire sample of 100 items to determine if the store passes or fails inspection. With three or more errors, the store fails.

8. All states were invited to participate in the 1998 joint federal/state study.

9. Tables I and II exclude 107 inspections that did not fully conform to the NCWM Procedure. These inspections cannot be evaluated as "passing" or "failing" under the NCWM Procedure. In each of these 107 inspections, two errors were found in the approximately 50 items sampled. Unless an inspection involves a very small store such as a "gas and go" convenience store, under the NCWM Procedure, when 2 errors are found in a sample of approximately 50, a second sample of 50 items should be checked for pricing accuracy. The combined sample of approximately 100 items then would be examined to determine whether the inspection "passed" or "failed." The 107 inspections in question did not include a price check of a second sample of 50 items., and thus cannot be evaluated as "passing" or "failing" under the NCWM Procedure.

10. Because the inspections conducted for the 1996 study began before the final NCWM Procedure was adopted, the fourth draft of the NCWM Procedure was used. This draft did not differ in material ways from the final NCWM Procedure.

11. See Endnote 1 for information on how to obtain copies of the 1996 report.

12. For copies of the Food Marketing Institute's manual, Price Verification: Ensuring Accuracy at Store Level, contact: Food Marketing Institute, Publications and Video Sales, 800 Connecticut Avenue, N.W., Washington, D.C. 20006. For copies of the National Retail Institute's manual, Effective Practices for Pricing Accuracy: Ensuring Accuracy at Store Level, contact: National Retail Institute, Inc., Liberty Place, 325 Seventh Street, N.W., Suite 1000, Washington, D.C. 20004.

13. For copies, contact: Federal Trade Commission, Public Reference Branch, Room 130, 600 Pennsylvania Ave., N.W., Washington, D.C. 20580; Tel: (202)326-2222 or TDD for the hearing impaired (202)326-2502. You can also access this pamphlet online at www.ftc.gov -- click on Publications.

Price Check II
A Follow-up Report on the Accuracy of Checkout Scanner Prices

Appendix A

PERCENTAGE OF INSPECTIONS THAT "PASS" BY RETAIL CHAIN*

STORE PSEUDONYM	TOTAL # OF STORES	TOTAL # OF INSPECTIONS	INSPECTIONS THAT PASS		INSPECTIONS THAT FAIL	
			#	%	#	%
Appliances/Computer-1	4	8	6	75	2	25
Appliances/Computer-2	2	3	1	33	2	67
Appliances/Computer-3	2	3	1	33	2	67
Appliances/Computer-4	1	1	-	-	1	100
Appliances/Computer-5	2	2	2	100	-	-
Appliances/Computer-6	1	1	1	100	-	-
Auto Parts-1	3	4	4	100	-	-
Auto Parts-2	6	8	7	88	1	13
Auto Parts-3	1	1	1	100	-	-
Auto Parts-4	1	1	1	100	-	-
Auto Parts-5	1	2	1	50	1	50
Auto Parts-6	2	2	1	50	1	50
Clothing/Shoes-1	1	2	1	50	1	50
Clothing/Shoes-2	1	1	1	100	-	-
Clothing/Shoes-3	1	1	-	-	1	100
Clothing/Shoes-4	1	1	1	100	-	-
Clothing/Shoes-5	2	2	2	100	-	-
Clothing/Shoes-6	1	1	1	100	-	-
Clothing/Shoes-7	1	2	2	100	-	-
Clothing/Shoes-8	1	1	1	100	-	-
Convenience-1	1	1	-	-	1	100
Convenience-2	2	2	2	100	-	-
Convenience-3	1	1	-	-	1	100
Convenience-4	1	1	1	100	-	-
Convenience-5	1	1	-	-	1	100
Convenience-7	1	2	1	50	1	50

Convenience-8	1	1	1	100	-	-
Convenience-9	1	1	-	-	1	100
Convenience-10	3	4	4	100	-	-
Convenience-11	2	2	2	100	-	-
Department-1	1	2	1	50	1	50
Department-2	1	1	1	100	-	-
Department-3	3	6	6	100	-	-
Department-4	1	1	1	100	-	-
Department-5	1	2	2	100	-	-
Department-6	1	2	1	50	1	50
Department-7	1	1	1	100	-	-
Department-8	9	14	14	100	-	-
Department-9	2	4	1	25	3	75
Department-10	2	3	2	67	1	33
Department-11	2	4	4	100	-	-
Department-12	1	1	1	100	-	-
Department-13	1	2	2	100	-	-
Department-14	6	10	9	90	1	10
Department-15	3	6	4	67	2	33
Department-16	29	50	33	66	17	34
Department-17	1	2	1	50	1	50
Department-18	6	12	10	83	2	17
Department-19	2	3	2	67	1	33
Department-20	1	2	2	100	-	-
Department-21	2	4	2	50	2	50
Department-22	9	15	9	60	6	40
Department-23	5	10	2	20	8	80
Department-24	2	4	4	100	-	-
Department-25	1	2	2	100	-	-
Department-26	1	2	1	50	1	50
Department-27	1	1	1	100	-	-
Department-28	2	4	4	100	-	-
Department-29	33	59	31	53	28	47
Department-30	1	2	2	100	-	-
Department-31	2	4	4	100	-	-
Department-32	1	2	1	50	1	50
Department-33	1	2	2	100	-	-
Department-34	1	2	-	-	2	100
Department-35	1	2	1	50	1	50

Department-36	1	1	-	-	1	100
Drug-1	1	2	2	100	-	-
Drug-2	1	1	1	100	-	-
Drug-3	23	33	25	76	8	24
Drug-4	6	10	6	60	4	40
Drug-5	1	1	1	100	-	-
Drug-6	12	21	17	81	4	19
Drug-7	1	2	1	50	1	50
Drug-8	1	2	1	50	1	50
Drug-9	9	18	15	83	3	17
Drug-10	1	2	-	-	2	100
Drug-11	7	12	8	67	4	33
Drug-12	1	1	-	-	1	100
Drug-13	1	2	2	100	-	-
Drug-14	1	1	1	100	-	-
Drug-15	6	9	8	89	1	11
Drug-16	39	56	35	63	21	38
Drug-17	1	2	-	-	2	100
Drug-18	1	2	2	100	-	-
Drug-19	34	52	39	75	13	25
Food-1	3	5	5	100	-	-
Food-2	3	5	4	80	1	20
Food-3	3	6	5	83	1	17
Food-4	23	43	34	79	9	21
Food-5	1	2	2	100	-	-
Food-6	5	9	6	67	3	33
Food-7	2	3	3	100	-	-
Food-8	3	4	4	100	-	-
Food-9	1	2	2	100	-	-
Food-10	1	2	2	100	-	-
Food-11	1	1	1	100	-	-
Food-12	1	2	2	100	-	-
Food-13	3	5	5	100	-	-
Food-14	2	4	4	100	-	-
Food-15	3	5	4	80	1	20
Food-16	1	2	1	50	1	50
Food-17	1	2	2	100	-	-
Food-19	1	1	1	100	-	-
Food-20	1	1	1	100	-	-

