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United States
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Agriculture

**Food and
Nutrition
Service**

Office of
Analysis and
Evaluation

The Impacts of the State-Initiated EBT Demonstrations on the Food Stamp Program

June 1993

Summary of "The Impacts of the State-Initiated EBT Demonstrations on the Food Stamp Program"

Background

Over the past 10 years the Food and Nutrition Service (FNS) has been investigating the feasibility, cost-effectiveness and general impacts of an alternative method of issuing and redeeming benefits in the Food Stamp Program. This method, called electronic benefit transfer (EBT), eliminates the use of paper food stamp coupons. Program recipients instead use EBT access cards and point-of-sale (POS) terminals deployed at retailers' checkout counters to pay for food items. The terminals connect to a computer center which records recipients' benefit use and initiates electronic funds transfers through the banking system to reimburse retailers.

In 1988 FNS authorized EBT demonstrations in Ramsey County, Minnesota; New Mexico; Arizona and Washington State (Arizona and Washington State terminated their project prior to implementation). These demonstrations have come to be known as the "State-Initiated EBT demonstrations". Unlike a prior EBT demonstration in Reading, Pennsylvania, in which FNS took the lead in selecting an EBT vendor and in managing the demonstration, these projects were initiated by State or County agencies. These agencies were responsible for procuring the services of EBT vendors and for overall management of the demonstration activity. Additionally, these systems included cash assistance and were integrated with commercial electronic funds transfer networks.

The main purpose of the State-initiated demonstrations is to determine if it is possible for State agencies and their EBT vendors to design and operate EBT systems that are secure and acceptable for participants and retailers, yet have costs approaching those associated with current coupon-based issuance systems.

Findings

EBT administrative operating costs are lower than coupon issuance costs in each site. The operating cost of issuing food stamp benefits electronically under the EBT system is $3.07 per case month in New Mexico compared to the paper coupon issuance cost of $4.04. In Ramsey County, the EBT cost was $4.38 per case month while the paper coupon issuance cost was $4.53. (These costs do not include the cost to design, develop and implement the EBT systems.)

The estimated level of benefit loss and diversion in the Food Stamp Program is reduced under both EBT systems. In New Mexico, estimated benefit loss and diversion rates declined from $4.37 per case month under coupons to $1.09 with EBT. This was a 75 percent reduction. These rates decreased from $5.29 to $1.01 per case month in Ramsey County, an 81 percent reduction.

[Continued]

Both EBT systems reduce retailers' costs to participate in the Food Stamp Program, and retailers in both sites prefer EBT. EBT reduces participation costs for retailers in New Mexico by an average of $3.98 for every $1,000 of food stamp sales and by $9.09 in Ramsey County. Retailers' in New Mexico prefer EBT to coupons by a margin of 7 to 1. Retailers in Ramsey County also prefer EBT, but by a smaller margin, 1.4 to 1.

Food stamp recipients' participation costs decrease under EBT and they strongly prefer the EBT systems to coupons. Average recipient participation costs in New Mexico declined from $3.89 per month with coupons to $1.44 with EBT. Ramsey County recipients' costs decreased from an average of $3.59 with coupons to $1.95 under EBT. Recipients prefer EBT to coupons by a margin of 29 to 1 in New Mexico and 4 to 1 in Ramsey County.

Financial institutions strongly prefer EBT and their costs were reduced under the EBT systems. The net costs of participation for local banks fell by $3.17 and $5.48 per $1,000 of benefits redeemed in New Mexico and Ramsey County, respectively. Concentrator banks which transfer EBT credits to the retailers' depository bank via the Federal Reserve's automated clearinghouse charge fees that offset their costs. The Federal Reserve Banks incurred no net costs under either system because their fees are designed to cover their costs. All bank representatives interviewed prefer the EBT systems.

Despite the positive achievement of the New Mexico and Ramsey County EBT demonstrations, it cannot be assumed that EBT systems in other locations will be cost-competitive as well. The cost-competitiveness of other EBT systems will depend on: 1) the efficiency of client training and card issuance; 2) the fees and other charges paid to the system operator; 3) the extent to which network costs are shared with retailers and third-party networks; 4) EBT project management and support costs; and 5) the cost of the coupon system being replaced.

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EXECUTIVE SUMMARY

Over the past 10 years the Food and Nutrition Service (FNS) of the U.S. Department of Agriculture has been investigating the feasibility, cost-effectiveness and general impacts of an alternative method of issuing and redeeming benefits in the Food Stamp Program. This method, called electronic benefit transfer (EBT), eliminates the use of paper food stamp coupons. Program recipients instead use EBT access cards and point-of-sale (POS) terminals deployed at retailers' checkout counters to pay for food items. The terminals connect to a computer center which records recipients' benefit use and initiates electronic funds transfers through the banking system to reimburse retailers.

The first EBT demonstration project was implemented in Reading, Pennsylvania, in 1984. An evaluation of that demonstration's on-line EBT system concluded that recipients, retailers and financial institutions preferred the EBT system to the use of food stamp coupons, and that their costs to participate in the Food Stamp Program were lower under EBT.[1,2] In addition, the EBT system reduced estimated levels of benefit loss and diversion in the Food Stamp Program. The EBT system, however, cost about $27 per case month to operate compared to $3 per case month for the coupon issuance system that was replaced. The higher EBT system costs were due, in part, to the operation of a small-scale system by a private vendor who had to maintain a dedicated computer facility for the project.

In an effort to reduce EBT operating costs, the Pennsylvania Department of Public Welfare assumed responsibility for operating the Reading system in 1986 and implemented a redesigned system in 1987. An evaluation of the new system again found reductions in benefit loss and diversion and positive impacts among participating recipients, retailers and financial

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[1] An **on-line** EBT system requires communication between a store's POS terminal and the system's computer when authorizing a purchase, because information about recipients' remaining EBT balances is maintained in a central database. In an **off-line** EBT system, remaining balance information is maintained on the recipient's EBT access card, and no communication with a central computer is needed to authorize a purchase.

[2] William L. Hamilton et al., The Impact of an Electronic Benefit Transfer System in the Food Stamp Program, Cambridge, Massachusetts: Abt Associates Inc., May 1987.

institutions.[1] Administrative costs for EBT were substantially reduced from the earlier period (to $9 per case month), but they were still three times the cost of the coupon issuance system that had been replaced.

THE STATE-INITIATED EBT DEMONSTRATIONS

In a further effort to determine whether EBT systems could be cost-competitive with coupon issuance while still remaining secure and acceptable to participants, FNS entered into Cooperative Agreements with three State agencies and one County agency in 1988 to conduct additional on-line EBT demonstrations. These "State-initiated" demonstrations differed from the Reading demonstration in several ways. First, the new demonstration projects were initiated and directly managed by the State and County agencies rather than by FNS. Second, each demonstration site included more food stamp households than the Reading demonstration. Third, each of the proposed EBT demonstrations was to include cash assistance programs, such as Aid to Families with Dependent Children (AFDC), as well as the Food Stamp Program. Finally, the proposed demonstrations were to be integrated with commercial electronic funds transfer (EFT) networks. The expectation was that the new demonstrations would serve as a more realistic model for future EBT initiatives and that administrative costs within the Food Stamp Program would be lower than in Reading, due to cost sharing opportunities with other programs and with commercial EFT networks.

The four State-initiated demonstration sites were in Arizona, New Mexico, Minnesota and Washington State. Arizona and Washington State ultimately canceled their EBT demonstrations due to State budgetary constraints and, in Washington State, due to difficulties in negotiating a cost-competitive arrangement with retailers and the system vendor.[2] This report presents the results of the evaluation of the New Mexico and Ramsey County, Minnesota, EBT

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[1] John A. Kirlin et al., The Impacts of the State-Operated Electronic Benefit Transfer System in Reading, Pennsylvania, Cambridge, Massachusetts: Abt Associates Inc., February 1990.

[2] A description of EBT system design, development and implementation activities for the four State-initiated demonstrations, including reasons for Arizona's and Washington State's decisions to cancel their projects, is presented in Michelle Ciurea et al., The State-Initiated EBT Demonstrations: Their Design, Development and Implementation, Cambridge, Massachusetts: Abt Associates Inc., June 1993.

demonstrations. The New Mexico EBT demonstration includes all food stamp and AFDC households in Bernalillo County, which includes Albuquerque. The Ramsey County EBS[1] demonstration includes several State cash assistance programs as well as food stamps and AFDC. The demonstration site encompasses the city of St. Paul. Prior to their EBT demonstrations, both New Mexico and Ramsey County issued food stamp coupons by mail, with some over-the-counter pickups.

RESEARCH QUESTIONS

Given the high administrative costs of the two Reading EBT systems, the major research focus of the evaluation of the State-initiated EBT demonstrations is on administrative costs. Are the administrative costs of issuing food stamp benefits through the New Mexico and Ramsey County EBT systems lower than, equal to, or higher than the costs of issuing food stamp coupons? How are coupon- and EBT-related costs spread across major issuance and redemption tasks and across federal, state and local agencies?

Previous research indicates that the Reading EBT systems reduced levels of benefit loss and diversion within the Food Stamp Program. Are these findings replicated in the State-initiated demonstrations? When the EBT systems' impacts on levels of benefit loss (which affect program costs) are added to their impacts on administrative costs, which system (coupons or EBT) holds the comparative cost advantage?

The evaluation also examines EBT system impacts on food stamp recipients, program-authorized retailers, and financial institutions participating in the demonstrations. The basic questions for these groups are whether the EBT systems affect program participation costs, whether participants prefer the paper-based coupon system or the EBT system, and why participants prefer one system over the other.

Finally, the evaluation addresses the question of whether, based on answers to the above questions and other related issues, it is feasible or desirable to continue, expand, or transfer either of the demonstration EBT systems.

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[1] Ramsey County officials use the term EBS (for electronic benefit system) rather than EBT.

RESEARCH APPROACH

The evaluation's basic research design is a pre/post comparison of the coupon and EBT issuance systems. Between September of 1989 and April of 1990, prior to the implementation of either site's EBT system, project staff collected data on: the administrative costs of issuing food stamp coupons; levels of benefit loss and diversion under the coupon-based issuance systems; and recipients', retailers', and financial institutions' costs to participate in the Food Stamp Program. Between March-August of 1992, after each EBT system had been implemented, project staff collected similar data on administrative costs, benefit loss and diversion, and participants' costs under the demonstration EBT systems. For most analyses, EBT system impacts are estimated as the difference in outcomes measured during these two data collection periods.

The research design for the analysis of EBT system impacts on administrative costs is based on a resource inventory accounting approach; all resources used in issuing food stamp benefits are identified and priced. The administrative cost analysis also includes pre/post measures of costs at comparison-site offices as well as demonstration-site offices. This pre/post, comparison/treatment research design allows a more precise estimation of EBT impacts by accounting for factors other than EBT that might have changed administrative costs between the pre- and post-implementation periods. The comparison sites are St. Louis County (Duluth) in Minnesota and Doña Ana County (Las Cruces) in New Mexico.

EVALUATION RESULTS

Exhibit 1 presents a summary of the evaluation's major findings. The most important new information concerns EBT's administrative operating costs. *The food stamp portion of each EBT system costs less to operate than the estimate of what each site's coupon issuance costs would have been in the same time period.* In addition, both EBT systems reduce levels of benefit loss and diversion in the Food Stamp Program, and both systems reduce recipients', retailers', and financial institutions' costs to participate in the Food Stamp Program.

When looking at EBT system impacts on costs, the evaluation has standardized all measured costs in terms of either "cost per case month" or "cost per $1,000 of benefits redeemed," as can be seen in the exhibit. Costs have been standardized (using either metric)

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Exhibit 1

SUMMARY OF SYSTEM IMPACTS

	New Mexico		Ramsey County	
	Coupon	EBT	Coupon	EBS
Administrative Costs				
Cost per case month	**$4.04**	**$3.07**	**$4.53**	**$4.38**
Benefit Loss and Diversion				
Program loss per case month	$1.44	$0.07	$1.26	$0.08
Participant loss per case month[a]	$0.93	$0.35	$2.20	$0.32
Benefit diversion per case month	$2.00	$0.67	$1.83	$0.61
Total loss and diversion per case month	**$4.37**	**$1.09**	**$5.29**	**$1.01**
Retailers' Costs of Participation				
Cost per $1,000 of benefits redeemed	**$17.83**	**$13.85**	**$46.05**	**$36.96**
Recipients' Costs of Participation				
Expenditure per case month	$3.12	$0.66	$3.02	$1.04
Time spent (in minutes) per case month	10.9	11.0	8.0	12.8
Total cost per case month[b]	**$3.89**	**$1.44**	**$3.59**	**$1.95**
Financial Institutions' Costs of Participation[c]				
Local banks' net cost per $1,000 of benefits redeemed	$3.29	$0.12	$5.52	$0.04
Concentrator banks' net cost per $1,000 of benefits redeemed	$0.00	($0.02)	$0.00	($0.15)
Federal Reserve Bank's net cost per $1,000 of benefits redeemed	$0.00	$0.00	$0.00	$0.00
Total net cost per $1,000 of benefits redeemed	**$3.29**	**$0.10**	**$5.52**	**($0.11)**

Notes: [a] Participant losses are double-counted in this Exhibit in that they are also included in retailers', recipients', and financial institutions' costs of participation. They are presented as part of benefit loss and diversion to provide a better perspective on the overall security of the EBT and coupon issuance systems.

[b] Recipients' time is valued at the federal minimum wage of $4.25 per hour.

[c] Parentheses indicate that revenue exceeds cost by the amount shown.

so that costs can be compared across systems and across demonstration sites without concern for scale. The two different metrics have been used because some costs (e.g., administrative costs) vary mostly by the number of cases served, while other costs (e.g., retailers' and financial institutions' costs) vary mostly by the dollar value of benefits processed. Thus, in each case, the evaluation has standardized costs in terms of logical units.

With two different standardization measures, however, it is more difficult to compare one component of an EBT system's impacts to another or to discuss an overall impact of EBT in either site. To enable such comparisons, Exhibit 2 represents the evaluation cost findings entirely in terms of cost per case month.[1] In New Mexico, the overall cost of the food stamp portion of the EBT system works out to $7.80 per case month, just over one-half of the $15.22 per-case-month overall cost of the coupon issuance system it replaced. The Ramsey County EBS system's overall food stamp cost ($13.15 per case month) is just two-thirds as great as the cost imposed by the prior coupon issuance system ($19.79 per case month).

Clearly, the overall impacts of each EBT system are substantial, and savings are found in each line of analysis that was conducted. It is important to recognize, however, that coupon-based and EBT-based costs are spread over a number of different private and public sector entities. Among program participants, it is not necessarily true that everybody realized a savings with EBT. Some retailers and some food stamp recipients incurred higher costs under EBT, despite the overall savings within each group. In the public sector, the evaluation did not measure the full administrative cost of issuing AFDC and other cash assistance benefits. Thus, while savings were realized for the Food Stamp Program, the EBT systems' impacts on costs in the Administration for Children and Families (the federal agency responsible for AFDC) and the total cost impact on State and local governments (which incur administrative costs for both cash assistance programs and the Food Stamp Program) are not known.

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[1] In transforming cost per $1,000 of benefits redeemed to cost per case month, we divided the evaluation estimate of the cost per $1,000 of benefits redeemed by the number of households' monthly allotments needed to generate $1,000 of redeemable benefits. In March 1992, the average food stamp allotment in New Mexico was $172.06, so about 5.8 cases were required to generate $1,000 in benefits. At the same time the average Ramsey County food stamp allotment was $157.06, requiring about 6.4 cases to generate $1,000 in benefits.

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Exhibit 2

SUMMARY OF SYSTEM IMPACTS
(Cost per Case Month)

	New Mexico		Ramsey County	
	Coupon	EBT	Coupon	EBS
Administrative Costs				
Cost per case month	$4.04	$3.07	$4.53	$4.38
Benefit Loss and Diversion				
Program loss per case month	$1.44	$0.07	$1.26	$0.08
Benefit diversion per case month	$2.00	$0.67	$1.83	$0.61
Retailers' Costs of Participation				
Cost per case month	$3.25	$2.53	$7.66	$6.15
Recipients' Costs of Participation				
Cost per case month[a]	$3.89	$1.44	$3.59	$1.95
Financial Institutions' Costs of Participation[b]				
Total net cost per case month	$0.60	$0.02	$0.92	($0.02)
Total Cost per Case Month	$15.22	$7.80	$19.79	$13.15

Notes: [a] Recipients' time is valued at the federal minimum wage of $4.25 per hour.

[b] Parentheses indicate that revenue exceeds cost by the amount shown.

Further information about each system impact within the Food Stamp Program is presented below.

EBT administrative operating costs in each site are lower than coupon issuance costs.

Based on cost reports prepared by the demonstration sites, time studies of issuance-related activities in local offices, and interviews with program officials at the local, State, regional and national levels, the operating cost of the food stamp portion of New Mexico's EBT system is $3.07 per case month. This estimate, which does not include any system start-up costs,[1] is well below the evaluation estimate of what the coupon issuance system would currently cost had it remained in place ($4.04 per case month).