Food-21	3	5	3	60	2	40
Food-22	1	1	1	100	-	-
Food-23	1	1	1	100	-	-
Food-24	1	2	-	-	2	100
Food-25	1	2	2	100	-	-
Food-26	2	4	4	100	-	-
Food-27	2	3	2	67	1	33
Food-28	2	4	4	100	-	-
Food-29	1	2	-	-	2	100
Food-30	1	1	1	100	-	-
Food-31	1	2	2	100	-	-
Food-32	1	1	-	-	1	100
Food-33	1	2	1	50	1	50
Food-34	1	1	1	100	-	-
Food-35	1	2	2	100	-	-
Food-36	8	15	14	93	1	7
Food-37	2	4	4	100	-	-
Food-38	1	2	2	100	-	-
Food-39	3	6	5	83	1	17
Food-40	2	2	1	50	1	50
Food-41	1	2	2	100	-	-
Food-42	4	7	5	71	2	29
Food-43	4	6	4	67	2	33
Food-44	1	2	2	100	-	-
Food-45	1	2	2	100	-	-
Food-46	1	2	2	100	-	-
Food-47	1	1	1	100	-	-
Food-48	1	2	1	50	1	50
Food-49	1	1	1	100	-	-
Food-50	2	3	2	67	1	33
Food-51	1	2	-	-	2	100
Food-52	1	2	-	-	2	100
Food-53	2	4	4	100	-	-
Food-54	4	8	6	75	2	25
Food-55	3	6	5	83	1	17
Food-56	12	19	12	63	7	37
Food-57	1	2	2	100	-	-
Food-58	1	1	-	-	1	100
Food-59	1	2	2	100	-	-

Food-60	1	2	2	100	-	-
Food-61	1	2	1	50	1	50
Food-62	1	1	-	-	1	100
Food-63	3	6	6	100	-	-
Food-64	27	43	37	86	6	14
Food-65	1	1	-	-	1	100
Food-66	1	2	2	100	-	-
Food-67	3	4	3	75	1	25
Food-68	1	2	2	100	-	-
Food-69	1	2	2	100	-	-
Food-70	1	2	-	-	2	100
Food-71	1	2	2	100	-	-
Food-72	2	4	2	50	2	50
Food-73	2	4	3	75	1	25
Food-74	1	2	2	100	-	-
Food-75	1	1	1	100	-	-
Food-76	1	2	2	100	-	-
Food-77	1	1	1	100	-	-
Food-78	2	2	1	50	1	50
Food-79	2	2	1	50	1	50
Food-80	3	5	5	100	-	-
Food-81	1	2	2	100	-	-
Food-82	2	3	2	67	1	33
Food-83	2	3	3	100	-	-
Food-84	1	2	-	-	2	100
Food-85	1	2	1	50	1	50
Food-86	1	2	2	100	-	-
Food-87	1	2	1	50	1	50
Food-88	1	2	-	-	2	100
Food-89	1	2	2	100	-	-
Food-90	19	33	29	88	4	12
Food-91	2	2	2	100	-	-
Food-92	1	2	2	100	-	-
Food-93	3	6	4	67	2	33
Food-94	3	5	1	20	4	80
Food-95	4	7	5	71	2	29
Food-96	1	2	2	100	-	-
Food-97	3	6	5	83	1	17

Food-98	2	4	4	100	-	-
Food-99	1	1	1	100	-	-
Food-100	8	13	4	31	9	69
Food-101	3	5	3	60	2	40
Food-102	3	5	2	40	3	60
Food-103	1	2	2	100	-	-
Food-104	1	2	1	50	1	50
Food-105	1	2	1	50	1	50
Food-106	1	2	2	100	-	-
Food-107	1	2	2	100	-	-
Food-108	1	2	2	100	-	-
Food-109	1	2	2	100	-	-
Food-110	1	2	2	100	-	-
Food-111	1	2	-	-	2	100
Food-112	5	9	6	67	3	33
Food-113	1	2	2	100	-	-
Food-114	1	2	2	100	-	-
Food-115	1	2	2	100	-	-
Food-116	1	2	1	50	1	50
Food-117	1	2	2	100	-	-
Food-118	3	4	3	75	1	25
Food-119	1	2	1	50	1	50
Food-120	1	2	2	100	-	-
Food-121	1	2	2	100	-	-
Food-122	1	2	2	100	-	-
Food-123	1	2	2	100	-	-
Food-124	13	19	12	63	7	37
Food-125	1	2	2	100	-	-
Hardware-1	1	1	-	-	1	100
Hardware-2	8	10	7	70	3	30
Hardware-3	8	12	-	-	12	100
Hardware-4	1	2	2	100	-	-
Hardware-5	1	1	1	100	-	-
Hardware-6	6	8	6	75	2	25
Hardware-7	1	1	-	-	1	100
Hardware-8	1	2	-	-	2	100
Hardware-9	1	1	-	-	1	100
Hardware-10	1	1	-	-	1	100
Hardware-11	6	11	1	9	10	91