The estimated impacts in Ramsey County are not so dramatic, but still very important. The food stamp portion of the Ramsey County EBS system costs $4.38 per case month to operate, again excluding any amortization of system start-up costs.[2] The estimated EBS cost is slightly lower than the evaluation estimate of what the coupon system would have cost ($4.53 per case month) had it remained in place.

A number of factors help make Ramsey County's EBS system cost more to operate than New Mexico's EBT system. The two major factors, however, are tele-communications costs and POS terminal costs. With regard to telecommunications costs, the New Mexico EBT processor is located in Albuquerque. EBT messages sent between retailers' POS terminals and the processor's computer do not incur long-distance charges, and the retailers pay local telephone charges. The Ramsey County processor, in contrast, is located in Texas, and the County pays all telecommunications charges. Together, the long distance and local telecommunications charges in Ramsey County cost an average of nearly $0.83 per case month, or nearly two-thirds of the $1.31 per-case-month difference in the two sites' EBT operating costs.

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[1] Start-up costs for the New Mexico EBT demonstration, in constant 1992 dollars, were $212,210 for system design, $707,108 for system development, and $660,346 for system implementation. The total was $1,579,664. See Ciurea et al., op. cit., pp. 145-178 for details.

[2] Start-up costs for the Ramsey County EBS demonstration, in constant 1992 dollars, were $710,146 for system design, $680,377 for system development, and $686,936 for system implementation. Total cost was $2,077,459. See Ciurea et al., op. cit., for details.

New Mexico also pays less per case month than does Ramsey County to maintain its POS terminal network, largely due to a greater presence of third-party processors in New Mexico. Terminal lease, depreciation and maintenance costs for terminals deployed by third parties are paid for -- directly or indirectly -- by the retailers, who benefit from being able to use these terminals for commercial EFT transactions (e.g., credit card or debit card sales) as well as EBT transactions. Similarly, retailers bear part of the cost of terminals deployed by the system processor when those terminals also accept commercial EFT transactions. Together, these savings from third-party participation and retailer cost sharing amount to about $0.44 per case month.[1]

The EBT cost estimates presented in Exhibit 1 reflect a specific set of assumptions regarding how costs shared by the food stamp and cash assistance portions of the EBT systems are allocated across programs. Costs for functions clearly supporting a particular program are allocated to that program. Some costs are allocated according to the relative size of the food stamp and cash assistance caseloads using the systems, and other costs are allocated according to the relative number of EBT transactions initiated by recipients in each program.

Different allocation methods are possible. All shared costs could be allocated according to caseload size, or they could all be allocated according to transaction counts. Depending on how shared costs are allocated, Food Stamp Program administrative costs in New Mexico range from $3.05 to $3.19 per case month; the system remains cost-competitive with coupon issuance regardless of allocation method. In Ramsey County, choice of allocation method has a greater impact on estimated program costs because more costs (especially terminal-related costs) are shared. Ramsey County's food stamp issuance costs can go as low as $3.69 or as high as $4.71 per case month, depending on allocation method. If all shared costs are allocated in proportion to the relative number of EBT transactions initiated by recipients in each program, food stamp issuance in Ramsey County becomes somewhat more expensive (a $0.19 per-case-month increase) under EBS than under mail coupon issuance.

[1] The $0.83 per-case-month telecommunications costs and the $0.44 per-case-month savings from terminal cost sharing do not sum exactly to the $1.31 per-case-month difference in the two sites' EBT operating costs; other factors also affect the difference in site operating costs, though to a lesser extent and often in offsetting ways.

The multi-program nature of each site's EBT system reduces food stamp operating costs regardless of allocation method. If New Mexico had operated a food stamp-only EBT system, the estimated operating costs would have been at least $3.33 per case month. A food stamp-only Ramsey County system would have cost at least $5.06 per case month. Actual costs would probably have been even higher because, with fewer EBT transactions to generate revenue, the EBT processors might have charged higher unit fees.

One early concern about the evaluation's planned administrative cost analysis was that system operators' **billed costs** for EBT operations might not reflect actual **resource costs**, either because negotiated contract fees were based on faulty assumptions or because vendors might lower their fee structure to gain an early foothold in the developing EBT market. If this occurred, then the evaluation's administrative cost analysis (which is based, in part, on system operators' billed fees) would present an unrealistically low estimate of the probable long-term costs of EBT. Based on information gathered during the evaluation, however, there is no evidence that the system operators' billed costs were lower than their actual operational resource costs. Thus, there is no expectation that these sites' EBT costs will rise in the future solely due to the operators' needs to reduce current operating losses.

Both EBT systems reduce estimated levels of benefit loss and diversion in the Food Stamp Program.

Any Food Stamp Program issuance system is going to be vulnerable to both benefit loss and benefit diversion. Benefit loss includes **program losses** that add to program costs (e.g., replacing coupons reported as lost or stolen from the mail) and **participant losses** that add to participants' costs of being in the Food Stamp Program (e.g., coupons lost by or stolen from a recipient after receipt). **Benefit diversion** occurs when program benefits are not used for their intended purpose, whether or not the diversion is legal (e.g., spending cash change from a food stamp purchase on non-food items) or illegal (e.g., benefit trafficking -- selling one's food stamp benefits for cash).

The evaluation estimated levels of benefit loss and diversion under the coupon and EBT issuance systems based on a combination of: program reports that cover coupon-related program losses; interviews with recipients, retailers, and financial institution representatives; and interviews with individuals knowledgeable about coupon and EBT system security issues. The

intent was to estimate the likely long-run loss and diversion rates in the EBT systems, and to compare these rates to estimated levels of benefit loss and diversion in the two sites' coupon mail issuance systems.

Under their respective EBT systems, the evaluation's estimate of total benefit loss and diversion is $1.09 per case month in New Mexico and $1.01 per case month in Ramsey County. These EBT rates are 75 to 81 percent lower than the $4.37 per-case-month estimate of coupon loss and diversion in New Mexico and the $5.29 estimate in Ramsey County. These savings are spread across all three components of benefit loss and diversion. Participants reported fewer instances of lost, stolen or miscounted benefits under the EBT systems, and the security experts believed that both program losses and benefit diversions would decline under EBT. The major reduction in program losses comes from the elimination of coupon mail loss. The systems' elimination of cash change from food stamp purchases contributed substantially to the decline in benefit diversion. The security experts also believed that EBT would reduce benefit trafficking by about 50 percent.

Program losses add to overall program costs, so it is reasonable to add the EBT systems' impacts on program losses to their impacts on administrative costs when determining the cost-competitiveness of each system. Exhibit 3 shows the result of this combination of costs.

Exhibit 3

ADMINISTRATIVE COSTS PLUS PROGRAM LOSSES

	New Mexico		Ramsey County	
	Coupon	EBT	Coupon	EBS
Administrative cost per case month	$4.04	$3.07	$4.53	$4.38
Program loss per case month	$1.44	$0.07	$1.26	$0.08
Total cost per case month	$5.48	$3.14	$5.79	$4.46

With this treatment, the New Mexico EBT system becomes even more cost-competitive than before. Estimated savings are $2.34 per case month, a 43-percent reduction. Estimated savings in the Ramsey County EBS system are $1.33 per case month, or a 23-percent reduction in total issuance-related costs.

Both EBT systems reduce retailers' costs to participate in the Food Stamp Program, and retailers in both sites prefer the EBT system to coupon issuance.

The evaluation measured these costs through detailed interviews with store owners and managers, and through observation of how much time was required at checkout counters to complete purchases paid for with cash, food stamp coupons, or the EBT system.

The EBT demonstration reduces estimated participation costs among sampled New Mexico retailers by an average of $3.98 for every $1,000 of food stamp sales transacted -- a 22-percent reduction. In Ramsey County the absolute value of the EBT reduction is much larger -- $9.09 per $1,000 of benefits redeemed – but the percentage reduction is nearly the same at 20 percent. This seemingly anomalous result occurs because Ramsey County retailers' participation costs are much higher than New Mexico retailers' costs, regardless of which system is being used. These higher costs are due, in part, to differences in monthly redemption volumes. Ramsey County stores in the evaluation sample redeem, on average, about one-sixth the amount of food stamp benefits as do sampled New Mexico stores, so certain fixed costs in Ramsey County get spread over a smaller dollar volume when monthly costs are divided by monthly food stamp redemptions.

Retailers in both sites prefer the EBT system to food stamp coupons. In New Mexico the margin of preference is 7 to 1. Ramsey County retailers are less positive about EBT than New Mexico retailers, but still prefer the EBS system by a margin of about 1.4 to 1. The smaller margin in Ramsey County is consistent with retailers' perceptions about the impacts of EBT on store operating costs and profits. More Ramsey County retailers believed that EBT increased store operating costs than reduced them (despite the evaluation's findings of an opposite effect when averaged over the entire research sample), and nearly as many Ramsey County retailers believed that EBT reduced profits as increased them. In New Mexico, in contrast, about the same number of retailers saw EBT decreasing store operating costs as increasing them, and many more saw EBT contributing to higher rather than lower store profits.

Those retailers in both sites who prefer the EBT system say the EBT system involves easier handling and deposit procedures, processes transactions more quickly, and reduces Food Stamp Program fraud. Retailers who prefer coupons most often say that transactions are faster with coupons than with EBT.

Food stamp recipients strongly prefer the EBT systems to the use of food stamp coupons, and their participation costs decrease under EBT.

During the baseline and post-implementation surveys at each demonstration site, Food Stamp Program recipients were asked about problems they had with the coupon- and EBT-based issuance systems, how much time and out-of-pocket expenses they incurred to obtain their benefits, what they liked or disliked about each system, and which system they preferred.

Recipients in the two demonstration sites who had participated under both the coupon and EBT systems strongly prefer the EBT systems. The margin of preference is 4 to 1 in Ramsey County and an extraordinary 29 to 1 in New Mexico. Recipients who prefer EBT say that the systems are easier, more convenient, safer, and quicker to use than coupons. Those recipients preferring coupons say that coupons are accepted at more stores and that it is easier to know how many coupons one has left than one's remaining EBT balance.

The New Mexico EBT system reduces food stamp recipients' costs to participate in the program, from an average of $3.89 per month with coupon issuance to an average of $1.44 per month with EBT. The $2.45 (or 63 percent) monthly reduction is due almost entirely to lower direct costs (including out-of-pocket expenses, lost or stolen benefits, losses which recipients attribute to issuance errors, and the opportunity cost of issuance delays). The EBT system has virtually no effect on the amount of time New Mexico recipients spend each month obtaining benefits or dealing with issuance-related problems.

The Ramsey County EBS system appears to reduce recipients' total participation costs as well (from an average of $3.59 per month to $1.95 per month), but the estimated $1.64 per month reduction is not statistically significant. The Ramsey County system does reduce recipients' average direct costs of participation by $1.98 per month, but this reduction is offset by a slight increase (about five minutes per month) in the amount of time recipients spend obtaining benefits and dealing with issuance-related problems.

Banking representatives strongly prefer the EBT systems to coupon redemption, and the EBT systems reduce their overall participation costs.

A number of different banking institutions participate in food stamp redemption activities. In the coupon system, local banks receive retailers' coupon deposits, credit the retailers' accounts, and send the coupons to a Federal Reserve Bank for reimbursement. In an EBT system, the system processor totals each retailer's net EBT credits each day and sends this information to the system's "concentrator" bank.[1] The concentrator bank uses the Federal Reserve's automated clearinghouse (ACH) network to transfer an EBT credit electronically to the retailer's depository bank. The concentrator bank is reimbursed from a program account at the U.S. Treasury.

All bank representatives who were interviewed said that they prefer the EBT systems to handling coupons. Receiving and sending coupons through the banking system is a labor-intensive process, while banks' processing of EBT credits closely mirrors the banks' normal processing of electronic funds transfers. Local banks, in particular, enjoy reduced costs with the implementation of an EBT system. Net costs (i.e., operating costs minus revenues, if any) for local banks in New Mexico declined by $3.17 per $1,000 of benefits redeemed under EBT, compared to the coupon redemption system; net costs for local banks in Ramsey County fell by $5.48 per $1,000. The concentrator banks' EBT fees offset or slightly exceeded their costs of submitting EBT information to the ACH network. Finally, the Federal Reserve Banks incurred no net costs under either system, because their coupon handling and ACH fees are designed to cover their respective costs.

Both EBT systems could be continued or expanded with few difficulties, but FNS should not expect that these systems could be directly transferred to another State without significant costs.

State and County officials in both demonstration sites want to continue and even expand EBT system operations to other locations within each State. The evaluation results reveal no argument against system continuation or expansion. Participants in both demonstrations clearly like the EBT systems, and there are few technical impediments to expansion. In addition, the

[1] In New Mexico, the system processor and the concentrator bank are the same institution.

New Mexico system is reportedly already in compliance with new federal regulations governing the design and operations of on-line EBT systems. The Ramsey County system complies with nearly all aspects of the regulations and could probably be brought into compliance with only minor changes.

Transferring either EBT system to another State would likely entail lower system design and development costs than developing a new system, but the difference might not be as great as expected. Although each system's transaction processing software could be used in another site, other aspects of either system would have to be redesigned. For instance, each State's issuance system has unique characteristics, and a new interface between an EBT system and a State agency's issuance system would need to be designed and developed. Other State agencies might also want different administrative functions to be performed at EBT workstations, or new management reports to be prepared by the system. Finally, other State agencies might wish to serve a different combination of cash assistance programs than in New Mexico or Ramsey County, and this could require substantial additional design and development effort. Together, these redesign efforts could significantly reduce the savings on design and development costs that might otherwise result from a transferred system.

Despite the positive achievements of the New Mexico and Ramsey County EBT demonstrations, it cannot be taken for granted that EBT systems in other locations would be cost-competitive as well.

By the measures of this evaluation, the New Mexico and Ramsey County EBT systems are a cost-competitive issuance approach for the Food Stamp Program. The fact that both demonstration sites implemented cost-competitive systems, however, does not mean that EBT's cost-competitiveness can be taken for granted. Many factors affect the likelihood of an EBT system being cost-competitive.

The first factor is the cost of the coupon issuance system being replaced.[1] Coupon issuance costs vary substantially from one location to another, so an EBT system that is cost-competitive in one area might not be in another. Available evidence suggests that the coupon

[1] An analysis of several States' reported coupon issuance costs suggests that not all issuance-related costs in the Food Stamp Program are reported as such. This means that, when examining the likely cost-competitiveness of an EBT system, reported coupon issuance costs must be supplemented by an in-depth analysis of all resources devoted to coupon issuance, especially at the local office level, to determine the true cost of coupon issuance.

costs measured in New Mexico and Ramsey County are fairly typical, especially for urbanized areas served by a central mail issuance unit. But lower-cost coupon issuance systems certainly exist, and cost-competitive EBT systems will be harder to implement in such situations.

Turning to the EBT system itself, the cost-competitiveness of an EBT system depends on four key elements: (1) the efficiency of client training and card issuance; (2) the fees and other charges paid to the system operator; (3) the extent to which POS network costs are shared with retailers and third-party networks; and (4) EBT project management and support costs. As noted earlier, greater cost-sharing negotiated with retailers and third parties in New Mexico helped that site's EBT system achieve greater cost savings than the Ramsey County EBS system. New Mexico also capitalized on a factor that will not be available to most potential EBT sites: the EBT system operator's close proximity to the terminal network eliminated long-distance telecommunications charges.

The fees and other charges paid to the system operator and the ability to share POS network costs reflect a very important determinant of whether an EBT system can be cost-competitive. *EBT system integration with commercial EFT services may be an absolute requirement for a cost-competitive system.* If the terminal network can provide retailers with commercial EFT services such as check authorization or credit or debit card processing, the ability to negotiate cost-sharing arrangements is enhanced. Furthermore, integration provides the system operator an additional source of revenue, allows the system operator to spread its cost of management and technical support over a much larger base of customers, and -- by increasing transaction volume -- allows the operator to attain lower unit processing costs. Each of these factors provides an opportunity for the system operator to charge lower unit fees for EBT processing.

The scale of the EBT project will also affect its cost-competitiveness, as will certain features of the environment in which it is implemented. As the number of cases served by the EBT system increases, the system operator's unit processing costs will decrease. The number and size of retailers in the project area (which help determine the number of terminals to be deployed), relative to the number of cases served, will also affect the degree to which terminal network costs can be spread over a larger caseload.

The inclusion of cash assistance programs in an EBT system should improve the system's ability to be a cost-competitive issuance system for the Food Stamp Program, because costs for client training and card issuance can be shared between programs. Large savings, however, should not be anticipated. In New Mexico and Ramsey County, the inclusion of cash assistance programs reduced Food Stamp Program costs by $0.26 and $0.68 per case month, respectively. These savings amounted to cost reductions of 9 and 15 percent.

There is a final caveat with regard to the cost-competitiveness of EBT systems for the Food Stamp Program. The estimated operating costs of the New Mexico and Ramsey County EBT systems do not include any amortized system start-up costs. Current federal regulations for the Food Stamp Program require that such start-up costs be amortized over up to a seven-year period.[1] It is quite possible that, if these regulations were applied to the Ramsey County system or even the New Mexico system, the systems would no longer be cost-competitive. Their chances of being cost-competitive would probably depend upon whether and when within the seven-year period these systems expand throughout the respective States (thereby amortizing initial system design and development costs over a larger caseload), and how much additional start-up cost they incur in the process.

[1] 7 CFR Section 274.12 (c) (3) (iv.).

Chapter 1

INTRODUCTION

Over the past 10 years the Food and Nutrition Service (FNS) of the U.S. Department of Agriculture has been investigating the feasibility, cost-effectiveness and general impacts of an alternative method of issuing and redeeming benefits in the Food Stamp Program. This method, called electronic benefit transfer (EBT), eliminates the use of paper food stamp coupons and implements a computer system, together with a point-of-sale (POS) terminal network and EBT access cards, to handle benefit issuance and redemption.

As part of its research effort, FNS provided funding for four State-initiated EBT demonstrations in late 1988. The four demonstration sites were located in Arizona, Minnesota, New Mexico and Washington State. Two of the demonstration sites -- Bernalillo County, New Mexico (Albuquerque) and Ramsey County, Minnesota (St. Paul) -- ultimately implemented systems serving both food stamp clients and clients receiving cash assistance benefits. Budgetary restrictions and other factors led to decisions by Arizona and Washington State to cancel their EBT demonstration efforts.[1]

In 1988 FNS awarded a contract to Abt Associates Inc. to evaluate the impacts of the State-initiated demonstration systems on the Food Stamp Program.[2] This report presents the results of the evaluation of the New Mexico and Ramsey County EBT systems.

1.1 OVERVIEW OF FNS' RESEARCH ON EBT SYSTEMS

The Food and Nutrition Service has sponsored a number of different EBT demonstrations during the past 10 years. Most of these demonstrations (including the State-initiated

[1] A description of EBT system design, development and implementation activities for the four State-initiated demonstrations, including reasons for Arizona's and Washington State's decisions to cancel their projects, is presented in Michele Ciurea et al., The State-Initiated EBT Demonstrations: Their Design, Development and Implementation, Cambridge, Massachusetts: Abt Associates Inc., June 1993.

[2] Contract No. 53-3198-8-38.

demonstrations) have tested "on-line" EBT systems, while two demonstrations have examined "off-line" systems.

On-line EBT systems are differentiated from off-line systems by the means in which information about recipients' remaining program benefits are stored and retrieved and in the way that transactions are authorized. In an on-line system, benefit data are stored in a database on the system's central computer. Recipients are issued a magnetic stripe EBT access card that is quite similar in function to a bank debit card. Special POS terminals are placed at store checkout counters. When recipients wish to make an EBT purchase, the POS terminal immediately transmits an authorization request to the central computer using leased or dial-up telephone lines. The computer checks the recipient's account balance on its database, and the system authorizes the transaction if the recipient has sufficient benefits available.

An off-line system, in contrast, stores information about a recipient's benefit amount in a memory chip embedded in the recipient's EBT card.[1] When the recipient wishes to make an EBT purchase, the POS terminal reads the benefit information from the card itself and authorizes the transaction if sufficient benefits are available. No immediate communication with the system's central computer is required.

The rest of this section summarizes FNS' on-line and off-line EBT demonstrations.[2]

The Reading, Pennsylvania, EBT Demonstration

The impetus for the four State-initiated EBT demonstrations grew out of experience with the Reading, Pennsylvania, EBT demonstration. In 1983 FNS awarded a contract to Planning Research Corporation (PRC), a systems engineering firm, to design, develop, implement and operate an on-line EBT system for the Food Stamp Program. In cooperation with the

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[1] Cards using integrated circuit chips and memory chips are called "smart cards." Other technologies, such as laser cards, also can be used in an off-line system.

[2] For an Agency perspective on the EBT demonstrations and what has been learned, see U.S. Department of Agriculture, Food and Nutrition Service, Office of Analysis and Evaluation, Electronic Benefit Transfer in the Food Stamp Program: The First Decade, by Carol J. Olander, March 1992.

Pennsylvania Department of Public Welfare (PDPW), PRC selected Reading as the demonstration site.

The Reading EBT system began operations in October 1984 and ultimately included about 3,400 food stamp households served by the Berks County Assistance Office. To implement the system, PRC deployed special POS terminals at food retailers' checkout counters and issued EBT access cards to Food Stamp Program recipients. As recipients' program benefits were authorized by PDPW, they were posted to a database in the EBT system's computer. Recipients accessed their benefits by using their EBT card (and a special code called a personal identification number, or PIN) at any POS terminal in any participating food store. The store clerk entered the amount of the desired food stamp purchase into the terminal, and the terminal used regular telecommunications lines to send a transaction request message to the computer. If the recipient's account had sufficient benefits to cover the intended purchase, the transaction

responsibility for the system and lower its operating costs, and b) that PDPW improve the technical performance of the system. The State accepted these conditions.

The Extended Reading EBT Demonstration

After receiving training from PRC on how to operate the system, PDPW began operating the system in April 1986. Over the next 15 months PDPW also developed an entirely new EBT system that could run on the department's own computers. This new system has been in operation since June 1987. In the first few months of 1988 PDPW placed additional food stamp households in Berks County on the EBT system, expanding the caseload served to about 4,200 households.

An evaluation of the extended Reading demonstration replicated many of the results of the first evaluation.[1] Recipients, retailers and banks continued to prefer the EBT system to coupons, and estimated levels of benefit loss and diversion under EBT were lower than under the coupon system. Further, administrative costs were reduced substantially because EBT system operations were integrated within the department's data processing section. Nevertheless, the administrative costs of the new system were about $9 per case month, still three times higher than coupon issuance costs.

In assessing the chances of an EBT system becoming cost-competitive compared to coupon issuance, the evaluation concluded that per-case-month costs under EBT could be reduced in three ways. First, expanding the system to serve more food stamp cases would reduce per-case-month costs because some system costs are fixed, or nearly so. These fixed costs would be spread over more cases in an expanded system. Second, if an EBT system were to issue and redeem benefits for other programs, such as Aid to Families with Dependent Children (AFDC), some costs would be shared among programs. Examples include recipient training and card issuance costs. Cost sharing would lower the Food Stamp Program's administrative costs per case month. Finally, integrating an EBT system with a commercial POS network could achieve savings by reducing the EBT system's share of the costs of maintaining a network of POS terminals.

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[1] John A. Kirlin et al., The Impacts of the State-Operated Electronic Benefit Transfer System in Reading, Pennsylvania, Cambridge, Massachusetts: Abt Associates Inc., February 1990.

The State-Initiated EBT Demonstrations

In September 1987 FNS issued a Notice of Intent to conduct additional EBT demonstrations. The notice invited interested State agencies to submit concept papers. Thirteen State and County agencies submitted papers, and a Technical Review Panel selected nine for development of a full proposal. FNS specified several conditions for approval of a submitted proposal:

- The system had to be, in the main, an on-line EBT system, although some minor components such as household verification could be off-line.
- The system had to "piggyback" on an existing commercial EFT system or be designed to issue benefits for multiple programs, or both.
- The food stamp benefits issued under the system could be used only to make food purchases through the use of POS terminals.

Based on the submitted proposals, FNS ultimately selected the four sites previously mentioned for demonstration funding under this initiative. All four sites proposed multi-program systems, and each system would be integrated with existing commercial EFT networks. Cooperative Agreements were signed with three State agencies and one County agency. The Cooperative Agreements specified FNS' operating and functional requirements for an EBT system; outlined tasks to be performed during the design, development, implementation and operations phases of each demonstration; and established funding arrangements for the demonstrations. The operating and functional requirements for the demonstration EBT systems are presented in Appendix A.

With regard to funding arrangements, FNS agreed to pay 100 percent of project costs for design, development and implementation, up to the amount specified in each site's agreement. If costs exceeded the amount established in a Cooperative Agreement, FNS would -- at its discretion -- reimburse 50 percent of the excess costs. Each system's operational costs would be funded at the normal 50/50 match rate for administrative costs, but the federal share would be capped at a level equivalent to federal costs associated with each site's previous coupon issuance costs. Finally, costs to purchase POS terminals were to be amortized and treated as

operational costs rather than implementation costs. Thus, these costs were subject to the 50/50 match rate rather than 100 percent federal funding.

The following sections provide an overview of each demonstration project.

The New Mexico EBT Demonstration

The New Mexico EBT demonstration serves food stamp and AFDC households in Bernalillo County, which includes the State's major population center of Albuquerque. In 1988, the New Mexico Human Services Department awarded the contract to design, develop, implement and operate the EBT system to the First National Bank in Albuquerque (FNBIA), the only bank to date to serve as a prime vendor for a food stamp EBT demonstration.

Design work for the New Mexico system was completed by June 1989, but the system was not fully developed and tested until July 1990. A major reason for the delay was that the State and FNBIA had difficulty recruiting retailers for the demonstration. Many retailers wanted the government to provide more POS terminals (enough to cover all checkout lanes) than planned, and some objected to the integrated EBT/commercial POS package being marketed by the bank. These latter retailers wanted the demonstration to allow other institutions to deploy POS terminals and to act as third-party processors for EBT transactions initiated at these terminals.

Negotiations with the retailers were completed in time to allow the start of system operations in August 1990. Food stamp and AFDC cases were added to the system gradually over time, until the entire Bernalillo caseload of over 20,800 food stamp recipients and 7,300 AFDC recipients was receiving benefits via EBT as of March 1992.[1] In that month, the system issued about $3.8 million in food stamp benefits and $2.1 million in AFDC benefits. Demonstration participants can access their benefits at about 235 food stores and over 200 ATMs located in Bernalillo County.

As a result of their negotiations, some stores in the New Mexico EBT demonstration are using POS terminals deployed by third-party vendors. POS terminals deployed by FNBIA can

[1]A 30-percent increase in caseload size during this period was a major factor explaining the lengthy implementation schedule.

also be used by bank customers for commercial POS transactions (e.g., VISA and MasterCard). Thus, the New Mexico EBT system is the only demonstration system that is fully integrated with commercial POS operations.

The Ramsey County, Minnesota, EBS Demonstration[1]

The Minnesota EBS demonstration was initiated by the Ramsey County Community Human Services Department, which had been operating an EBS system for its cash assistance programs since 1987. The system vendor for the original system was ACS/TransFirst Corporation. Ramsey County's proposal was to add the Food Stamp Program to its existing EBS system.

When its proposal was prepared, Ramsey County had a food stamp caseload of roughly 12,000 households and a public assistance caseload of about 9,000 households. The public assistance programs served by the EBS system were AFDC, General Assistance (GA), Minnesota Supplemental Assistance (MSA), and Refugee Assistance (RA). Most of the caseload resided in St. Paul, the county seat.

The Ramsey County EBS demonstration experienced significant delays in adding food stamps to the system. Although the system was redesigned to support issuance of food stamp benefits and tested by March 1990, ACS/TransFirst (just like FNBIA, the New Mexico EBT vendor) encountered problems recruiting retailers for the demonstration. Retailers objected to accepting liability for overdrafts resulting from backup transactions and to plans for less than full lane coverage by POS terminals. Some retailers wanted to use terminals deployed by third parties rather than by ACS/TransFirst,[2] and considerable time was spent negotiating this change. Then, early in 1991, ACS/TransFirst decided that it could no longer afford to act as the prime contractor for the demonstration. While ACS/TransFirst was willing to continue the processing of EBS transactions, it was no longer willing to act as a system integrator or to continue tasks such as recruiting retailers for the system, purchasing and deploying terminals, and training retailers and recipients in how to use the system.

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[1] Ramsey County officials use the term EBS (for electronic benefit system) rather than EBT.

[2] Some of these retailers already had third-party terminals capable of providing check verification services, and they did not want multiple terminals deployed in checkout lanes.

Ramsey County officials tried to find another vendor to take over retailer recruitment, terminal deployment, and training responsibilities, but a cost-effective alternative could not be found. In order to continue the project, the Ramsey County staff decided in 1991 to assume these responsibilities. After an intensive terminal deployment and retailer training effort, the food stamp portion of the system began operations in September 1991. In March of 1992, the system issued nearly $3 million in food stamp benefits to about 18,000 households, and over $5 million in cash benefits to about 12,600 public assistance households. The Ramsey County system includes about 290 food stores with deployed terminals and about 400 ATMs located in the Minneapolis - St. Paul metropolitan area.

The Arizona EBT Demonstration

After being selected as a demonstration site, the Arizona Department of Economic Security awarded a contract to Travelers Express to design, develop, implement and operate the EBT demonstration system. The demonstration site was to include portions of the Phoenix metropolitan area.

Like all four demonstration sites, the Arizona demonstration was to include both food stamps and cash assistance programs. Food stamp recipients were to be able to access their benefits at POS terminals located in program-authorized retail food stores. Cash assistance recipients were to be able to withdraw cash benefits at participating automated teller machines (ATMs) or at retailers' POS terminals. A novel feature of the Arizona EBT system was its intent to include a State-subsidized day care program, where special terminals located in day-care sites would maintain a record of the number of hours of day care provided. The system would compute the appropriate subsidy and initiate payments to the site. The EBT system also was to be integrated with a commercial EFT network serving two large store chains in the Phoenix area.

The originally estimated caseload size for the Arizona EBT demonstration was 6,500 food stamp cases, 2,900 cash assistance cases, and 1,150 day care households.

Arizona completed most of the demonstration's system design activities by May 1989. At that time, however, the project was placed on hold due to State budgetary problems. Eventually, the budget problems led to a cancellation of the project.

The Washington State EBT Demonstration

The Washington Department of Social and Health Services selected ACS/TransFirst Corporation to design, develop, implement and operate its EBT demonstration system. As in the other sites, the system was to serve the food stamp and AFDC programs. The Washington system, however, was to include the State's Medicaid program as well. Terminals that could check the Medicaid eligibility status of patients were to be furnished to health care providers and some pharmacies.

The Washington State demonstration site was Thurston County and the eastern portion of Pierce County, which included over 11,000 food stamp households and about 7,500 AFDC households at the time of proposal preparation.

Design work for the Washington system was completed by July 1989. Retailers in Washington State, however, expressed concern over some EBT issues, including the number of terminals to be deployed, the ability to use third-party processors, transaction times, and liability for backup transactions. Although substantial effort was made by FNS, Washington State, ACS/TransFirst and the retailers, the issues were never fully resolved. These issues and problems encountered in trying to renegotiate the vendor contract led to Washington State's decision in April 1990 to cancel the demonstration.

Other EBT Initiatives

In addition to the Reading EBT demonstration and the four State-initiated demonstrations, FNS is sponsoring several other EBT demonstrations. Separate evaluations are being conducted for these other demonstrations.

The Maryland EBT Demonstration

In 1988 FNS issued guidelines for other State agencies to follow if they wished to demonstrate an on-line EBT system. The Maryland Department of Human Resources responded to the guidelines and submitted an EBT demonstration proposal in August 1988. Maryland then selected ACS/TransFirst to develop and operate the system. The Maryland system, which includes the food stamp, AFDC, general assistance and child support programs, began operations in a portion of Baltimore City in November 1989.

After about five months of demonstration operations, Maryland requested authority from federal agencies to expand its demonstration to statewide operations. The expanded system would be developed and operated by Deluxe Data Systems (DDS). In December 1991, all parties signed a Memorandum of Understanding for the expanded system. Expansion activities began immediately thereafter and, in July 1992, the DDS-designed system began operating. Plans call for the system to be implemented throughout the State by April 1993. Once expansion is completed, the Maryland EBT system will serve over 165,000 households, including more than 145,000 food stamp households. Participants will be able to access their benefits through over 1,700 ATMs and in approximately 3,200 Food Stamp Program-authorized stores in the State.

The Montgomery County, Ohio, EBT Demonstration

All of the EBT demonstrations mentioned so far involve on-line EBT systems. In the summer of 1990, FNS authorized an off-line EBT demonstration using smart card technology. The system vendor is National Processing Corporation (NPC), and the demonstration site is Montgomery County, Ohio, which includes the city of Dayton.

The Montgomery County EBT system, which includes only Food Stamp Program clients, began operations in February 1992. The system serves approximately 11,600 clients who can access their program benefits in any of about 95 retail food stores.

The Wyoming EBT Demonstration

In November 1990, the Wyoming Department of Health awarded a contract to Applied Systems Institute (ASI) to develop a smart card-based EBT system for its Special Supplemental Food Program for Women, Infants and Children (WIC). The system was deployed in four pilot stores in Natrona County (Jasper) in May 1991 and operated until the end of the year. About 720 program recipients participated in the pilot.

Beginning in 1993, the Wyoming Department of Health plans to conduct an expanded EBT demonstration. The smart card-based system will include more stores and WIC recipients than served during the pilot, and -- like the Ohio smart card demonstration -- the system will issue and redeem Food Stamp Program benefits.

The New Jersey EBT Demonstration

The New Jersey Department of Human Services is planning a multi-county, on-line EBT demonstration for its food stamp and AFDC programs. Camden County is the first county in which the system is to be deployed. The system vendor is Deluxe Data Systems.

1.2 LEGISLATIVE AUTHORITY FOR EBT SYSTEMS IN THE FOOD STAMP PROGRAM

All of the EBT demonstrations are being performed pursuant to Public Law 95-73, which authorizes the U.S. Department of Agriculture to undertake research "... that will help improve the administration and effectiveness of the food stamp program in delivering nutrition-related benefits." Each demonstration required waivers of federal regulations governing the Food Stamp Program, because these regulations stipulate that benefits must be issued in the form of food stamp coupons.