Hardware-12	14	22	17	77	5	23
Hardware-13	1	2	1	50	1	50
Hardware-14	3	6	2	33	4	67
Hardware-15	1	1	-	-	1	100
Hardware-16	1	2	-	-	2	100
Hardware-17	1	1	-	-	1	100
Hardware-18	18	30	27	90	3	10
Hardware-19	1	1	-	-	1	100
Hardware-20	3	5	5	100	-	-
Hardware-21	1	2	1	50	1	50
Hardware-22	2	3	-	-	3	100
Hardware-23	1	1	-	-	1	100
Hardware-24	1	1	-	-	1	100
Hardware-25	3	5	4	80	1	20
Hardware-26	5	7	3	43	4	57
Hardware-27	1	1	-	-	1	100
Hardware-28	1	2	1	50	1	50
Mass Mdsr-1	8	15	11	73	4	27
Mass Mdsr-2	1	1	-	-	1	100
Mass Mdsr-3	1	2	2	100	-	-
Mass Mdsr-4	1	1	1	100	-	-
Mass Mdsr-5	5	5	4	80	1	20
Mass Mdsr-6	1	2	2	100	-	-
Mass Mdsr-7	1	2	-	-	2	100
Mass Mdsr-8	2	4	4	100	-	-
Mass Mdsr-9	2	2	2	100	-	-
Mass Mdsr-10	3	6	5	83	1	17
Mass Mdsr-11	63	113	69	61	44	39
Mass Mdsr-12	1	1	1	100	-	-
Mass Mdsr-13	2	3	2	67	1	33
Mass Mdsr-14	1	1	-	-	1	100
Mass Mdsr-15	1	2	2	100	-	-
Mass Mdsr-16	5	5	4	80	1	20
Mass Mdsr-17	3	5	2	40	3	60
Mass Mdsr-18	6	10	7	70	3	30
Mass Mdsr-19	33	62	40	65	22	35
Mass Mdsr-20	1	1	1	100	-	-
Mass Mdsr-21	63	111	90	81	21	19
Office Supplies-1	9	11	9	82	2	18

Office Supplies-2	2	2	-	-	2	100
Office Supplies-3	10	12	7	58	5	42
Other-1	1	2	1	50	1	50
Other-2	1	2	-	-	2	100
Other-3	1	2	2	100	-	-
Other-4	1	1	1	100	-	-
Other-5	1	1	1	100	-	-
Other-6	1	1	-	-	1	100
Other-7	1	1	1	100	-	-
Other-8	1	2	2	100	-	-
Other-9	2	3	1	33	2	67
Other-10	1	2	1	50	1	50
Other-11	2	2	2	100	-	-
Other-12	4	6	3	50	3	50
Other-13	1	1	1	100	-	-
Other-14	1	1	1	100	-	-
Sporting Goods-1	1	1	1	100	-	-
Sporting Goods-2	1	2	-	-	2	100
Sporting Goods-3	2	4	3	75	1	25
Sporting Goods-4	2	2	1	50	1	50
Sporting Goods-5	1	2	-	-	2	100
Sporting Goods-6	1	2	-	-	2	100
Sporting Goods-7	2	3	3	100	-	-
Sporting Goods-8	1	1	1	100	-	-
Sporting Goods-9	1	2	2	100	-	-
Toys-1	6	6	6	100	-	-
Toys-2	20	32	26	81	6	19
Variety-1	1	1	1	100	-	-
Variety-2	2	3	3	100	-	-
Variety-3	5	5	5	100	-	-
Variety-4	1	2	2	100	-	-
Variety-5	1	1	1	100	-	-
Variety-6	1	1	1	100	-	-
TOTALS	**1020**	**1669**	**1188**	**71**	**481**	**29**

* This table provides "pass-fail" results for 1669 inspections and excludes 107 inspections that cannot be evaluated as "passing" or "failing" under the NCWM Procedure. See Endnote 9.

Price Check II
A Follow-up Report on the Accuracy of Checkout Scanner Prices

Appendix B

DOLLAR AMOUNT OF OVERCHARGES: SUMMARY OF RESULTS BY STORE TYPE

STORE TYPE (# of Overcharges)	FOOD (447)	DEPT (266)	DRUG (310)	MASS MDSE (297)	HARD-WARE (348)	OTHER (157)	TOTAL (1,825)
Total $ Amount of Price Charged on Overcharge Items*	$1,711.67	$12,115.27	$1,871.86	$4,701.89	$7,767.70	$8,432.94	$36,601.33
Total $ Amount of Price Offered on Overcharge Items**	$1,416.47	$10,150.48	$1,458.40	$3,802.82	$6,552.46	$7,380.13	$30,760.76
Total $ Amount of Overcharges***	$295.20	$1,964.79	$413.46	$899.07	$1,215.24	$1,052.81	$5,840.57
Average $ Amount of Price Charged on Overcharge Item+	$3.83	$45.55	$6.03	$15.83	$22.32	$53.71	$20.06
Average $ Amount of Price Offered on Overcharge Item++	$3.17	$38.16	$4.70	$12.80	$18.83	$47.00	$16.86
Average $ Amount of Overcharges+++	$0.66	$7.39	$1.33	$3.03	$3.49	$6.71	$3.20

* The sum of the $ amount of the prices charged at checkout on the overcharge items
** The sum of the $ amount of the prices offered by retailer on the overcharge items
*** Total $ amount of overcharges = [Total $ amount of price charged] - [Total $ amount of price offered]
+ Average $ amount of price charged =[The sum of the $ amount of the prices charged] / [# of overcharges]
++ Average $ amount of the price offered = [The sum of the $ amount of the prices offered] / [# of overcharges]
+++ Average $ amount of overcharge = [Average $ amount of price charged] - [Average $ amount of price offered]

Price Check II
A Follow-up Report on the Accuracy of Checkout Scanner Prices

Appendix C

DOLLAR AMOUNT OF UNDERCHARGES: SUMMARY OF RESULTS BY TYPE OF STORE

STORE TYPE (# of Undercharges)	FOOD (348)	DEPT (379)	DRUG (134)	MASS-MDSE (432)	HARD-WARE (273)	OTHER (203)	TOTAL (1,769)
Total $ Amount of Price Offered on Undercharge Items*	$1,375.70	$20,015.27	$816.07	$8,730.50	$6,791.31	$16,045.72	$53,774.57
Total $ Amount of Price Charged on Undercharge Items**	$1,121.67	$15,809.06	$648.37	$7,079.22	$5,647.58	$14,129.50	$44,435.40
Total $ Amount of Undercharges***	$254.03	$4,206.21	$167.70	$1,651.28	$1,143.73	$1,916.22	$9,339.17
Average $ Amount of Price Offered on Undercharge Item+	$3.95	$52.81	$6.09	$20.21	$24.88	$79.04	$30.40
Average $ Amount of Price Charged on Undercharge Item++	$3.22	$41.71	$4.84	$16.39	$20.69	$69.60	$25.12
Average $ Amount of Undercharges+++	$0.73	$11.10	$1.25	$3.82	$4.19	$9.44	$5.28

* The sum of the $ amount of the prices offered by retailer on the undercharge items
** The sum of the $ amount of the prices charged at checkout on the undercharge items
*** Total $ amount of undercharges = [Total $ amount of prices offered] - [Total $ amount of prices charged]
+ Average $ amount of price offered =[The sum of the $ amount of the prices offered] / [# of undercharges]
++ Average $ amount of the price charged = [The sum of the $ amount of the prices charged] / [# of undercharges]
+++ Average $ amount of undercharge = [Average $ amount of price offered] - [Average $ amount of price charged]

Price Check II
A Follow-up Report on the Accuracy of Checkout Scanner Prices

Appendix D

SUMMARY OF RESULTS BY RETAIL CHAIN

(set printer to landscape layout to print this document)

STORE PSEUDONYM	TOTAL # INSPEC-TIONS	TOTAL # ITEMS CHECKED	TOTAL # OVER CHARGES	TOTAL $ OVER CHARGES	AVG $ OVER CHARGES	AVG % OVER CHARGES	TOTAL # UNDER CHARGES	TOTAL $ UNDER CHARGES	AVG $ UNDER CHARGES	AVG % UNDER CHARGES	TOTAL # ERRORS	AVG % ERRORS
Appliances/Computer-1	8	500	5	$55.17	$11.03	1.00	6	$36.30	$6.05	1.20	11	2.20
Appliances/Computer-2	3	150	1	$29.97	$29.97	0.67	30	$848.90	$28.30	20.00	31	20.67
Appliances/Computer-3	3	200	3	$37.00	$12.33	1.50	6	$75.11	$12.52	3.00	9	4.50
Appliances/Computer-4	1	50	3	$76.00	$25.33	6.00	6	$125.96	$20.99	12.00	9	18.00
Appliances/Computer-5	3	150	-	-	-	-	2	$34.00	$17.00	1.33	2	1.33
Appliances/Computer-6	1	50	1	$2.00	$2.00	2.00	-	-	-	-	1	2.00
Auto Parts-1	5	215	3	$0.28	$0.09	1.40	1	$1.05	$1.05	0.47	4	1.86
Auto Parts-2	8	399	3	$2.21	$0.74	0.75	2	$0.57	$0.29	0.50	5	1.25
Auto Parts-3	2	100	2	$1.60	$0.80	2.00	-	-	-	-	2	2.00
Auto Parts-4	1	90	2	$0.60	$0.30	2.22	-	-	-	-	2	2.22
Auto Parts-5	3	112	2	$0.60	$0.30	1.79	3	$1.36	$0.45	2.68	5	4.46
Auto Parts-6	2	102	2	$0.80	$0.40	1.96	1	$1.40	$1.40	0.98	3	2.94
Clothing/Shoes-1	2	100	-	-	-	-	3	$6.10	$2.03	3.00	3	3.00
Clothing/Shoes-2	1	50	-	-	-	-	1	$2.00	$2.00	2.00	1	2.00
Clothing/Shoes-3	1	50	3	$33.92	$11.31	6.00	1	$4.96	$4.96	2.00	4	8.00
Clothing/Shoes-4	1	50	-	-	-	-	1	$5.00	$5.00	2.00	1	2.00
Clothing/Shoes-5	3	200	-	-	-	-	3	$14.05	$4.68	1.50	3	1.50
Clothing/Shoes-6	1	50	-	-	-	-	-	-	-	-	0	0
Clothing/Shoes-7	2	144	-	-	-	-	-	-	-	-	0	0
Clothing/Shoes-8	1	50	-	-	-	-	-	-	-	-	0	0
Convenience-1	1	25	4	$0.46	$0.12	16.00	4	$1.28	$0.32	16.00	8	32.00
Convenience-2	2	60	-	-	-	-	-	-	-	-	0	0
Convenience-3	1	50	1	$0.10	$0.10	2.00	2	$1.50	$0.75	4.00	3	6.00
Convenience-4	2	100	1	$0.10	$0.10	1.00	1	$0.10	$0.10	1.00	2	2.00
Convenience-5	1	25	-	-	-	-	2	$0.76	$0.38	8.00	2	8.00
Convenience-6	1	50	2	$0.25	$0.13	4.00	-	-	-	-	2	4.00
Convenience-7	2	50	3	$0.28	$0.09	6.00	-	-	-	-	3	6.00
Convenience-8	1	30	-	-	-	-	-	-	-	-	0	0
Convenience-9	1	25	4	$0.16	$0.04	16.00	1	$0.06	$0.06	4.00	5	20.00
Convenience-10	4	200	-	-	-	-	1	$1.00	$1.00	0.50	1	0.50
Convenience-11	2	60	-	-	-	-	-	-	-	-	0	0
Department-1	2	100	4	$1.81	$0.45	4.00	1	$5.00	$5.00	1.00	5	5.00
Department-2	1	50	1	$5.40	$5.40	2.00	-	-	-	-	1	2.00
Department-3	6	275	-	-	-	-	-	-	-	-	0	0
Department-4	1	50	-	-	-	-	-	-	-	-	0	0
Department-5	2	100	1	$10.01	$10.01	1.00	-	-	-	-	1	1.00
Department-6	2	100	2	$3.70	$1.85	2.00	2	$14.20	$7.10	2.00	4	4.00
Department-7	2	100	1	$20.01	$20.01	1.00	1	$14.49	$14.49	1.00	2	2.00
Department-8	15	800	1	$3.28	$3.28	0.13	5	$49.00	$9.80	0.63	6	0.75