Two years after the start of the State-initiated EBT demonstration, Congress passed the Food, Agriculture, Conservation and Trade Act of 1990.[1] Section 1729 of the Act amends the Food Stamp Act of 1977 and authorizes the use of on-line EBT systems as operational issuance systems for the Food Stamp Program, as long as they are cost-effective relative to existing coupon-issuance systems. Regulations implementing this section of the Act were issued on April 1, 1992.[2]

To date, no on-line EBT systems qualify as "operational issuance systems for the Food Stamp Program." All are operating under demonstration waiver authority. Each State or County agency operating an on-line system is expected to bring its EBT system into compliance with the new regulations by April 1, 1994.

1.3 EVALUATION OF THE STATE-INITIATED EBT DEMONSTRATIONS

Pursuant to the new federal regulations, if EBT systems are to become an operational issuance method for the Food Stamp Program, they must be cost-effective compared to existing

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[1] Title XVII, Pub. L. No. 101-624.

[2] "Food Stamp Program: Standards for Approval and Operation of Food Stamp Electronic Benefit Transfer Systems." Federal Register 57, no. 63, 1 April 1992.

coupon issuance methods. Given the high administrative costs of the two Reading EBT systems, it is not surprising that the major focus of the evaluation of the State-initiated demonstrations is on administrative costs. With the use of multi-program systems that serve more clients than the Reading demonstrations and that are integrated with commercial EFT networks, the expectation is that per-case-month costs in the State-initiated demonstrations will be lower than in Reading. Whether the New Mexico and Ramsey County EBT demonstrations are truly cost-effective is the main research question of the evaluation.

Another area of interest is an EBT system's potential for reducing levels of benefit loss and diversion within the Food Stamp Program. Any benefit issuance system is subject to loss through error or fraudulent activities. In addition, in a program like the Food Stamp Program in which benefits are targeted for specific use (i.e., the purchase of food to meet the nutritional needs of low-income households), diversion of benefits for other purposes detracts from the program's goals and often engenders public dissatisfaction with the program. Thus, even if an EBT system is cost-effective, its potential as an operational issuance method will be low if levels of benefit loss or diversion are higher than in the coupon issuance system.

Finally, being cost-effective or more secure against benefit loss and diversion are not the sole criteria for an acceptable EBT system. If cost savings are achieved through reduced service to clients or by passing extra costs on to participating recipients, retailers or financial institutions, support for future EBT initiatives will be weakened. The evaluation therefore examines EBT impacts on demonstration participants in New Mexico and Ramsey County as well as impacts on administrative costs and benefit loss and diversion.

Research Questions

With these evaluation issues in mind, the main research questions for the evaluation of the State-initiated EBT demonstrations are:

EBT Impacts on Administrative Costs

- What are the administrative costs of issuing and redeeming Food Stamp Program benefits through the two demonstration EBT systems? How do these costs compare to the administrative costs of issuing and redeeming

benefits through the coupon issuance systems in place in the demonstration sites before the implementation of EBT?

- In both the EBT and coupon issuance systems, how are incurred costs spread across federal, state and local agencies?

- What are the administrative costs of specific issuance and redemption functions in the EBT and coupon systems?

EBT Impacts on Benefit Loss and Diversion

- What are the vulnerabilities to loss and diversion in the coupon and EBT demonstration systems in both sites? What controls does each system use to reduce levels of loss and diversion?

- What levels of benefit loss and diversion occur in the coupon and EBT systems, and how do they compare?

EBT Impacts on Participants

- For program recipients, what are the costs of participating in the Food Stamp Program under the coupon and EBT systems? How do these costs compare? Which system do recipients prefer, and why?

- For food retailers, what are the costs of participating in the Food Stamp Program under the coupon and EBT systems? How do these costs compare? Which system do retailers prefer, and why?

- For financial institutions, what are the costs of processing benefits for the Food Stamp Program under the coupon and EBT systems? How do these costs compare? Which system do financial institutions prefer, and why?

In addition, given that the evaluation is examining two EBT demonstrations, the evaluation addresses any differences in impacts estimated for the two sites.

A final set of research questions explores the feasibility and desirability of continuing or expanding EBT operations in each site, and the feasibility of transferring either EBT system to another State.

Research Design

The evaluation's basic research design is a pre/post comparison of the coupon and EBT issuance systems. The demonstrations could not randomly assign recipients to the two different issuance systems because this would have created a demonstration environment in local offices that would not allow accurate estimation of administrative costs under either system. Thus, a true experimental research design is not possible. For the analysis of EBT system impacts on administrative costs, however, the research design is strengthened by use of pre/post comparison sites. The administrative cost research design thus controls for exogenous factors that affect administrative costs that may have changed over time in the demonstration sites.

Although the research design is the same for both demonstration sites, nearly all analyses are performed separately for each site. The only exception is the analysis of EBT impacts on retailers. While the main focus of the retailer analysis is on site-specific impacts, additional analyses are performed for system impacts on four major store types: supermarkets, grocery stores, convenience stores and all other stores. Because survey sample sizes within each store type are too small to support within-site conclusions, survey data from the two sites are pooled to estimate EBT impacts within each type of store.

Data Collection

The analyses presented in this report are based on baseline data collected prior to the implementation of the demonstration EBT systems and on post-implementation data collected after all demonstration recipients had been converted to EBT and the New Mexico and Ramsey County systems had been operating with a full caseload for several months. In addition to program and demonstration reports (including monthly cost reports), baseline and post-implementation data were collected through: interviews with program officials at the federal, state and local levels; interviews with Food Stamp Program recipients; interviews with participating retail store managers or owners; and interviews with financial institutions involved

Baseline data collection activities were conducted during September-December of 1989. Post-implementation data were collected between March and August of 1992.

Three other major data collection activities were undertaken. To help measure the administrative costs of the coupon and EBT issuance systems, local office workers in the demonstration and comparison sites filled out daily time logs indicating time spent on issuance-related functions. The baseline and post-implementation time studies each lasted one month.

Because one of the costs of retailer participation in the Food Stamp Program is time spent at the checkout lane with food stamp customers, baseline and post-implementation time studies also were conducted at stores' checkout lanes to ascertain whether purchases using food stamp coupons or an EBT system affect checkout productivity. Trained observers recorded the start and end times of thousands of transactions involving cash, checks, coupons or EBT as the payment form.

The last major data collection activity involved a special survey of eight states that are not participating in the EBT demonstrations. This survey collected data on statewide coupon issuance costs. These data are used to determine how representative New Mexico and Ramsey County are in terms of their coupon issuance costs and to provide a larger base of information upon which to evaluate the potential cost-effectiveness of EBT in other locations.

Finally, although the Washington State EBT demonstration was canceled, baseline data on administrative costs were collected from State and local officials and a time study was conducted in demonstration and comparison offices. In addition, Washington State staff collected baseline data on participation costs from program recipients. These data have been analyzed and incorporated in the current evaluation.

1.4 ORGANIZATION OF THE REPORT

This report contains seven chapters, including this introduction. Chapter 2 presents the results of the analysis of EBT's estimated impacts on administrative costs. The estimated impacts of EBT on benefit loss and diversion within the Food Stamp Program are presented in Chapter 3.

Chapters 4 through 6 present the estimated impacts of the demonstration systems on Food Stamp Program recipients, participating retailers, and financial institutions, respectively. Chapter 7 addresses questions of the feasibility of continuing or expanding the two demonstration EBT systems, and the feasibility of transferring either demonstration system to another State. A number of appendices present additional detail about system requirements or analytic methods, or contain supplementary exhibits.

Finally, three clarifying points about report nomenclature need to be made. First, unless otherwise indicated, report references to EBT systems always mean on-line EBT systems. Second, general references to EBT systems include both the New Mexico and Ramsey County demonstration systems, even though the Ramsey County system is called EBS. Third, for ease of exposition, the report often refers to these demonstrations as the "State-initiated demonstrations." This approach is consistent with FNS' terminology for the demonstrations and distinguishes them from the Reading EBT demonstration, which FNS initiated. The Ramsey County demonstration, however, was indeed initiated by a County agency rather than a State agency.

Chapter 2

EBT SYSTEM IMPACTS ON ADMINISTRATIVE COSTS

One of the principal objectives of the State-initiated EBT demonstrations is to test whether an EBT system can be operated at the same cost as a coupon issuance system, or even at a savings. The possibility of reducing Food Stamp Program administrative costs was one of FNS' original reasons for investigating EBT as an alternative to coupon issuance. The results of the extended EBT demonstration in Reading, Pennsylvania, where EBT issuance costs of $9 per case month substantially exceeded the coupon system level of $3 per case month, made the question of cost-neutrality even more salient.

The State-initiated EBT demonstrations were expected to have lower administrative costs than the Reading demonstration for several reasons. First, the State-initiated demonstrations included cash benefits as well as food stamp benefits, allowing cost-sharing between assistance programs. Second, the system operators were already processing substantial volumes of electronic funds transfers, creating economies of scale. Third, the EBT systems were expected to be integrated with commercial POS networks, so that POS terminal costs could be shared between the public and private sectors. Finally, FNS did not require that all check-out lanes be equipped, unlike in Reading.

2.1 INTRODUCTION

This chapter presents the evaluation's findings on the administrative cost impact of EBT in the New Mexico and Ramsey County demonstration sites. We begin in this section by defining the types of costs considered and the research questions that were addressed, explaining how we collected and analyzed the administrative cost data, and presenting highlights of the impacts of EBT on Food Stamp Program administrative costs. These impacts are analyzed on a function-by-function basis in Sections 2.2 through 2.6. We summarize the overall cost impacts of EBT on local and State welfare agencies, and on FNS, in Section 2.7. The relationships between Food Stamp Program costs and cash assistance program costs under EBT are considered in Section 2.8. Next, we summarize the costs of designing, developing and implementing the EBT systems, in Section 2.9. We consider the generalizability of the administrative cost

estimates in Section 2.10, drawing on data from other States. The chapter concludes with a review and discussion of the results in Section 2.11.

Research Questions

The evaluation addresses the impacts of the two demonstration EBT systems on the administrative costs of **benefit issuance, redemption, and reconciliation**. These are the administrative activities that are directly affected by switching from a coupon system to EBT. EBT could have impacts on other administrative costs (for example, certification costs would increase if EBT led more eligible households to participate in the Food Stamp Program). However, the limited scale of the demonstrations and the time-frame of the evaluation made it unlikely that such secondary effects could be detected.

The research questions concerning administrative costs are:

1. What is the cost of operating and maintaining each demonstration EBT system at each level of Food Stamp Program administration (FNS, State and local)? How are the costs at each level distributed among the issuance, redemption and reconciliation functions?

2. How does the EBT operating cost at each site compare with the operating cost of the prior coupon system -- overall, by function, and by level?

3. How do EBT operating costs compare across sites -- overall, by function, and by level?

The evaluation also measured the costs of designing, developing and implementing the EBT systems in New Mexico and Ramsey County, which are summarized in this chapter. The procedures and results of this research are presented in detail in a separate report.[1]

One possible area of cost impact on the Food Stamp Program that was not measured was the opportunity cost of funds. The changes in benefit redemption under EBT may affect the span of time between when the recipient has access to the benefits and when FNS' account is debited for the redemption of those benefits. Since the federal government earns interest on unobligated funds, acceleration of the redemption process could reduce these earnings. This evaluation did measure the impact of EBT on the opportunity costs of funds to retailer and

[1] Ciurea et al., op. cit., pp. 145-178.

financial institutions, as discussed in Chapters 4 and 6. However, detailed data on the timing of redemptions by recipients would have been required to estimate the overall changes in the flow of benefits, in order to determine the impact on the government. This data collection was considered to be beyond the scope of this study, so no estimate of changes in the cost of funds (or interest income) to the government is presented. This issue will be addressed by the evaluation of the expanded EBT demonstration in Maryland, which is in progress at this writing.

While the focus of the research is on Food Stamp Program administrative costs, the evaluation was designed to address questions about administrative cost-sharing with other assistance programs under EBT. Of particular interest is the extent to which Food Stamp Program costs are reduced by having a multi-program EBT system. The evaluation also considers the impact of different rules for allocating joint costs between the Food Stamp Program and other programs. The evaluation did not set out to collect comprehensive EBT cost data for the cash assistance programs (or baseline paper system costs for cash benefit issuance), because the focus of the evaluation was on Food Stamp Program impacts. The design did, however, incorporate those cash program EBT costs that were available from demonstration cost reports and from joint cost data collected by the researchers. These sources comprised nearly all of the resource costs of cash program operations. (The major omission is that of federal, State and local costs for funds management and settlement, which probably are quite small. The cash program cost data and their limitations are discussed further in Section 2.8.)

Research Design

The research design for measuring administrative cost impacts combines the **pre/post** approach used in the other lines of research with the collection of **comparison** data from selected non-demonstration sites. This design provides four sets of issuance cost data in each of the two States: baseline coupon system costs for the demonstration and comparison sites, post-implementation EBT system costs for the demonstration site, and post-implementation coupon system costs for the comparison site. The comparison data provide a basis to separate EBT effects on administrative costs from effects due to other simultaneous changes. The evaluation uses the comparison data to project what the coupon systems would have cost in the EBT sites if the EBT systems had not been implemented.

The comparison sites for the evaluation are:

- St. Louis County, Minnesota (for Ramsey County), and
- Doña Ana County, New Mexico (for Bernalillo County, the New Mexico demonstration site).

These sites were selected because they were the most similar counties to the demonstration sites in terms of food stamp caseload size and composition, issuance system (at baseline), and program indicators (such as loss rates and client turnover). However, the comparison sites do differ noticeably from the demonstration sites in caseload and other factors, so the conclusions drawn from the comparison data must be viewed with caution. The Bernalillo County demonstration site is New Mexico's only major metropolitan area, and Ramsey County's food stamp caseload is more than twice that of the comparison county. The differences between the demonstration and comparison sites affect only local-level costs; the statewide coupon system costs for the post-implementation period are much more reliable.

The comparison site approach proved particularly valuable in assessing the Ramsey County project, because the Minnesota Department of Human Services took over the formerly County-based coupon issuance process during Ramsey County's EBS implementation phase. This shift meant that the baseline cost data for Ramsey County were no longer a reliable predictor of what issuance costs would be if the County had remained on the coupon system. The collection of comparison data provided a means to estimate local costs under State issuance. However, the use of the comparison data in this context requires the assumption that the effect of converting to State issuance would have been the same in Ramsey County as in the comparison county. The experience of Hennepin County, Ramsey County's larger neighbor, suggests that coupon issuance costs might have increased more sharply than in St. Louis County. Thus, the evaluation data may **underestimate** what coupon costs would have been in Ramsey County under the current State coupon issuance system.

The principal **data sources** on administrative costs are:

- **self-reported worker time studies** of eligibility and clerical workers in the demonstration and comparison offices (and at New Mexico's coupon mailing site);

- **interviews with local, State and FNS officials** responsible for food stamp issuance, redemption and reconciliation functions in the demonstration and comparison sites (or for the larger State, Region or nation); and

- **EBT demonstration cost reports** (for the demonstration sites only).

Baseline data were collected between July 1989 and April 1990, using the 1989 Federal fiscal year (the most recent completed fiscal year) as the baseline period (except for the time studies, which represented current costs for the month in which they were conducted). Post-implementation interviews and time studies were conducted between May and August 1992; wherever possible, 1992 fiscal year data were collected in the interviews. (Some non-labor costs for the coupon system covered periods beginning in 1991 and ending in 1992.) For the demonstration sites' reported EBT costs, the most recent available data (July 1992) were used as the most "steady-state" measures, because implementation in both sites extended into February 1992 (and beyond, in some respects).[1]

Coupon issuance cost data also were collected from several non-demonstration States. The full baseline data collection process (including interviews and time studies) was conducted in Washington State, which at that time was a demonstration site. Eight other States, representing three different coupon issuance systems, were surveyed in August 1992 to collect data on the scope of their reported issuance costs and any the additional issuance costs that they could identify. The latter survey was designed to provide insights on the generalizability of the evaluation results.

The data collection followed the **resource inventory method**. The processes necessary to operate each EBT and coupon system were analyzed to identify the resources that the processes require (labor, equipment, supplies, and so forth). The data collection procedures and instruments were then designed to measure the quantity and value of those resources used in each site. This method ensures that cost data for each site and system are as complete and comparable as they can be, within the constraints of practicality and evaluation resources.

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[1] Ramsey County provided supplemental data from November and December 1992 on management and other costs which were not "steady-state" in July 1992.

The resource inventory method was modified for collecting the costs incurred by the EBT system operators. In New Mexico, both billed and resource costs were collected for the system operator. While direct resource costs for the New Mexico system operator were lower than billed costs, the margin between the two sets of costs was well within the normal range of indirect costs for government agencies and contractors. Given the lack of a definitive indirect cost rate for this vendor, and the fact that the vendor's contract was renewed in October 1992 at substantially the same rates, billed costs have been used as the best long-run indicator of vendor costs. In Ramsey County, billed EBT system operator costs were considered to be a reliable measure of resource costs, because both the vendor and the County had substantial information on actual resource costs (based on experience with the cash portion of the project) when they renegotiated the schedule of fees in early 1991.

All costs have been converted into a common measure, the **cost per case month** (i.e., the monthly cost divided by the average monthly program caseload). This approach allows comparisons between sites and issuance systems that differ in scale. Applicable indirect costs, based on the rates that apply to the direct costs measured, have been included.[1] Differences in the calculation of these rates may affect comparisons between sites, so indirect costs are always reported separately in the detailed cost tables in Appendix B.

The three sets of coupon system cost data for each State (baseline demonstration, baseline comparison, and post-implementation comparison) were used to compute the **adjusted coupon system cost**. This measure represents a projection of **what the coupon system costs would be in the demonstration sites if the EBT systems had not been implemented**. In the case of FNS and State costs that apply to the entire State (or region or nation), the adjusted coupon system cost is identical to the actual measure for the comparison site. To compute the adjusted coupon system cost at the local level, the pre/post percentage change in the comparison site costs was applied to the baseline demonstration site cost. For example, if the baseline demonstration

[1] For FNS national costs, an indirect cost rate of 10 percent of labor costs was used. This rate was provided by FNS for the baseline period. See Appendix B for further discussion of the indirect cost calculations.

site cost was $0.10 per case month and the comparison site cost increased by 50 percent, the adjusted coupon system cost would be $0.15 per case month.[1]

This approach was modified for the computation of the adjusted coupon system costs for Ramsey County. To compensate for differences in pay increases between the Ramsey and St. Louis County, the time expended on each task by each category of worker (normalized on a per-case-month basis) was computed from the baseline data for both sites and the post-implementation data from St. Louis County. The baseline time per case month in the demonstration site was adjusted by applying the rate of change in this measure in the comparison site. This adjusted time per case month on each task by each worker type was multiplied by the actual post-implementation pay rate for each worker type to compute the adjusted coupon cost. This more elaborate method was not necessary in New Mexico, where both sites were on the same State pay scale.

The Food Stamp Program shares many EBT costs, including staff, equipment, and benefit cards, with the cash programs that use the EBT systems. In both sites, the AFDC program is included in the demonstration. Ramsey County's project also includes the State's General Assistance and Minnesota Supplemental Assistance programs, as well as the federal Refugee Cash Assistance program. Joint costs (those resulting from activities benefitting more than one program) have been allocated across programs as follows.

- All costs solely related to **POS transactions** have been allocated on the basis of each program's **percentage of POS transactions**. These costs include POS terminal depreciation, leases and maintenance, as well as POS telephone line costs and POS transaction fees.

- All costs solely related to **ATM transactions** (including fees and dispute resolution) have been allocated to the cash assistance programs.[2]

- **Transaction fees** have been allocated in proportion to each program's **percentage of total transactions**, if fees for POS and ATM transactions were not reported separately (as was the case in New Mexico). These

[1] Some judgment was exercised in projecting local costs. In particular, baseline postage costs from Ramsey County were adjusted for postal rate increases, rather than using the rate of change in the comparison site.

[2] This evaluation does not attempt to allocate costs across different cash assistance programs.

fees are a direct function of the number of transactions associated with each program.

- Costs related to **backup (off-line) food stamp transactions**, including authorization and reconciliation, have been allocated to the Food Stamp Program.

- Where time study data have indicated the program(s) involved in a task, the cost of that task has been allocated accordingly. Each instance of time spent on a task involving all benefits received by a multi-program recipient (such as scheduling one AFDC-food stamp client for EBT training) was allocated equally among those programs, under the assumption that each program benefits equally from the effort. The overall allocation of such costs depended on the distribution of time study observations by program and program combination.

- All other costs were allocated in proportion to **program caseloads**, using duplicated counts (i.e., total Food Stamp cases and total cash program cases, including cases receiving both kinds of assistance). This approach assumes that caseload is the prime determinant of the cost of such activities as card issuance, client training, and benefit issuance. It also assumes that fixed costs, such as management, are most equitably allocated by caseload.

The analysis of administrative costs differs in a number of ways from the cost-neutrality analysis prescribed by FNS' regulations for operational EBT systems.[1] The evaluation was designed before these regulations were drafted; our approach reflects the special funding arrangements and the unique data collection opportunities in a demonstration setting. Under the FNS regulations, comparison site costs are not used to determine cost-neutrality. Instead, EBT costs are compared with baseline coupon issuance costs, as inflated using the change in the price deflator for the Gross National Product. The regulations require that start-up costs for the EBT system be added to operating costs over a period of up to seven years; this was not feasible within the time frame of the evaluation. Also, the start-up costs reported in this evaluation include vendor resource costs that were not billed to the government; such costs would not be included in the cost-neutrality calculations under the regulations.

[1] These regulations are contained in 7 CFR Section 274.12 (c) (3).

Highlights of EBT System Impacts on Administrative Costs

Both EBT systems have lower operating costs than the adjusted coupon system cost for their sites. As Exhibit 2-1 shows, the Food Stamp Program cost per case month for the New Mexico EBT system is $3.07, a 24-percent drop from the adjusted coupon system cost of $4.04 per case month. The New Mexico EBT cost is even 5 percent lower than the 1989 baseline coupon system cost of $3.23 per case month.

Ramsey County's EBS system food stamp cost of $4.38 per case month is 3 percent lower than the adjusted coupon system cost of $4.53 per case month, but the EBS cost is 55 percent higher than the baseline coupon system cost of $2.82 per case month. The fact that the Ramsey County EBS cost falls between the baseline and adjusted coupon system costs might be viewed as weaker evidence of EBT cost savings than the New Mexico results. However, as noted earlier, the changes in coupon issuance in Minnesota make the adjusted coupon system cost a much better yardstick than the baseline cost.

Exhibit 2-2 breaks down the two sites' EBT system operating costs by function and task. The $1.32 per-case-month overall difference in EBT operating costs between the sites arises in three key tasks:

- **deploying and maintaining the POS terminal network**;
- **reconciling the EBT system**; and
- **managing, overseeing and supporting the EBT project**.

The first of these tasks accounts for most of the difference in the cost of the benefit delivery function. The other two tasks contribute nearly all of the difference in the costs of the reconciliation and monitoring function.

The cost of **deploying and maintaining the terminal network** in New Mexico is only $0.06 per case month, compared with $1.41 per case month in Ramsey County. (This task includes the cost of POS terminal leases and depreciation, maintenance, and supplies, plus any directly related telecommunications costs.) POS network telecommunications costs are lower in New Mexico because transactions there do not incur long distance telecommunications

Exhibit 2-1

SUMMARY OF EBT IMPACTS ON FOOD STAMP PROGRAM ADMINISTRATIVE COSTS

Site	Baseline Coupon System Cost per Case Month	Adjusted Coupon System Cost per Case Month	EBT System Cost per Case Month	EBT-Adjusted Coupon System Cost Difference	
				Cost per Case Month	Percent
New Mexico	$3.23	$4.04	$3.07	-$0.97	-24%
Ramsey County, Minnesota	$2.82	$4.53	$4.38	-$0.15	-3%

Exhibit 2-2

SUMMARY OF EBT SYSTEM FOOD STAMP PROGRAM COSTS

Function/Task	New Mexico Site Cost per Case Month	Ramsey County Site Cost per Case Month	Cross-Site Cost Difference per Case Month
Function: Authorize access to benefits			
Issue/update replace ID	$0.592	$0.317	
Create and post benefit records	0.157	0.262	
Function total	**0.749**	**0.579**	**$0.170**
Function: Deliver benefits			
Deploy and maintain terminal network	0.058	1.409	
Process transactions	1.423	1.022	
Resolve transaction problems/provide balances	0.322	0.274	
Function total	**1.802**	**2.705**	**-0.903**
Function: Credit retailers			
Food retailer settlement	0.025	0.041	
Function total	**0.025**	**0.041**	**-0.016**
Function: Manage retailer participation			
Authorize and train retailers	0.056	0.084	
Monitor redemption activity	0.023	0.023	
Enforce compliance with regulations	0.078	0.067	
Set policy and oversee redemption system	0.006	0.012	
Function total	**0.163**	**0.186**	**-0.023**
Function: Reconcile and monitor system			
Reconcile issuances and report losses	0.030	0.012	
Reconcile EBT system	0.037	0.306	
Project management, oversight and support	0.263	0.556	
Function total	**0.330**	**0.874**	**-0.544**
GRAND TOTAL	**$3.069**	**$4.385**	**-$1.316**

proportion of the POS terminals used for EBT than Ramsey County did. Retailers and third-party transaction processors in New Mexico have assumed a large portion of the POS equipment and telecommunications costs because they use the POS network for commercial EFT as well as EBT.

EBT system reconciliation costs in New Mexico are only $0.04 per case month, while the Ramsey County EBS cost for this task is $0.31 per case month. Nearly all of this difference is in Ramsey County's in-house data processing costs. All reconciliation data processing in New Mexico is performed by the vendor, and nearly all of this cost is included in the $1.42 per case month in transaction processing fees.

Project management, oversight and support costs in Ramsey County are $0.29 per case month higher than in New Mexico. This difference is offset somewhat by the higher transaction processing costs in New Mexico, where the vendor includes its support and management services in the transaction fees. Ramsey County pays separate fees to the vendor for technical support and project management, and also devotes more in-house effort to these activities.

2.2 IMPACTS ON COSTS TO AUTHORIZE ACCESS TO BENEFITS

Before beginning the detailed analysis of cost impacts by function and task, we summarize each EBT system's impacts on food stamp issuance costs. Exhibits 2-3 and 2-4, respectively, compare the New Mexico and Ramsey County EBT costs with the baseline and adjusted coupon system costs for each function and task that must be performed to issue, redeem and reconcile food stamp benefits. (Local, State and FNS costs for all systems are included.) The same basic functions must be performed in either system, but the tasks differ between the two systems. The benefit delivery function is the most changed by EBT, for this is where the POS terminal network and the EBT transaction processor take the place of food stamp coupons and the Postal Service. The coupon and EBT systems also differ considerably in the tasks required to credit retailers and to reconcile and monitor the issuance system.

Comparisons of cost by function across systems and sites must be interpreted with care, because of differences in the available data. Transaction fees in New Mexico cover most of the EBT system operator's costs in a single entry, while more function-specific charges were available for the Ramsey County EBT system operator. Interview respondents did not always

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Exhibit 2-3

SUMMARY OF EBT SYSTEM IMPACTS ON FOOD STAMP PROGRAM COSTS: NEW MEXICO

Function/Task	New Mexico		
	Baseline Coupon System Cost per Case Month	Adjusted Coupon System Cost per Case Month	EBT System Cost per Case Month
Function: Authorize access to benefits			
Issue/update replace ID	$0.153	$0.239	$0.592
Create and print/post benefit records	0.180	0.681	0.157
Function total	**0.333**	**0.920**	**0.749**
Function: Deliver benefits			
Supply coupons	0.274	0.449	
Deploy and maintain terminal network			0.058
Deliver coupons to recipients	1.653	1.650	
Process transactions			1.423
Resolve problems/provide balances	0.617	0.652	0.322
Function total	**2.544**	**2.751**	**1.802**
Function: Credit retailers			
Process coupon deposits	0.139	0.165	
Food retailer settlement			0.025
Function total	**0.139**	**0.165**	**0.025**
Function: Manage retailer participation			
Authorize and train retailers	0.052	0.056	0.056
Monitor redemption activity	0.020	0.021	0.023
Enforce compliance with regulations	0.096	0.078	0.078
Set policy and oversee redemption system	0.005	0.006	0.006
Function total	**0.173**	**0.161**	**0.163**
Function: Reconcile and monitor system			
Reconcile issuances and report losses	0.022	0.026	0.030
Reconcile EBT system			0.037
Project management, oversight and support/policy and oversight	0.022	0.017	0.263
Function total	**0.044**	**0.043**	**0.330**
GRAND TOTAL	**$3.233**	**$4.040**	**$3.069**

Exhibit 2-4

SUMMARY OF EBS SYSTEM IMPACTS ON FOOD STAMP PROGRAM COSTS: RAMSEY COUNTY, MINNESOTA

Function/Task	Ramsey County		
	Baseline Coupon System Cost per Case Month	Adjusted Coupon System Cost per Case Month	EBS System Cost per Case Month
Function: Authorize access to benefits			
Issue/update replace ID	$0.063	$0.009	$0.317
Create and print/post benefit records	0.307	0.247	0.262
Function total	**0.370**	**0.256**	**0.579**
Function: Deliver benefits			
Supply coupons	0.416	0.524	
Deploy and maintain terminal network			1.409
Deliver coupons to recipients	1.301	1.534	
Process transactions			1.022
Resolve problems/provide balances	0.393	1.847	0.274
Function total	**2.110**	**3.905**	**2.705**
Function: Credit retailers			
Process coupon deposits	0.139	0.165	
Food retailer settlement			0.041
Function total	**0.139**	**0.165**	**0.041**
Function: Manage retailer participation			
Authorize and train retailers	0.041	0.064	0.084
Monitor redemption activity	0.020	0.021	0.023
Enforce compliance with regulations	0.080	0.067	0.067
Set policy and oversee redemption system	0.010	0.012	0.012
Function total	**0.151**	**0.164**	**0.186**
Function: Reconcile and monitor system			
Reconcile issuances and report losses	0.031	0.021	0.012
Reconcile EBT system			0.306
Project management, oversight and support/policy and oversight	0.023	0.021	0.556
Function total	**0.054**	**0.042**	**0.874**
GRAND TOTAL	**$2.824**	**$4.532**	**$4.385**

separate time by function in a consistent manner. The variation in how costs were allocated by task and function do not, however, affect the difference in total costs for the two sites.

This section and the four subsequent sections present the EBT-coupon system cost differences by function and site. Each section begins by defining the function and its component tasks. New Mexico costs are discussed first, followed by the Ramsey County costs. Each section concludes with a comparison and analysis of EBT cost differences between the sites.

The first step in issuing food stamp benefits is authorizing recipients to have access to the benefits. The activities included in this function ensure that the proper allotted benefits go to eligible recipients. This function entails two tasks: issuing program ID cards, and creating and posting or printing records of authorized benefits. The former task differs substantially between the mail coupon issuance system previously used in the demonstration sites (henceforth referenced as the "mail-coupon system") and the EBT system. The latter task is largely unchanged by the EBT system, except that the actual printing of the benefit record (the authorization document used to issue coupons) is replaced by the electronic posting of benefits to the EBT database.

Issuing ID Cards

In the mail-coupon system, a paper food stamp ID card is issued to each recipient upon certification. This ID may be requested by a retailer to prove that the recipient is eligible for food stamps. In New Mexico, and in St. Louis County, Minnesota, the eligibility worker prepares and issues the ID during the certification interview. In the baseline period, Ramsey County's computer automatically printed IDs for mailing to newly certified recipients.

In the EBT system, the magnetic-stripe EBT card replaces the paper ID card as the benefit access device; the card and the process to issue it are more elaborate. The steps in issuing EBT cards include:

- referring and scheduling recipients for training,
- encoding and issuing cards,
- training recipients to use the EBT system,
- placing lost or stolen cards on hold, and

- responding to other recipient problems with EBT cards, such as damaged cards, cards captured by ATMs, and recipients forgetting their PIN numbers.

As Exhibit 2-5 indicates, the EBT system more than doubled the cost of issuing IDs in New Mexico, from the adjusted coupon system cost of $0.239 to $0.592 per case month. (Appendix B presents detailed cost information to supplement the tables in this chapter. Baseline and current/adjusted coupon system costs for demonstration and comparison sites can be found in Exhibits B-1 through B-10. Detailed EBT system costs for each function are presented in Exhibits B-11 through B-15.)

Most of the New Mexico EBT system cost for issuing EBT cards is salaries, benefits and overhead for the EBT Specialists assigned to perform this task. In the three district offices in Bernalillo County, there are a total of five full-time EBT Specialists. (These staff also trouble-shoot recipients' problems with their EBT accounts and handle most issuance-related inquiries, so the cost of this task reflects only part of their time.) The EBT Specialists spend about 52 percent of their card issuance time on training new recipients and issuing initial cards; the rest of their card issuance time is spent handling recipients' problems with lost, stolen or unusable cards and answering questions. The EBT system also requires more expensive magnetic-stripe cards, special card encoding equipment, and video equipment for training sessions. Finally, the direct and indirect costs of eligibility workers' time on ID issuance and replacement (including referrals to training, providing information, and answering calls about problems) accounts for about 24 percent of the cost of this task in New Mexico. (See Appendix B, Exhibit B-11 for a detailed comparison of New Mexico's and Ramsey County's EBT system costs for this function.)

In Ramsey County, the EBS system cost for issuing and replacing IDs (as shown in Exhibit 2-5) is $0.317 per case month, more than thirty times the adjusted coupon system cost of $0.009 per case month but 46 percent less than the EBT cost in New Mexico. Ramsey County has only two full-time vendor staff devoted to card issuance and training, but the County also operates a Customer Service line that takes recipients' calls on card problems (and other EBS problems). These staff costs, together with card-related income maintenance staff time, account for 84 percent of the total task cost.