Department-9	4	299	7	$39.20	$5.60	2.34	19	$312.50	$16.45	6.35	26	8.70
Department-10	3	300	1	$4.00	$4.00	0.33	4	$17.01	$4.25	1.33	5	1.67
Department-11	4	300	-	-	-	-	-	-	-	-	0	0
Department-12	1	50	1	$0.50	$0.50	2.00	-	-	-	-	1	2.00
Department-13	2	100	-	-	-	-	-	-	-	-	0	0
Department-14	10	500	1	$5.99	$5.99	0.20	4	$12.61	$3.15	0.80	5	1.00
Department-15	6	400	5	$183.01	$36.60	1.25	11	$57.30	$5.21	2.75	16	4.00
Department-16	51	2925	60	$319.38	$5.32	2.05	67	$462.65	$6.91	2.29	127	4.34
Department-17	2	100	2	$8.15	$4.08	2.00	2	$22.61	$11.31	2.00	4	4.00
Department-18	12	699	7	$21.06	$3.01	1.00	13	$46.84	$3.60	1.86	20	2.86
Department-19	3	250	3	$42.00	$14.00	1.20	16	$135.20	$8.45	6.40	19	7.60
Department-20	2	100	2	$2.01	$1.01	2.00	-	-	-	-	2	2.00
Department-21	4	300	11	$78.32	$7.12	3.67	16	$129.45	$8.09	5.33	27	9.00
Department-22	17	950	8	$23.47	$2.93	0.84	26	$104.37	$4.01	2.74	34	3.58
Department-23	10	700	35	$378.22	$10.81	5.00	97	$1,897.51	$19.56	13.86	132	18.86
Department-24	4	200	1	$8.63	$8.63	0.50	-	-	-	-	1	0.50
Department-25	2	150	3	$6.85	$2.28	2.00	-	-	-	-	3	2.00
Department-26	2	100	6	$45.61	$7.60	6.00	-	-	-	-	6	6.00
Department-27	1	50	-	-	-	-	-	-	-	-	0	0
Department-28	4	200	1	$0.20	$0.20	0.50	1	$1.00	$1.00	0.50	2	1.00
Department-29	61	3596	73	$530.36	$7.27	2.03	84	$855.70	$10.19	2.34	157	4.37
Department-30	2	100	-	-	-	-	-	-	-	-	0	0
Department-31	4	194	1	$3.29	$3.29	0.52	-	-	-	-	1	0.52
Department-32	2	100	19	$185.55	$9.77	19.00	-	-	-	-	19	19.00
Department-33	2	100	-	-	-	-	-	-	-	-	0	0
Department-34	2	200	2	$7.50	$3.75	1.00	6	$46.27	$7.71	3.00	8	4.00
Department-35	2	85	1	$1.30	$1.30	1.18	2	$14.51	$7.26	2.35	3	3.53
Department-36	1	50	6	$25.98	$4.33	12.00	2	$7.99	$4.00	4.00	8	16.00
Drug-1	2	100	1	$0.70	$0.70	1.00	-	-	-	-	1	1.00
Drug-2	1	50	-	-	-	-	-	-	-	-	0	0
Drug-3	37	1900	34	$58.15	$1.71	1.79	23	$28.17	$1.22	1.21	57	3.00
Drug-4	10	645	18	$29.75	$1.65	2.79	10	$6.40	$0.64	1.55	28	4.34
Drug-5	1	100	-	-	-	-	-	-	-	-	0	0
Drug-6	23	1300	22	$27.67	$1.26	1.69	12	$7.37	$0.61	0.92	34	2.62
Drug-7	2	108	3	$0.34	$0.11	2.78	1	$10.00	$10.00	0.93	4	3.70
Drug-8	2	100	3	$2.20	$0.73	3.00	2	$0.55	$0.28	2.00	5	5.00
Drug-9	19	1158	18	$22.99	$1.28	1.55	5	$0.91	$0.18	0.43	23	1.99
Drug-10	2	114	3	$0.80	$0.27	2.63	3	$15.31	$5.10	2.63	6	5.26
Drug-11	12	900	30	$58.50	$1.95	3.33	11	$10.49	$0.95	1.22	41	4.56
Drug-12	1	100	-	-	-	-	3	$5.25	$1.75	3.00	3	3.00
Drug-13	2	100	1	$0.20	$0.20	1.00	1	$0.30	$0.30	1.00	2	2.00
Drug-14	2	100	3	$3.19	$1.06	3.00	-	-	-	-	3	3.00
Drug-15	10	600	10	$8.85	$0.89	1.67	4	$4.54	$1.14	0.67	14	2.33
Drug-16	64	3359	83	$103.33	$1.24	2.47	33	$52.39	$1.59	0.98	116	3.45
Drug-17	2	100	8	$7.70	$0.96	8.00	3	$3.16	$1.05	3.00	11	11.00
Drug-18	2	200	4	$3.20	$0.80	2.00	-	-	-	-	4	2.00
Drug-19	59	3651	69	$85.89	$1.24	1.89	23	$22.86	$0.99	0.63	92	2.52
Food-1	6	333	-	-	-	-	2	$4.20	$2.10	0.60	2	0.60
Food-2	6	300	5	$6.20	$1.24	1.67	1	$0.40	$0.40	0.33	6	2.00
Food-3	6	500	7	$4.07	$0.58	1.40	5	$2.42	$0.48	1.00	12	2.40
Food-4	45	2697	27	$19.62	$0.73	1.00	29	$29.73	$1.03	1.08	56	2.08
Food-5	2	150	-	-	-	-	-	-	-	-	0	0
Food-6	10	500	11	$9.20	$0.84	2.20	8	$7.17	$0.90	1.60	19	3.80
Food-7	3	250	-	-	-	-	-	-	-	-	0	0
Food-8	6	300	3	$2.43	$0.81	1.00	3	$1.60	$0.53	1.00	6	2.00
Food-9	2	100	1	$0.64	$0.64	1.00	-	-	-	-	1	1.00
Food-10	2	98	-	-	-	-	-	-	-	-	0	0