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Exhibit 2-5

EBT SYSTEM IMPACTS ON COSTS TO AUTHORIZE ACCESS TO BENEFITS: NEW MEXICO AND RAMSEY COUNTY, MINNESOTA

	New Mexico			Ramsey County		
	Baseline Coupon System Cost per Case Month	Adjusted Coupon System Cost per Case Month	EBT System Cost per Case Month	Baseline Coupon System Cost per Case Month	Adjusted Coupon System Cost per Case Month	EBS System Cost per Case Month
Task: Issue/update replace ID						
Local Agency Total	$0.153	$0.239	$0.592	$0.063	$0.009	$0.186
EBT Vendor Total	n.a.	n.a.	n.a.	n.a.	n.a.	0.131
Task Total	**0.153**	**0.239**	**0.592**	**0.063**	**0.009**	**0.317**
Task: Create and Print/Post Benefit Records						
Local Agency Total	0.117	0.633	0.142	0.307	0.202	0.052
EBT Vendor Total	n.a.	n.a.	n.a.	n.a.	n.a.	0.210
State Agency Total	0.063	0.048	0.015	n.a.	0.045	n.a.
Task Total	**0.180**	**0.681**	**0.157**	**0.307**	**0.247**	**0.262**
Function Total	**$0.333**	**$0.920**	**$0.749**	**$0.370**	**$0.256**	**$0.579**

n.a. = not applicable

The $0.275 per case month difference in EBT card issuance costs between the two sites results from Ramsey County's lower labor and indirect costs. Having a single, central training location enables Ramsey County to make more efficient use of training and card maintenance time. Ramsey County cash recipients have longer experience with EBS (some have used the system since the 1987 pilot), and therefore may require less support. Ramsey County also has lower indirect costs for this task, reflecting both the lower labor cost and the somewhat artificial circumstance that vendor personnel expenditures do not accrue indirect cost. Finally, it should be noted that New Mexico was reassessing the staffing needs for this task at the time of the study, and had already reduced one office's complement of EBT Specialists from two to one. Thus, this cost may decline in New Mexico.

Creating and Printing/Posting Benefit Records

This task is largely the same in the mail-coupon and EBT systems. The common activities are:

- authorizing or facilitating one-time issuances, such as expedited benefits (which require effort beyond the certification process in some situations);
- creating the issuance authorization file;
- providing information on issuance schedules and status; and
- resolving issuance problems, such as cancelling or re-issuing benefits. (This task does not include replacing lost or stolen benefits, which is part of the benefit delivery process.)

However, the two systems differ in the final step of the issuance authorization process. In the mail-coupon system, the agency's computer prints mailing labels or inserter cards with recipients' names, addresses and allotments. For EBT issuances, the authorization file is transferred to the system operator's computer, which posts the authorizations to the recipients' EBT pass-through accounts. This posting must be verified to ensure that the file has not been corrupted or manipulated. In the Ramsey County system, expedited benefits and other emergency authorizations can be posted on-line by an accounting worker.

As shown in Exhibit 2-5, the New Mexico EBT system cost of $0.157 per case month for this task is slightly less than the baseline cost of $0.180 per case month and substantially less

than the adjusted coupon system cost of $0.681 per case month. At the State level, the EBT system cost of this task is $0.015 per case month, compared with $0.063 per case month at baseline and $0.048 per case month for the adjusted coupon system cost.[1] Local agency costs per case month for this task rose only slightly from $0.117 at baseline to $0.142 under EBT, but the adjusted coupon system cost is far higher at $0.633 per case month. (Throughout this chapter, local agency EBT costs include the EBT project staff.) This last figure reflects two factors: an increase of $0.260 per case month (or 333%) in comparison site costs and a baseline demonstration site cost that was $0.039 per case month higher than the comparison site's. (See Appendix B, Exhibit B-1 for detailed New Mexico coupon system costs for this function.)

The increase in comparison site costs appears mostly to be due to a change in the issuance schedule shortly before the data collection. (The previous 10-day schedule for recurring food stamp issuances was changed to a 20-day schedule, with approximately half of the recipients having their issuance days changed.) This change produced many client inquiries about the issuance schedule and other related contacts. However, the same change occurred in the demonstration site, where the EBT system cost is only 21 percent higher than the baseline cost. It is likely that the automated balance inquiry capability of the EBT system, and perhaps the greater predictability of EBT benefit receipt, reduced the impact of inquiries and concerns about the issuance schedule on staff workload. Thus, while the New Mexico issuance schedule change may have distorted both the EBT system cost and the adjusted coupon system cost for this task, the apparently smaller impact on EBT system costs illustrates the greater efficiency of the EBT system in responding to this type of change.

As Exhibit 2-5 indicates, the Ramsey County EBS system cost of $0.262 per case month for creating and posting benefit records is higher than the adjusted coupon system cost of $0.247 per case month for this task, but lower than the baseline coupon system cost of $0.307 per case month. The largest component of the EBT system cost is $0.210 per case month for card record maintenance fees paid to the system operator. Staff costs for this task under EBT are only $0.027 per case month, far less than the staff cost of $0.227 per case month for the baseline

[1] State data processing costs for creating the issuance file were not available for the baseline period, the current coupon system, or the EBT system. State officials indicated that such costs could not be separated from other data processing and did not materially differ between issuance systems.

coupon system and the $0.163 per case month adjusted coupon system cost. (See Appendix B, Exhibits B-2 and B-11 for the detailed Ramsey County coupon and EBS system costs for this function.)

The $0.210 per case month cost of card record maintenance fees is the principal reason why the EBT system cost of this task is higher in Ramsey County than in New Mexico. The New Mexico EBT system operator includes this portion of EBT processing in the transaction fees, which are part of the benefit delivery cost. Ramsey County also has an extra cost of $0.018 per case month to receive the issuance file generated by the State's computer (which maintains the client master file for certification purposes), re-format the issuance file, and transmit it to the EBS system operator.[1] This step is unnecessary in New Mexico, where the State computer communicates directly with the EBT system computer. Under the EBT system, staff costs for this task are much lower in Ramsey County than in New Mexico ($0.027 versus $0.093 per case month). This difference may be due in part to the issuance schedule change in New Mexico, which probably increased the time devoted by EBT Specialists and eligibility workers to answering questions about the status and timing of issuances (as discussed earlier). Over time, this burden on the New Mexico personnel should decline, as recipients become familiar with the issuance schedule.

2.3 IMPACTS ON COSTS TO DELIVER BENEFITS

The EBT system differs most from the mail-coupon system in the process of **delivering benefits to recipients**. In the mail-coupon system, there are three major benefit delivery tasks:

- **supplying coupons**, including the printing of paper food stamp coupons, their distribution to the mail issuance facility, and the management of the coupon inventory by the issuing agency;
- **delivering coupons to recipients**, including the preparation of individual coupon allotments and mailing them; and

[1] Current State data processing costs for creating EBT and coupon issuance files on the MAXIS computer system were not available. The baseline cost was $0.009 per case month for this process, suggesting that any difference between the EBT and coupon systems is not material.

- **resolving issuance problems**, including processing mail issuance returns, replacement of coupons lost or stolen in the mail, and over-the-counter coupon issuance (which is usually done because of actual or likely mail loss).

The first two of these three tasks are eliminated entirely by the EBT system. Benefits are made available to recipients at the point of sale, through the use of a network of POS terminals and the transaction processing capability of the EBT system operator. Thus, the benefit delivery tasks in the EBT system are:

- **deploying and maintaining the terminal network**, including terminal depreciation or lease costs, maintenance, telephone lines for POS terminals, other related telecommunications costs, and ongoing installations for new or expanding retailers;

- **processing transactions**, which includes the services of the system operator and third-party transaction acquirers; and

- **resolving transaction problems** by authorizing backup transactions, providing balance information, and settling disputes between recipients and retailers.

The last of these tasks is somewhat comparable to resolving coupon issuance problems, in that a major part involves taking telephone calls or in-person requests for assistance from recipients, researching problems, and verifying recipients' claims of losses.

As Exhibit 2-6 shows, the New Mexico EBT benefit delivery cost of $1.802 per case month is lower than coupon system costs, which increased from the baseline cost of $2.544 per case month to the adjusted cost of $2.751 per case month. In Ramsey County, the EBS benefit delivery cost of $2.705 per case month is almost one-third less than the adjusted coupon system cost of $3.905 per case month, but higher than the baseline coupon system cost of $2.110 per case month, as indicated in Exhibit 2-6. Ramsey County's EBS cost for this function is $0.903 per case month higher than New Mexico's, primarily because of the even greater difference in costs for deploying and maintaining the POS terminal network. The higher cost of this function in the Ramsey County EBS is offset by the high adjusted coupon system cost, which is $1.154 per case month higher than in New Mexico.

A useful indicator of the difference in EBT costs for benefit delivery is the **cost per food stamp POS transaction**. If the cost of crediting retailers is added to the benefit delivery cost,

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Exhibit 2-6

EBT SYSTEM IMPACTS ON COSTS TO DELIVER BENEFITS: NEW MEXICO AND RAMSEY COUNTY, MINNESOTA

	New Mexico			Ramsey County		
	Baseline Coupon System Cost per Case Month	Adjusted Coupon System Cost per Case Month	EBT System Cost per Case Month	Baseline Coupon System Cost per Case Month	Adjusted Coupon System Cost per Case Month	EBS System Cost per Case Month
Task: Supply Coupons/Deploy and Maintain Terminal Network						
Local Agency Total	n.a.	n.a.	$0.033	$0.184	n.a.	$1.409
EBT Vendor Total	n.a.	n.a.	0.024	n.a.	n.a.	n.a.
State Agency Total	$0.042	$0.054	n.a.	0.001	$0.129	n.a.
Regional Agency Total	0.001	n.a.	n.a.	n.a.	<0.001	n.a.
National Agency Total	0.231	0.395	n.a.	0.231	0.395	n.a.
Task Total	**0.274**	**0.449**	**0.058**	**0.416**	**0.524**	**1.409**
Task: Deliver Coupons to Recipients/Process Transactions						
Local Agency Total	n.a.	n.a.	n.a.	1.301	n.a.	0.539
EBT Vendor Total	n.a.	n.a.	1.423	n.a.	n.a.	0.483
State Agency Total	1.653	1.650	n.a.	n.a.	1.534	n.a.
Task Total	**1.653**	**1.650**	**1.423**	**1.301**	**1.534**	**1.022**
Task: Resolve Problems/ Provide Balances						
Local Agency Total	0.535	0.468	0.322	0.393	1.609	0.181
EBT Vendor Total	n.a.	n.a.	n.a.	n.a.	n.a.	0.093
State Agency Total	0.082	0.184	n.a.	n.a.	0.238	n.a.
Task Total	**0.617**	**0.652**	**0.322**	**0.393**	**1.847**	**0.274**
Function Total	**$2.544**	**$2.751**	**$1.802**	**$2.110**	**$3.905**	**$2.705**

n.a. = not applicable

the total cost of processing, settling and resolving problems with food stamp POS transactions is $1.827 per case month in New Mexico and $2.746 per case month in Ramsey County. Dividing these figures by the monthly average number of POS transactions per food stamp case yields a cost of $0.204 per POS transaction in New Mexico, and a 62-percent higher cost of $0.330 per POS transaction in Ramsey County. This comparison is influenced slightly by the higher number of POS transactions per case month in New Mexico (8.94 versus 8.32 in Ramsey County), but the differences in terminal deployment costs are the major factor.

Coupon Supply

The principal costs of supplying coupons are FNS' expenses to procure, store and distribute coupons to issuance points (or to State storage points). National costs for coupon supply rose from $0.231 per case month in Federal FY 1989 (the baseline period) to $0.395 per case month in Federal FY 1992. These average costs, of course, are the same for both sites. In New Mexico, a slight increase in State coupon supply costs (from $0.042 to $0.054 per case month) accompanied the national increase, bringing the total cost of the task to $0.449

Baseline coupon supply costs in Ramsey County were $0.416 per case month, higher than in New Mexico, and the adjusted coupon system cost of $0.524 per case month is also higher than in New Mexico. The national cost increase was offset somewhat by the reduction in State and local costs, from a combined total of $0.185 per case month to $0.129 per case month. The Minnesota Department of Human Services assumed the Counties' responsibility for coupon issuance in 1991. This centralization meant that the State had a single coupon issuance point, instead of one in each county. The State's centralized issuance facility realized additional economies of scale by combining coupon issuance with the mailing of cash assistance checks and notices to recipients.[1] The State also chose to self-insure the coupon inventory, eliminating the insurance that cost Ramsey County $0.116 per case month during the baseline period.

[1] All costs for the Minnesota issuance facility (except State staff, armored car service, and postage) were allocated between coupon issuance and other activities in proportion to the

(Insurance costs for the State facility would probably be lower, because it is much more secure than the Ramsey County office building.)[1]

Delivering Coupons to Recipients

Between the baseline and post-implementation periods, the cost of delivering coupons to recipients did not change materially in New Mexico but rose in Ramsey County. As Exhibit 2-6 shows, New Mexico's adjusted coupon system cost for this task is $1.650 per case month, just $0.003 per case month less than the baseline cost. Increases in labor and postage were offset by decreases in coupon mailing equipment maintenance and depreciation, and in indirect costs. The principal reason for these decreases seems to be the 16-percent increase in the coupon system caseload over this period (from 49,368 to 57,444), despite the conversion of the State's largest county to EBT.[2]

The increase in the cost of delivering coupons for Ramsey County between the baseline ($1.301 per case month) and the adjusted cost ($1.534 per case month) arises from two factors. First, postage increased by $0.153 per case month, because of the increases in postal rates over the period; second, equipment costs increased by $0.281 per case month, reflecting the more automated issuance process used by the State. These increases were offset by reductions in the costs of labor (presumably due to automation and economies of scale) and supplies. (Detailed coupon system costs for benefit delivery in Ramsey County are presented in Appendix B, Exhibit B-4.) The adjusted cost reflects the mix of issuances via regular mail, certified mail and over-the-counter issuances that Ramsey County had at the baseline. Evidence from neighboring Hennepin County suggests that Ramsey County might have been forced to increase the use of expensive certified mail, or face higher costs for over-the-counter issuance and other efforts to resolve coupon delivery problems, if it had continued to use the coupon system. Thus, the

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[1] The adjusted coupon supply cost for Ramsey County includes not just the vault but the Food Stamp Program's share of both the lease for the State issuance center and the depreciation of the State's improvements to the facility. A portion of these costs could be allocated to the tasks of delivering coupons and resolving issuance problems.

[2] The adjusted coupon system cost for New Mexico includes the State's projected cost for a smaller and less expensive coupon inserter that is planned to replace the current equipment.

adjusted Ramsey County cost of delivering coupons may be low, but the lack of direct data on Ramsey County costs and losses under State issuance would render speculative any effort to refine this estimate.[1]

Deploying and Maintaining the POS Terminal Network

The EBT sites differ most in their costs for deploying and maintaining their POS terminal networks. Ramsey County's cost for this task is $1.409 per case month, while New Mexico's cost is only $0.058 per case month, as Exhibit 2-6 illustrates. The lack of telephone charges in New Mexico accounts for nearly two-thirds ($0.826 per case month) of the $1.351 per case month difference. The long-distance network charges of $0.514 per case month borne by Ramsey County are not necessary in New Mexico, because the system operator is located in the project site. New Mexico avoided local telephone charges ($0.312 per case month in Ramsey County) because retailers agreed to bear these costs. Most high-volume retailers (for whom separate POS terminal lines are necessary) are processing commercial credit or debit transactions as well as EBT. (See Appendix B, Exhibit B-12 for a detailed comparison of EBT benefit delivery costs across sites.)

Nearly as important, though, is the difference between the sites in POS terminal lease, depreciation and maintenance costs. As of July 1992, New Mexico bore lease or depreciation costs for only 185 terminals, 30 percent of the total terminals in the project area. On all but 14 of these, the State directly paid only half of the lease or depreciation cost; retailers, third-party networks and the EBT vendor bore the rest. (The EBT vendor's share was built into the contracted transaction fees.) The only separate maintenance fees paid by the State were for the 28 multi-purpose terminals jointly leased by the State and the retailers. (The State's share of maintenance on the other terminals is included in the transaction fees.) Ramsey County, in contrast, paid the full depreciation cost on 510 terminals (including 138 that were not in service).

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[1] The change in comparison site costs was not used to estimate the adjusted Ramsey County postage, because mail loss and other data indicated that the rate of increase in this cost was likely to be substantially higher. Instead, the baseline postage cost was increased by the 18 percent increase in applicable postal rates over the period, as estimated by Ramsey County.

The most important reason for this difference is the large number of retailers in New Mexico who chose to participate via third-party POS networks, at no up-front or ongoing cost to the State.[1] The second reason is the willingness of the other major New Mexico retailers who opted for multi-purpose terminals to pay half of the cost of the terminals to which they were entitled under the formula established by FNS, plus the full cost of any additional terminals, in exchange for the right to process commercial EFT transactions on the terminals. (The State paid the cost of installing the terminals mandated under FNS' deployment formula.) The result is a difference of $0.239 per case month in POS terminal lease and depreciation costs.[2]

The $1.351 per-case-month difference in POS network costs (see Exhibit B-12) does not include the additional $0.345 per case month in equipment cost-sharing that Ramsey County pays to the third-party processors that deploy 278 additional terminals. This cost is included in the transaction processing expenses, along with the vendor and third-party transaction fees. The third-party equipment cost sharing would be replaced by a fee of $0.08 per transaction if the third-party retailers used the equipment for services other than the present combination of EBT and check authorization. At current rates of third-party transactions, this would reduce Ramsey County's total third-party reimbursements to $0.107 per case month. Third-party processors in New Mexico agreed not to charge for EBT transactions, in exchange for the EBT system operator's agreement not to charge the third parties a switching fee for EBT transactions.[3] Unlike Ramsey County's third parties, the New Mexico third parties generate revenue from commercial credit and debit transactions in participating stores.

To place the cross-site differences in terminal deployment arrangements in perspective, we simulated the Food Stamp Program cost of POS terminal depreciation and maintenance under two scenarios, as summarized in Exhibit 2-7. First, we projected the cost of the current

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[1] The third-party processors have varying cost-sharing arrangements with the retailers they serve. See Chapter 4 for retailers' EBT participation costs.

[2] When New Mexico renewed the contract with the EBT system operator in October 1992, the system operator agreed to purchase the State's share of the terminals it owned wholly or in part, and to assume the share of terminal lease costs borne by the State. Transaction fees remained the same under the new contract.

[3] Third-party processors pay a small monthly fee to the EBT system operator for the costs of maintaining telecommunications links.

Exhibit 2-7

CURRENT AND PROJECTED POS TERMINAL COSTS

	Food Stamp Program Cost per Case Month	
	New Mexico	Ramsey County
Current POS depreciation, leases and maintenance	$0.058	$0.564
Current third-party cost-sharing and fees	--	0.397
Total current cost	**0.058**	**0.961**
Total cost of current terminal network if 100 percent government-owned	0.500[1]	0.933[2]
Total cost of equipping all lanes under 100 percent government ownership	0.600[1]	0.933[2]
Savings from third-party and retailer cost-sharing	**+0.442 to +0.542**	**-0.028**

Notes: [1] In New Mexico, third parties and retailers equipped 440 of the 625 lanes in service (as of July 1992). The cost of equipping all lanes is based on the State's April, 1990 estimate of 750 total lanes in authorized stores. This estimate may be high due to stores that have closed or no longer accept Food Stamps.

[2] In Ramsey County, third parties equipped 278 of the 650 lanes in service. All lanes in participating stores were equipped.

terminal network in each site if all terminal costs were borne by the government. Under this scenario, New Mexico's cost would rise dramatically from $0.058 per case month to $0.500 per case month, while Ramsey County's cost would fall slightly from $0.961 per case month (including third-party cost-sharing and fees) to $0.933 per case month. Second, we projected the cost of equipping all lanes in the project area at the government's expense. This scenario yielded a cost of $0.600 per case month for New Mexico; the Ramsey County cost was unchanged because all lanes in participating stores are equipped. (Neither scenario considers telecommunications costs, because there are no data on what New Mexico would pay if it bore them. Retailers and third parties in New Mexico bear all telecommunications costs, as noted earlier.)

The results in Exhibit 2-7 illustrate the importance of three key differences in POS costs between New Mexico and Ramsey County. The largest source of the difference in POS costs is the fact that New Mexico pays nothing for 70 percent of the terminals, while Ramsey County pays nearly all of the costs for 100 percent of the terminals. The second factor is the higher cost per terminal in Ramsey County: even if the government bears the entire depreciation and maintenance cost, New Mexico's cost is only $19.30 per terminal per month, while Ramsey County's cost is $21.30 per terminal per month, and Ramsey County third-party charges are $27.28 per terminal per month. (The two sites use different terminals, and Ramsey County's POS terminal cost includes the controllers used in large multi-lane stores. New Mexico does not pay for any controllers, which are provided, if needed, by merchants or third-party processors.) Finally, New Mexico has 36 food stamp cases per terminal, while Ramsey County has only 28. This fact means that each terminal's cost -- regardless of ownership -- is spread over more cases in New Mexico than in Ramsey County.

The projections for Ramsey County in Exhibit 2-7, which indicate a lower cost under 100 percent government POS ownership, are probably affected by differences in the assumptions for calculating depreciation costs. The projected equipment depreciation spreads the County's cost to purchase the POS equipment over its expected five-year life.[1] It appears that the actual third-party equipment charges are based on a three-year lease or pay-back period, resulting in a higher monthly cost. If the current County terminal costs and the projected cost for additional terminals

[1] Ramsey County purchased the POS equipment under a three-year lease-purchase contract.

were based on the same three-year pay-back period, the projected cost would be $1.196 per case month; under the same assumptions, the current cost for the combination of County and third-party terminals would be $1.285 per case month. It is important to repeat the fact that third-party charges in Ramsey County would drop to $0.107 per case month if the third-party equipment charges were replaced by transaction fees, as would occur if the third-party retailers began processing commercial credit or debit transactions.

Processing Transactions

New Mexico's cost for processing EBT transactions is $1.423 per case month, substantially higher than Ramsey County's cost of $1.022 per case month. New Mexico pays its vendor $0.1175 per POS transaction, while Ramsey County pays only $0.054 for a regular POS transaction. However, the transaction fee in New Mexico includes all of the system operator's services except settlement, microfiche reports, and a portion of terminal maintenance (as discussed above).[1] Thus, some of the costs that appear under other tasks for Ramsey County are captured in this task for New Mexico. The Ramsey County vendor bills separately for costs associated with: posting benefits (through card record maintenance fees); resolving benefit delivery problems (through customer service charges); and project management and support (via fees for management and programming support).

Transaction fees to the system operator and third-party networks make up about half of Ramsey County's transaction processing costs. The other major cost component is the $0.345 per case month in payments to the third-party networks to offset POS equipment costs, as discussed earlier. Telecommunications services and non-POS equipment costs (such as administrative terminals and modems for Ramsey County's computer to communicate with the EBT system vendor's computer) make up the rest of the Ramsey County cost for this task. (See Appendix B, Exhibit B-12 for details.)

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[1] The revised New Mexico vendor contract includes settlement and POS terminals in the transaction fee.

Resolving Benefit Issuance Problems and Providing Balances

The New Mexico and Ramsey County EBT systems have lower costs for resolving benefit issuance problems and providing balances than do their respective coupon systems, as shown in Exhibit 2-6. In New Mexico, the EBT system cost is $0.322 per case month, compared with the baseline coupon system cost of $0.617 per case month. Despite the lower baseline cost of $0.393 per case month in Ramsey County, the EBS system still reduced the cost of this task to $0.274 per case month. The savings on this task with EBT are even greater on the basis of the adjusted coupon system cost.

This result is quite striking, given the fact that the EBT system entails such new problem-solving roles as authorizing backup transactions, resolving disputes, and providing balances. These new burdens are more than offset by the elimination of the major benefit issuance problems of the mail-coupon system: returned mail issuances, replacements for mail losses, and over-the-counter issuances. The considerable increase in Ramsey County coupon system costs for this task is due primarily to increased effort in investigating reports of lost or stolen mail issuances in the comparison site, combined with Ramsey County's higher baseline cost for this task. Prior to Ramsey County's conversion to the EBS system, mail losses and over-the-counter issuances were increasing faster than in the comparison site, so the adjusted coupon system cost may be understated.

2.4 IMPACTS ON COSTS TO CREDIT RETAILERS

The EBT system replaces the paper-based process of crediting retailers under the coupon system with a less costly electronic process. In the coupon system, the Federal Reserve system acts as FNS' agent, performing the following activities:

- receiving and verifying coupons deposited by retailers' financial institutions,
- crediting financial institutions for coupon deposits,
- checking for counterfeit coupons,
- destroying the coupons,

- reading the magnetically encoded Redemption Certificates (RCs) submitted by retailers,
- transmitting the RC data to FNS, and
- submitting debit vouchers to the Treasury Department to draw money from the FNS benefit redemption account.

FNS maintains the redemption account and reimburses the Federal Reserve for the costs of processing coupon deposits. Retailers' financial institutions, not FNS or the Federal Reserve, bear the cost of processing the retailers' coupon deposits, crediting their accounts, and encoding the RCs. (The cost impact of EBT to commercial financial institutions and the Federal Reserve is discussed in Chapter 6.)

Crediting retailers, like benefit delivery, is entirely electronic in the EBT system. EBT retailers receive credit as a result of the following steps.

- The system operator totals retailers' credits and sends them to a financial institution, known as the concentrator bank, which serves as the point of entry to the automated clearinghouse (ACH) network.
- The concentrator bank (which is the system operator in New Mexico) separates any credits for retailers with whom it has a banking relationship and posts these credits directly to the retailers' accounts.
- The concentrator bank sends the balance of the credits through the ACH, which routes them to the retailers' financial institutions.
- The concentrator bank requests funds from the demonstration's FNS account through the Department of Health and Human Services' Payment Management System.
- The Department of Health and Human Services verifies the availability of benefits in the FNS account and forwards the request to the Treasury Department, which wires the money to the concentrator bank.

The EBT system reduces the cost of crediting retailers in both sites, although the savings are greater in New Mexico than in Ramsey County. As indicated in Exhibit 2-8, the cost of processing retailer coupon deposits rose from $0.139 per case month in the baseline period to $0.165 per case month in the adjusted coupon costs (based on estimated costs for Federal Fiscal Year 1992). In contrast, the New Mexico EBT system cost for crediting retailers is a mere $0.025 per case month, while the Ramsey County EBS cost is only $0.041 per case month. The

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Exhibit 2-8

EBT SYSTEM IMPACTS ON COSTS TO CREDIT RETAILERS:
NEW MEXICO AND RAMSEY COUNTY, MINNESOTA

	New Mexico			Ramsey County		
	Baseline Coupon System Cost per Case Month	Adjusted Coupon System Cost per Case Month	EBT System Cost per Case Month	Baseline Coupon System Cost per Case Month	Adjusted Coupon System Cost per Case Month	EBS System Cost per Case Month
Task: Process Coupon Deposits						
National Agency Total	$0.139	$0.165	n.a.	$0.139	$0.165	n.a.
Task Total	**0.139**	**0.165**	**n.a.**	**0.139**	**0.165**	**n.a.**
Task: Food Retailer Settlement						
EBT Vendor Total	n.a.	n.a.	$0.024	n.a.	n.a.	0.040
National Agency Total	n.a.	n.a.	0.001	n.a.	n.a.	0.001
Task Total	**n.a.**	**n.a.**	**0.025**	**n.a.**	**n.a.**	**0.041**
Function Total	**$0.139**	**$0.165**	**$0.025**	**$0.139**	**$0.165**	**$0.041**

n.a. = not applicable

EBT cost includes fees charged by system operators and by the Department of Health and Human Services (DHHS). (Other expenses associated with the EBT demonstration accounts are included in the cost of reconciling and monitoring the EBT system.)

There appear to be two reasons why EBT costs for crediting retailers are lower in New Mexico than in Ramsey County. First, the system operator acts as the concentrator bank, eliminating a step and a participant in the process. (Ramsey County's system operator, which is not a bank, must pass the ACH file to the concentrator bank and maintain an account there for settlement purposes.) Second, only a fraction of the credits are sent through the ACH in New Mexico, because many retailers bank with the system operator or with a bank that has a correspondent relationship with the system operator. Thus, the total ACH fees are lower. The substantial number of retailers using third-party networks may also be a factor, since the third parties bear the cost of settling with their participating retailers. (Ramsey County's system operator settles individually with all participating retailers.)

2.5 IMPACTS ON COSTS OF MANAGING RETAILER PARTICIPATION

Of all the functions involved in benefit issuance and redemption, the process of managing retailer participation is least affected by the switch from coupons to EBT. In general, this function consists of the following tasks:

- authorizing and training retailers to participate;
- monitoring redemption activity;
- enforcing compliance with program regulations through undercover investigations and administration of sanctions;
- setting, communicating and clarifying regulations and policy regarding coupon redemption; and
- overseeing the operation of the redemption process.

Under the coupon system, these activities are performed exclusively by FNS personnel, including the Field and Regional Offices, the Compliance and Administrative Review Branches (which have their own area offices), the Minneapolis Computer Support Center (MCSC), and

the Benefit Redemption Division. Most contacts with retailers, including processing applications and administering sanctions, are handled by the Field Offices.

The EBT system involves the State or County and the system operator with managing retailer participation in the following ways:

- The FNS Field Office and the State or County must coordinate to make sure that authorized retailers -- and only authorized retailers -- are able to participate in the Food Stamp Program via the EBT system.

- The system operator must send redemption data to the MCSC, to take the place of the Redemption Certificate data that would otherwise be available.

- The State or County must issue cards and benefits to Compliance Branch investigators, and provide data to assist compliance enforcement.

As Exhibit 2-9 indicates, the impact of EBT on this function is very slight. In New Mexico, the adjusted coupon system cost is $0.161. The EBT system cost is only $0.002 per case month higher, because of the slightly higher cost of monitoring redemptions for the two demonstrations, compared with the larger-scale processing of coupon redemption data. In Ramsey County, the EBS system cost of $0.186 per case month is $0.022 per case month higher than the adjusted coupon system cost. The greater increase over coupon costs in Ramsey County arises because of the $0.020 per case month in County staff costs related to retailer management, mainly for handling inquiries from new retailers who are not already participating in the EBS system. (New Mexico staff could not separate any time for such inquiries from other retailer liaison and trouble-shooting activities, which are included in the benefit delivery and reconciliation and monitoring functions. Both sites could not separate training costs for new retailers from ongoing terminal installation and maintenance costs, which are included in the benefit delivery function.) The FNS Field and Regional Offices do not appear to have experienced any material impact from the EBT system on their costs for this function, although FNS' retailer re-authorization project may have made it more difficult to detect any such impact.

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Exhibit 2-9

EBT SYSTEM IMPACTS ON COSTS TO MANAGE RETAILER PARTICIPATION: NEW MEXICO AND RAMSEY COUNTY, MINNESOTA

	New Mexico			Ramsey County		
	Baseline Coupon System Cost per Case Month	Adjusted Coupon System Cost per Case Month	EBT System Cost per Case Month	Baseline Coupon System Cost per Case Month	Adjusted Coupon System Cost per Case Month	EBS System Cost per Case Month
Task: Authorize and Train Retailers						
Local Agency Total	n.a.	n.a.	n.a.	n.a.	n.a.	$0.020
Field Agency Total	$0.050	$0.053	$0.053	$0.039	$0.059	0.059
Regional Agency Total	n.a.	n.a.	n.a.	n.a.	0.002	0.002
National Agency Total	0.002	0.003	0.003	0.002	0.003	0.003
Task Total	**0.052**	**0.056**	**0.056**	**0.041**	**0.064**	**0.084**
Task: Monitor Redemption Activity						
National Agency Total	0.020	0.021	0.023	0.020	0.021	0.023
Task Total	**0.020**	**0.021**	**0.023**	**0.020**	**0.021**	**0.023**
Task: Enforce Compliance with Regulations						
Field Agency Total	0.025	0.026	0.026	0.023	0.014	0.014
Regional Agency Total	0.015	<0.001	<0.001	0.001	0.001	0.001
National Agency Total	0.056	0.052	0.052	0.056	0.052	0.052
Task Total	**0.096**	**0.078**	**0.078**	**0.080**	**0.067**	**0.067**
Task: Set Policy and Oversee Redemption System						
Regional Agency Total	0.001	0.002	0.002	0.006	0.008	0.008
National Agency Total	0.004	0.004	0.004	0.004	0.004	0.004
Task Total	**0.005**	**0.006**	**0.006**	**0.010**	**0.012**	**0.012**
Function Total	**$0.173**	**$0.161**	**$0.163**	**$0.151**	**$0.164**	**$0.186**

Compliance Branch costs have not been measurably affected by EBT because of the small number of investigations conducted in the demonstration areas.[1]

2.6 IMPACTS ON RECONCILIATION AND MONITORING COSTS

In the mail-coupon system, the process of reconciling and monitoring issuance activity consists of the following tasks:

- reconciling actual versus authorized issuances, primarily on the basis of coupon inventory reports and the issuance authorization file;
- reporting issuances losses and settling responsibility for those losses between the County, State and FNS;
- setting, communicating and clarifying issuance regulations and policy; and
- managing and overseeing issuance operations to ensure their integrity and efficiency.

The States of New Mexico and Minnesota (and, during the baseline period, Ramsey County) bear the responsibility for the actual reconciliation and reporting, as well as for State-level issuance policy and oversight. The Southwest and Midwest Regional Offices of FNS process reconciliation reports, bill the States for their share of losses, communicate issuance policy, and conduct reviews of State issuance operations. Several units at FNS headquarters manage the reconciliation, reporting, policy and oversight processes.

Reconciling Issuances and Reporting Losses

EBT simplifies the reconciliation of issuances by minimizing the number of returned and replaced issuances, and by automatically recording when benefits are delivered to the recipient's account.[2] Issuance reporting in EBT systems is also automated, although EBT data must be

[1] EBT may slightly reduce Compliance Branch productivity by imposing an additional burden on investigators, but the additional evidence of program violations available from EBT systems is likely to offset this minor effect.