Food-11	2	95	2	$0.76	$0.38	2.11	-	-	-	-	2	2.11
Food-12	2	100	-	-	-	-	-	-	-	-	0	0
Food-13	5	300	3	$0.56	$0.19	1.00	-	-	-	-	3	1.00
Food-14	4	400	2	$1.70	$0.85	0.50	-	-	-	-	2	0.50
Food-15	5	300	2	$1.40	$0.70	0.67	7	$4.69	$0.67	2.33	9	3.00
Food-16	2	100	3	$1.68	$0.56	3.00	2	$0.32	$0.16	2.00	5	5.00
Food-17	2	100	1	$0.50	$0.50	1.00	1	$0.11	$0.11	1.00	2	2.00
Food-18	1	49	-	-	-	-	2	$1.46	$0.73	4.08	2	4.08
Food-19	1	100	-	-	-	-	-	-	-	-	0	0
Food-20	1	50	-	-	-	-	-	-	-	-	0	0
Food-21	6	399	5	$2.19	$0.44	1.25	6	$2.55	$0.43	1.50	11	2.76
Food-22	1	50	-	-	-	-	1	$3.10	$3.10	2.00	1	2.00
Food-23	1	48	1	$0.02	$0.02	2.08	-	-	-	-	1	2.08
Food-24	2	200	4	$2.00	$0.50	2.00	8	$4.71	$0.59	4.00	12	6.00
Food-25	2	100	-	-	-	-	-	-	-	-	0	0
Food-26	4	300	1	$0.40	$0.40	0.33	-	-	-	-	1	0.33
Food-27	3	150	3	$0.65	$0.22	2.00	2	$1.29	$0.65	1.33	5	3.33
Food-28	4	200	-	-	-	-	-	-	-	-	0	0
Food-29	2	100	6	$1.50	$0.25	6.00	4	$1.96	$0.49	4.00	10	10.00
Food-30	1	50	-	-	-	-	-	-	-	-	0	0
Food-31	2	100	-	-	-	-	-	-	-	-	0	0
Food-32	1	100	8	$2.39	$0.30	8.00	2	$0.90	$0.45	2.00	10	10.00
Food-33	2	200	-	-	-	-	6	$1.85	$0.31	3.00	6	3.00
Food-34	1	50	-	-	-	-	-	-	-	-	0	0
Food-35	2	100	-	-	-	-	-	-	-	-	0	0
Food-36	15	800	5	$1.52	$0.30	0.63	4	$1.16	$0.29	0.50	9	1.13
Food-37	4	200	-	-	-	-	-	-	-	-	0	0
Food-38	2	100	-	-	-	-	-	-	-	-	0	0
Food-39	6	300	9	$2.74	$0.30	3.00	1	$0.20	$0.20	0.33	10	3.33
Food-40	3	150	6	$2.37	$0.40	4.00	2	$0.20	$0.10	1.33	8	5.33
Food-41	2	150	2	$1.20	$0.60	1.33	-	-	-	-	2	1.33
Food-42	9	650	9	$61.30	$6.81	1.38	4	$32.52	$8.13	0.62	13	2.00
Food-43	8	400	4	$1.80	$0.45	1.00	11	$10.22	$0.93	2.75	15	3.75
Food-44	2	100	-	-	-	-	-	-	-	-	0	0
Food-45	2	100	-	-	-	-	1	$0.50	$0.50	1.00	1	1.00
Food-46	2	100	-	-	-	-	1	$1.82	$1.82	1.00	1	1.00
Food-47	1	52	1	$0.30	$0.30	1.92	-	-	-	-	1	1.92
Food-48	2	100	2	$0.17	$0.09	2.00	4	$0.55	$0.14	4.00	6	6.00
Food-49	1	50	-	-	-	-	1	$0.10	$0.10	2.00	1	2.00
Food-50	3	200	3	$0.70	$0.23	1.50	1	$1.00	$1.00	0.50	4	2.00
Food-51	2	200	5	$2.81	$0.56	2.50	3	$2.10	$0.70	1.50	8	4.00
Food-52	2	100	10	$4.59	$0.46	10.00	4	$1.51	$0.38	4.00	14	14.00
Food-53	4	248	-	-	-	-	-	-	-	-	0	0
Food-54	8	400	9	$2.19	$0.24	2.25	2	$0.33	$0.17	0.50	11	2.75
Food-55	7	600	9	$3.01	$0.33	1.50	4	$8.80	$2.20	0.67	13	2.17
Food-56	20	1085	14	$5.51	$0.39	1.29	26	$9.83	$0.38	2.40	40	3.69
Food-57	2	100	-	-	-	-	-	-	-	-	0	0
Food-58	2	148	2	$0.89	$0.45	1.35	3	$0.88	$0.29	2.03	5	3.38
Food-59	2	100	-	-	-	-	-	-	-	-	0	0
Food-60	2	100	-	-	-	-	1	$0.04	$0.04	1.00	1	1.00
Food-61	2	150	3	$0.48	$0.16	2.00	4	$1.59	$0.40	2.67	7	4.67
Food-62	2	100	2	$0.26	$0.13	2.00	3	$1.54	$0.51	3.00	5	5.00
Food-63	6	300	2	$0.26	$0.13	0.67	-	-	-	-	2	0.67
Food-64	49	2603	27	$17.12	$0.63	1.04	32	$20.96	$0.66	1.23	59	2.27
Food-65	2	149	2	$0.20	$0.10	1.34	5	$1.31	$0.26	3.36	7	4.70
Food-66	2	100	1	$0.80	$0.80	1.00	-	-	-	-	1	1.00
Food-67	4	350	4	$2.74	$0.69	1.14	2	$3.00	$1.50	0.57	6	1.71

Food-68	2	100	-	-	-	-	-	-	-	-	0	0
Food-69	2	100	-	-	-	-	-	-	-	-	0	0
Food-70	2	100	5	$0.86	$0.17	5.00	3	$1.10	$0.37	3.00	8	8.00
Food-71	2	100	-	-	-	-	-	-	-	-	0	0
Food-72	4	200	2	$0.56	$0.28	1.00	4	$10.76	$2.69	2.00	6	3.00
Food-73	4	200	6	$3.00	$0.50	3.00	1	$0.06	$0.06	0.50	7	3.50
Food-74	2	100	1	$0.89	$0.89	1.00	-	-	-	-	1	1.00
Food-75	2	100	1	$0.20	$0.20	1.00	2	$1.80	$0.90	2.00	3	3.00
Food-76	2	100	-	-	-	-	-	-	-	-	0	0
Food-77	2	100	-	-	-	-	3	$1.70	$0.57	3.00	3	3.00
Food-78	2	149	3	$1.11	$0.37	2.01	1	$0.10	$0.10	0.67	4	2.68
Food-79	2	188	2	$1.10	$0.55	1.06	5	$3.29	$0.66	2.66	7	3.72
Food-80	6	348	1	$0.20	$0.20	0.29	4	$1.23	$0.31	1.15	5	1.44
Food-81	2	100	1	$0.19	$0.19	1.00	-	-	-	-	1	1.00
Food-82	3	150	3	$0.91	$0.30	2.00	-	-	-	-	3	2.00
Food-83	3	200	1	$0.14	$0.14	0.50	-	-	-	-	1	0.50
Food-84	2	100	13	$8.03	$0.62	13.00	8	$3.64	$0.46	8.00	21	21.00
Food-85	2	94	2	$0.55	$0.28	2.13	2	$2.20	$1.10	2.13	4	4.26
Food-86	2	200	3	$0.30	$0.10	1.50	-	-	-	-	3	1.50
Food-87	2	150	3	$0.89	$0.30	2.00	-	-	-	-	3	2.00
Food-88	2	100	4	$2.02	$0.51	4.00	6	$2.10	$0.35	6.00	10	10.00
Food-89	2	200	-	-	-	-	-	-	-	-	0	0
Food-90	35	2100	23	$11.57	$0.50	1.10	14	$5.55	$0.40	0.67	37	1.76
Food-91	2	102	-	-	-	-	-	-	-	-	0	0
Food-92	2	100	2	$1.35	$0.68	2.00	-	-	-	-	2	2.00
Food-93	6	397	2	$2.49	$1.25	0.50	8	$2.51	$0.31	2.02	10	2.52
Food-94	6	292	14	$5.29	$0.38	4.79	5	$1.81	$0.36	1.71	19	6.51
Food-95	8	550	12	$5.89	$0.49	2.18	1	$0.20	$0.20	0.18	13	2.36
Food-96	2	100	-	-	-	-	-	-	-	-	0	0
Food-97	6	297	6	$3.37	$0.56	2.02	2	$0.40	$0.20	0.67	8	2.69
Food-98	4	300	-	-	-	-	-	-	-	-	0	0
Food-99	1	50	-	-	-	-	-	-	-	-	0	0
Food-100	16	800	35	$31.30	$0.89	4.38	11	$12.00	$1.09	1.38	46	5.75
Food-101	6	300	9	$9.07	$1.01	3.00	7	$3.85	$0.55	2.33	16	5.33
Food-102	6	300	8	$3.06	$0.38	2.67	5	$0.88	$0.18	1.67	13	4.33
Food-103	2	100	-	-	-	-	1	$1.50	$1.50	1.00	1	1.00
Food-104	2	200	4	$0.60	$0.15	2.00	1	$0.16	$0.16	0.50	5	2.50
Food-105	2	198	4	$4.20	$1.05	2.02	-	-	-	-	4	2.02
Food-106	2	100	-	-	-	-	-	-	-	-	0	0
Food-107	2	100	1	$0.49	$0.49	1.00	-	-	-	-	1	1.00
Food-108	2	200	-	-	-	-	1	$0.50	$0.50	0.50	1	0.50
Food-109	2	100	-	-	-	-	-	-	-	-	0	0
Food-110	2	200	-	-	-	-	-	-	-	-	0	0
Food-111	2	100	-	-	-	-	6	$1.82	$0.30	6.00	6	6.00
Food-112	9	548	12	$5.30	$0.44	2.19	9	$11.40	$1.27	1.64	21	3.83
Food-113	2	150	2	$2.46	$1.23	1.33	1	$0.80	$0.80	0.67	3	2.00
Food-114	2	100	-	-	-	-	1	$0.02	$0.02	1.00	1	1.00
Food-115	2	100	-	-	-	-	-	-	-	-	0	0
Food-116	2	100	4	$2.12	$0.53	4.00	-	-	-	-	4	4.00
Food-117	2	100	-	-	-	-	-	-	-	-	0	0
Food-118	4	300	5	$4.38	$0.88	1.67	3	$1.81	$0.60	1.00	8	2.67
Food-119	2	140	-	-	-	-	4	$2.28	$0.57	2.86	4	2.86
Food-120	2	100	-	-	-	-	-	-	-	-	0	0
Food-121	2	100	-	-	-	-	1	$0.01	$0.01	1.00	1	1.00
Food-122	2	200	-	-	-	-	3	$2.79	$0.93	1.50	3	1.50
Food-123	2	99	-	-	-	-	-	-	-	-	0	0
Food-124	21	1197	27	$10.44	$0.39	2.26	16	$6.94	$0.43	1.34	43	3.59

Food-125	2	100	-	-	-	-	1	$0.20	$0.20	1.00	1	1.00
Hardware-1	1	50	1	$0.20	$0.20	2.00	2	$2.00	$1.00	4.00	3	6.00
Hardware-2	11	600	9	$22.71	$2.52	1.50	6	$9.15	$1.53	1.00	15	2.50
Hardware-3	13	950	125	$272.42	$2.18	13.16	75	$296.36	$3.95	7.89	200	21.05
Hardware-4	2	100	1	$10.00	$10.00	1.00	1	$0.99	$0.99	1.00	2	2.00
Hardware-5	1	49	-	-	-	-	-	-	-	-	0	0
Hardware-6	8	636	5	$2.12	$0.42	0.79	5	$3.64	$0.73	0.79	10	1.57
Hardware-7	1	50	2	$0.40	$0.20	4.00	1	$0.20	$0.20	2.00	3	6.00
Hardware-8	2	100	5	$2.95	$0.59	5.00	4	$20.20	$5.05	4.00	9	9.00
Hardware-9	1	50	3	$1.06	$0.35	6.00	2	$3.80	$1.90	4.00	5	10.00
Hardware-10	1	50	5	$7.36	$1.47	10.00	2	$7.19	$3.60	4.00	7	14.00
Hardware-11	12	850	24	$67.88	$2.83	2.82	26	$128.51	$4.94	3.06	50	5.88
Hardware-12	24	1733	18	$59.40	$3.30	1.04	15	$86.24	$5.75	0.87	33	1.90
Hardware-13	2	100	1	$2.00	$2.00	1.00	2	$10.00	$5.00	2.00	3	3.00
Hardware-14	6	400	58	$412.32	$7.11	14.50	42	$264.69	$6.30	10.50	100	25.00
Hardware-15	2	100	6	$11.82	$1.97	6.00	1	$2.24	$2.24	1.00	7	7.00
Hardware-16	2	200	8	$8.55	$1.07	4.00	4	$11.77	$2.94	2.00	12	6.00
Hardware-17	1	50	-	-	-	-	4	$15.77	$3.94	8.00	4	8.00
Hardware-18	32	1969	9	$79.72	$8.86	0.46	21	$154.18	$7.34	1.07	30	1.52
Hardware-19	1	48	4	$8.32	$2.08	8.33	5	$16.35	$3.27	10.42	9	18.75
Hardware-20	6	299	-	-	-	-	4	$5.83	$1.46	1.34	4	1.34
Hardware-21	2	179	7	$13.32	$1.90	3.91	1	$5.00	$5.00	0.56	8	4.47
Hardware-22	3	250	18	$113.58	$6.31	7.20	16	$51.31	$3.21	6.40	34	13.60
Hardware-23	1	100	3	$5.46	$1.82	3.00	10	$5.48	$0.55	10.00	13	13.00
Hardware-24	1	89	2	$10.00	$5.00	2.25	2	$11.00	$5.50	2.25	4	4.49
Hardware-25	5	446	1	$0.80	$0.80	0.22	3	$4.22	$1.41	0.67	4	0.90
Hardware-26	7	369	22	$75.86	$3.45	5.96	8	$2.71	$0.34	2.17	30	8.13
Hardware-27	1	48	5	$7.15	$1.43	10.42	10	$24.80	$2.48	20.83	15	31.25
Hardware-28	2	100	6	$19.84	$3.31	6.00	1	$0.10	$0.10	1.00	7	7.00
Mass Mdsr-1	15	1070	13	$41.36	$3.18	1.21	9	$38.85	$4.32	0.84	22	2.06
Mass Mdsr-2	1	50	1	$0.11	$0.11	2.00	2	$10.10	$5.05	4.00	3	6.00
Mass Mdsr-3	2	100	1	$6.00	$6.00	1.00	-	-	-	-	1	1.00
Mass Mdsr-4	1	50	-	-	-	-	-	-	-	-	0	0
Mass Mdsr-5	5	300	-	-	-	-	5	$140.94	$28.19	1.67	5	1.67
Mass Mdsr-6	2	150	-	-	-	-	2	$0.55	$0.28	1.33	2	1.33
Mass Mdsr-7	2	100	1	$0.60	$0.60	1.00	5	$11.92	$2.38	5.00	6	6.00
Mass Mdsr-8	4	199	1	$0.25	$0.25	0.50	1	$0.49	$0.49	0.50	2	1.01
Mass Mdsr-9	3	150	1	$1.09	$1.09	0.67	1	$3.00	$3.00	0.67	2	1.33
Mass Mdsr-10	6	400	2	$4.98	$2.49	0.50	7	$15.04	$2.15	1.75	9	2.25
Mass Mdsr-11	117	7473	149	$484.09	$3.25	1.99	187	$585.68	$3.13	2.50	336	4.50
Mass Mdsr-12	1	50	-	-	-	-	1	$1.70	$1.70	2.00	1	2.00
Mass Mdsr-13	3	150	1	$20.00	$20.00	0.67	2	$11.75	$5.88	1.33	3	2.00
Mass Mdsr-14	2	100	2	$0.44	$0.22	2.00	5	$7.47	$1.49	5.00	7	7.00
Mass Mdsr-15	2	100	-	-	-	-	-	-	-	-	0	0
Mass Mdsr-16	5	400	2	$1.01	$0.51	0.50	5	$15.02	$3.00	1.25	7	1.75
Mass Mdsr-17	5	250	5	$42.09	$8.42	2.00	19	$315.77	$16.62	7.60	24	9.60
Mass Mdsr-18	11	812	5	$16.55	$3.31	0.62	25	$134.99	$5.40	3.08	30	3.69
Mass Mdsr-19	63	4249	55	$157.13	$2.86	1.29	61	$212.06	$3.48	1.44	116	2.73
Mass Mdsr-20	2	100	1	$5.00	$5.00	1.00	1	$6.89	$6.89	1.00	2	2.00
Mass Mdsr-21	117	7898	57	$118.37	$2.08	0.72	94	$139.06	$1.48	1.19	151	1.91
Office Supplies-1	12	600	12	$43.00	$3.58	2.00	11	$126.98	$11.54	1.83	23	3.83
Office Supplies-2	2	150	7	$13.30	$1.90	4.67	6	$9.90	$1.65	4.00	13	8.67
Office Supplies-3	12	865	17	$18.21	$1.07	1.97	22	$73.70	$3.35	2.54	39	4.51
Other-1	2	100	-	-	-	-	3	$4.00	$1.33	3.00	3	3.00
Other-2	2	200	9	$32.64	$3.63	4.50	4	$3.70	$0.93	2.00	13	6.50
Other-3	2	100	-	-	-	-	-	-	-	-	0	0
Other-4	1	50	-	-	-	-	-	-	-	-	0	0

Other-5	1	49	-	-	-	-	1	$0.25	$0.25	2.04	1	2.04
Other-6	1	50	5	$3.81	$0.76	10.00	-	-	-	-	5	10.00
Other-7	1	50	-	-	-	-	-	-	-	-	0	0
Other-8	2	100	-	-	-	-	-	-	-	-	0	0
Other-9	3	150	4	$24.00	$6.00	2.67	6	$7.60	$1.27	4.00	10	6.67
Other-10	2	100	3	$8.20	$2.73	3.00	-	-	-	-	3	3.00
Other-11	2	100	-	-	-	-	-	-	-	-	0	0
Other-12	6	298	10	$8.04	$0.80	3.36	8	$28.73	$3.59	2.68	18	6.04
Other-13	1	50	-	-	-	-	-	-	-	-	0	0
Other-14	1	50	-	-	-	-	-	-	-	-	0	0
Sporting Goods-1	1	50	-	-	-	-	-	-	-	-	0	0
Sporting Goods-2	2	98	6	$482.00	$80.33	6.12	14	$156.61	$11.19	14.29	20	20.41
Sporting Goods-3	4	200	1	$1.00	$1.00	0.50	3	$37.02	$12.34	1.50	4	2.00
Sporting Goods-4	2	100	2	$5.51	$2.76	2.00	5	$54.75	$10.95	5.00	7	7.00
Sporting Goods-5	2	100	12	$16.33	$1.36	12.00	2	$5.84	$2.92	2.00	14	14.00
Sporting Goods-6	2	100	6	$119.00	$19.83	6.00	5	$75.55	$15.11	5.00	11	11.00
Sporting Goods-7	3	150	-	-	-	-	-	-	-	-	0	0
Sporting Goods-8	1	50	-	-	-	-	-	-	-	-	0	0
Sporting Goods-9	2	100	-	-	-	-	-	-	-	-	0	0
Toys-1	7	347	2	$4.75	$2.38	0.58	3	$24.25	$8.08	0.86	5	1.44
Toys-2	34	2350	13	$26.61	$2.05	0.55	32	$145.18	$4.54	1.36	45	1.91
Variety-1	2	100	2	$4.25	$2.13	2.00	-	-	-	-	2	2.00
Variety-2	3	150	-	-	-	-	-	-	-	-	0	0
Variety-3	5	225	1	$0.66	$0.66	0.44	-	-	-	-	1	0.44
Variety-4	2	100	-	-	-	-	-	-	-	-	0	0
Variety-5	1	50	-	-	-	-	1	$0.70	$0.70	2.00	1	2.00
Variety-6	1	50	-	-	-	-	-	-	-	-	0	0
TOTALS	**1,776**	**107,096**	**1,825**	**$5,840.57**	**$3.20**	**1.70**	**1,769**	**$9,339.17**	**$5.28**	**1.65**	**3,594**	**3.36**