[2] Returns are not eliminated, because occasionally a benefit is issued to a client who does not have a system account, causing the issuance to be rejected. Replacements may be necessary if an EBT issuance was canceled in error.

combined manually with coupon system data in some reports (such as the FNS-46 issuance reconciliation form). However, reconciling EBT issuances is complicated by the need to synchronize the State's (or the County's) computer system with the system operator's. In the EBT system, the re-presentation of overdrafts, benefit transfers to reduce overpayment claims, and conversion of benefits to coupons also introduce additional steps in the reconciliation of issuances.

The net impact of these factors on issuance reconciliation costs differs between the demonstration sites. As Exhibit 2-10 indicates, EBT costs for this task are slightly higher in New Mexico ($0.030 per case month versus the adjusted coupon system cost of $0.026 per case month). On the other hand, the Ramsey County EBS system cost of $0.012 per case month is lower than the adjusted coupon system cost of $0.021 per case month. The lower Ramsey County cost is offset, however, by higher EBS system reconciliation costs (i.e., the reconciliation of accounts and redemption activity, which may include some costs assigned to issuance reconciliation in New Mexico), as discussed below. Higher national-level FNS costs for issuance reporting under EBT, presumably the result of the small scale and novelty of the demonstrations, contribute to the EBT cost for this task in both sites.

Reconciling the EBT System

The EBT system adds another dimension to reconciliation: reconciling account balances with flows of benefits into and out of the system. This reconciliation must be carried out on a daily basis to guard against processing errors and manipulation of the system. While the State or the County has the primary responsibility for this task, the FNS Regional Office must reconcile the benefit account used to credit retailers by comparing the draws against the account with the actual redemptions by retailers. National FNS staff oversee and trouble-shoot the Regions' EBT reconciliation process.

This task adds only $0.037 per case month to the overall cost of the reconciliation and monitoring function in New Mexico, but the same task contributes $0.306 per case month to the cost of the Ramsey County demonstration. Most of this difference is at the level of the local EBT project, where Ramsey County's cost of $0.154 per case month has no direct counterpart in New Mexico. The largest single component of the Ramsey County EBS cost for this task is

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Exhibit 2-10

EBT SYSTEM IMPACTS ON COSTS TO RECONCILE AND MONITOR THE ISSUANCE SYSTEM NEW MEXICO AND RAMSEY COUNTY, MINNESOTA

	New Mexico			Ramsey County		
	Baseline Coupon System Cost per Case Month	Adjusted Coupon System Cost per Case Month	EBT System Cost per Case Month	Baseline Coupon System Cost per Case Month	Adjusted Coupon System Cost per Case Month	EBS System Cost per Case Month
Task: Reconcile Issuances and Report Losses						
Local Agency Total	n.a.	n.a.	n.a.	$0.008	$0.004	n.a.
State Agency Total	$0.016	$0.021	$0.023	0.014	0.012	$0.005
Regional Agency Total	0.003	0.003	n.a.	0.006	0.003	n.a.
National Agency Total	0.003	0.002	0.007	0.003	0.002	0.007
Task Total	**0.022**	**0.026**	**0.030**	**0.031**	**0.021**	**0.012**
Task: Reconcile EBT System						
Local Agency Total	n.a.	n.a.	n.a.	n.a.	n.a.	0.154
EBT Vendor Total	n.a.	n.a.	0.007	n.a.	n.a.	0.064
Regional Agency Total	n.a.	n.a.	0.010	n.a.	n.a.	0.068
National Agency Total	n.a.	n.a.	0.020	n.a.	n.a.	0.020
Task Total	**n.a.**	**n.a.**	**0.037**	**n.a.**	**n.a.**	**0.306**
Task: Project Management, Oversight and Support/ Policy and Oversight						
Local Agency Total	n.a.	n.a.	0.215	n.a.	n.a.	0.241
EBT Vendor Total	n.a.	n.a.	n.a.	n.a.	n.a.	0.277
State Agency Total	0.021	0.016	n.a.	0.021	0.019	0.026
Regional Agency Total	n.a.	n.a.	n.a.	0.001	0.001	n.a.
National Agency Total	0.001	0.001	0.048	0.001	0.001	0.013
Task Total	**0.022**	**0.017**	**0.263**	**0.023**	**0.021**	**0.556**
Function Total	**$0.044**	**$0.043**	**$0.330**	**$0.054**	**$0.042**	**$0.874**

n.a. = not applicable or included elsewhere (see text).

the $0.109 per case month data processing expense. (See Appendix B, Exhibit B-15 for details.) New Mexico relies more heavily on the system operator's reconciliation process, which is part of the bank's general daily reconciliation of all accounts and transactions; project staff could not separate EBT system reconciliation time from problem resolution and project management. (As noted earlier, New Mexico system operator costs for reconciliation are included in the transaction processing fees, except for the cost of microfiche report production. However, total vendor costs are lower in New Mexico than in Ramsey County, as discussed in Section 2.7.) Regional FNS costs also are higher for the Ramsey County project ($0.068 versus $0.010 per case month for the New Mexico project), possibly the result of closer scrutiny because of Ramsey County's more recent implementation. (Also, the Midwest Regional Office assigned a higher grade of staff to this task.) National FNS costs are $0.02 per case month for both sites.

Policy, Oversight and Management

In the coupon system, the administration of policy, oversight and management responsibilities involves the following:

- FNS headquarters establishes regulations and policy governing issuance, and monitors issuance operations;
- FNS Regional Offices communicate and clarify national policy to the States, and review State and County issuance procedures; and
- State officials implement FNS policy, set State policy on issuance, and oversee State and local issuance activities.

An important feature of this process is that it is almost entirely internal to the administrative structure of the Food Stamp Program. The only outside parties that might be involved are contract issuance agents, which are not used in either New Mexico or Minnesota.

In contrast, the management and oversight of the EBT systems involves a greater variety of issues and actors. Issuance, redemption, retailer authorization, claims processing and other areas converge, requiring a holistic and concerted management approach. The direct involvement of the EBT system in retailer operations on a real-time, 24-hour basis entails considerable attention to relations with retailers, financial institutions, and third-party processors.

Each site has a full-time project director to meet these needs. However, the Ramsey County project director spends only 22 percent of her time on operational matters; the rest of her time is devoted to sharing her experience, other special demonstration activities, and

planning EBS system expansion. The New Mexico project director spends about 85 percent of his time on operational matters. (Only the operational management time is counted as an operational cost.) The Ramsey County project also has a State liaison who coordinates the State's role in EBS operations.

EBT systems require substantial technical support because of their novelty, complexity and sensitivity. While the system operator in both sites has the primary responsibility in this area, State or County resources are needed as well. In the case of Ramsey County, both the State and the County have technical personnel supporting the EBS software, which includes State and County applications. In New Mexico, technical support has been primarily provided by the vendor that, until August 1992, operated and maintained the State's eligibility and case maintenance system.

The greater requirements for management and support, coupled with the modest size of the demonstrations (relative to that of the nationwide coupon system), are the primary reasons that the cost of this task is substantially higher for both EBT systems than for the coupon system. In New Mexico, the EBT system cost is $0.263 per case month, compared with the adjusted coupon system cost of $0.017 per case month. The margin -- and the absolute EBS cost -- is greater in Ramsey County: $0.556 per case month for EBS versus the adjusted coupon system cost of $0.021 per case month.

The Ramsey County EBS cost for this task is $0.293 per case month higher than in New Mexico.[1] At the EBT project level, costs for this task are quite similar across the two sites ($0.215 per case month in New Mexico versus $0.241 in Ramsey County). The Ramsey County EBS project cost includes $0.017 per case month in County technical staff costs. Technical support for the EBS interface component of Minnesota's MAXIS eligibility system makes up most of the $0.026 per case month in State costs for this task in Ramsey County.

[1] The time period for the Ramsey County costs for this task is September through December 1992, instead lieu of the June to July 1992 period used for most other costs. The later data are more representative of steady-state costs, because the County devoted substantial effort in the preceding months to implementing representation and other "clean-up" from the implementation process.

Neither of these technical support costs has a counterpart in the New Mexico figures. The cost of maintaining the State portion of the New Mexico EBT system could not be separated from the larger fixed-price contract for supporting the State's integrated computer system for income maintenance programs, because of the extent to which EBT processes are intertwined with coupon issuance and case maintenance functions.[1] Some of the cost difference is real, however, because Ramsey County uses its own computer system more extensively to supplement the reports and other processes that run on its vendor's system.

The largest component of the cross-site difference in costs for this task is the $0.277 per case month that Ramsey County pays its vendor for technical support and project management. (See Appendix B, Exhibit B-15 for details.) New Mexico's system operator includes the cost of these services in the transaction fees. However, the transaction processing costs in New Mexico also include card record maintenance, POS maintenance, system reconciliation and other services for which Ramsey County pays separately. Thus, the inclusion of technical support and project management in New Mexico's transaction fees does not entirely explain the difference in the system operator cost for this task; the New Mexico vendor's synergy between EBT and commercial POS operations is probably an additional factor.

2.7 IMPACT OF EBT ON LOCAL, STATE AND FNS ADMINISTRATIVE COSTS

The impacts of EBT on the costs **expended** at each level of Food Stamp Program administration are summarized in Exhibit 2-11. (The total cost by program and agency is presented in Exhibit B-16.) This exhibit demonstrates how the costs shifted in the demonstration sites away from FNS and the State Agencies, and toward the vendors, local agencies and EBT project units. (The EBT project unit in New Mexico, which is officially part of the State Agency, is treated as part of the local agency for reasons of cross-site comparability.) While this general pattern is the same in both sites, the magnitude of the changes in State and local costs differs considerably. It is important to note that costs **expended** are not the same as costs **paid**, since FNS pays 50 percent of local, State and vendor costs.)

[1] The vendor that maintained the eligibility system was in the process of turning over system operations to the State and a new vendor during the data collection period, further obscuring any impact of EBT on the vendor staff's workload.

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Exhibit 2-11

SUMMARY OF EBT SYSTEM FOOD STAMP COST IMPACTS BY AGENCY

	New Mexico			Ramsey County		
	Baseline Coupon System Cost per Case Month	Adjusted Coupon System Cost per Case Month	EBT System Cost per Case Month	Baseline Coupon System Cost per Case Month	Adjusted Coupon System Cost per Case Month	EBS System Cost per Case Month
FNS						
Field Agency	0.075	0.079	0.079	0.062	0.073	0.073
Regional Agency	0.020	0.005	0.012	0.014	0.015	0.079
National Agency	0.456	0.643	0.158	0.456	0.643	0.123
FNS Total	**0.551**	**0.727**	**0.249**	**0.532**	**0.731**	**0.275**
State and Local Agencies:						
Local Agency/EBT Project	$0.805	$1.340	$1.227	$2.256	$1.824	$2.091
State Agency	1.877	1.974	0.116	0.036	1.977	0.031
State and Local Agency Total	**2.682**	**3.314**	**1.343**	**2.292**	**3.801**	**2.122**
EBT System Vendor	**n.a.**	**n.a.**	**1.478**	**n.a.**	**n.a.**	**1.988**
Total, All Agencies	**$3.233**	**$4.040**	**$3.069**	**$2.824**	**$4.532**	**$4.385**

n.a. = not applicable

The total cost expended directly by FNS drops from an adjusted coupon system cost of between $0.727 and $0.731 per case month to between $0.249 and $0.275 per case month for the EBT system. Nearly all of this change was at the national level, where the costs of coupon printing, shipment and redemption are eliminated. (National FNS costs differ across the sites because of differences in project-specific oversight costs.) Regional FNS costs for the EBT system are $0.007 to $0.064 per case month higher than the adjusted coupon system figures. The new Regional Office task of funding and reconciling the letters of credit for the demonstrations is the source of this cost increase, offsetting savings in processing issuance reports and other coupon-related tasks. Field Office costs appear to be unaffected by EBT (once the initial retailer recruitment phase is complete), although the level of effort currently devoted to retailer reauthorization may have overwhelmed any ongoing impact from EBT.

Both State agencies experience dramatically lower costs under EBT. In New Mexico, the State agency cost with EBT is $0.116 per case month, compared with the adjusted coupon system cost of $1.974 per case month. The EBT-coupon difference is even greater for Minnesota: $1.977 per case month for the adjusted coupon system cost versus $0.031 per case month for the EBS system. Both States' adjusted coupon costs consist almost entirely of expenses for coupon mailing operations, including staff, postage, equipment and facilities -- all of which are eliminated by EBT.

EBT introduces a new institution as a cost center: the system operator. Each EBT system operator accounts for a larger share of total project costs than the State and FNS combined. The system vendor cost also exceeds that of the local agency and the EBT project in New Mexico, but not in Ramsey County. The high proportion of costs incurred by the system operator in both sites reflects the system operator's principal role in delivering benefits, crediting retailers, and reporting.

The trade-off between reduced State costs and new system operator costs produces different results in the two sites. In New Mexico, the cost billed by the EBT system operator is $1.478 per case month, less than the $1.858 per case month reduction in State costs. In Ramsey County, however, the EBS system operator cost is $1.988 per case month, while the State agency cost difference between the EBS and coupon systems is only $1.946 per case month.

The impact of EBT on local agency costs (including the EBT project unit) differs considerably between the two sites. Local and EBT project New Mexico EBT system costs, at $1.227 per case month, are noticeably lower than the adjusted coupon system cost of $1.340 per case month. The reduction in income maintenance staff time to deal with issuance problems offsets the added cost of the project staff and EBT Specialists. The low POS network costs in New Mexico are, of course, another major reason why EBT is less expensive at the local agency/project level. As noted earlier, the adjusted local agency cost for the coupon system in New Mexico may be overstated, because of the June 1992 change in the issuance schedule.

In Ramsey County, the local agency/project cost of $2.091 per case month for the EBS system is much higher than in New Mexico. As discussed earlier in this chapter, POS network and project management and support costs are the major factors in this difference. However, the increase in Ramsey County local/project costs from the coupon system to the EBS system is more than offset by the State savings, so that the combined State and local total for EBS is less than the adjusted coupon system cost. The combined State and local savings of $1.679 per case month, together with the FNS savings of $0.456 per case month, make up for the additional cost of the EBS vendor and make the EBS system cost-neutral on an operational basis.

A small part of the EBT cost difference between New Mexico and Ramsey County is attributable to costs that were available for the latter but not the former. As noted earlier, three items are included in the Ramsey County EBS costs that were not available for New Mexico:

- County data processing costs for transferring the benefit allotment file, at $0.018 per case month;
- State technical support for EBS interface software, at $0.017 per case month; and
- County technical support, at $0.092 per case month.

Thus, about $0.127 per case month of the $1.316 per case month EBT cost difference between the sites is due to missing costs in New Mexico. The actual cost of these items may be lower in New Mexico, because there is no separate County sub-system to maintain.

2.8 EBT COST-SHARING BETWEEN THE FOOD STAMP PROGRAM AND CASH ASSISTANCE PROGRAMS

The State-initiated EBT demonstrations offer the opportunity to learn whether a multi-program EBT system is less expensive for the Food Stamp Program than a food stamp-only EBT system. Both sites' EBT systems issue AFDC benefits via ATMs and at certain POS locations. Ramsey County's EBS system is also used by recipients of several State cash assistance programs and federal Refugee Cash Assistance.

Exhibits 2-12 and 2-13 compare Food Stamp Program and cash program costs under EBT in New Mexico and Ramsey County, respectively. Each exhibit contains three sets of administrative costs by function for the Food Stamp Program and the cash programs, based on three different methods for allocating joint costs:

- the **combined caseload/transaction method**, in which shared costs directly related to transactions are allocated by transaction counts, and the remaining shared costs are allocated by caseloads;[1]
- the **caseload method**, in which shared costs are allocated in proportion to food stamp and cash caseload counts; and
- the **transaction method**, in which shared costs are allocated in proportion to appropriate transaction counts (POS or total).

As explained in Section 2.1, the **combined caseload/transaction method** was selected for this evaluation because, in the researchers' judgment, it best approximates the actual resource use by each program. Under all three methods, certain costs are directly assigned to programs on the basis of worker activity data (such as eligibility worker time logs, which identified the case type for each event) or the nature of the cost (such as ATM fees, which are always allocated 100 percent to cash programs). The costs by function in Exhibits 2-12 and 2-13 do not include FNS costs, which are exclusive to the Food Stamp Program; for comparison to other tables, FNS costs are included in the Food Stamp Program cost totals.

[1]Total progam case counts (i.e., duplicated counts) were used for the combined and caseload methods, so that costs for cases receiving cash and food stamps would be split between the programs.

Exhibit 2-12

EFFECTS OF COST ALLOCATION METHOD ON EBT COSTS PER CASE MONTH: NEW MEXICO

Function[1]	Combined Caseload/ Transaction Method		Caseload Method[2]		Transaction Method	
	Food Stamp Program Cost per Case Month	Cash Programs Cost per Case Month	Food Stamp Program Cost per Case Month	Cash Programs Cost per Case Month	Food Stamp Program Cost per Case Month	Cash Programs Cost per Case Month
Authorize access to benefits	$0.749	$0.601	$0.749	$0.601	$0.814	$0.419
Deliver benefits	1.802	1.095	1.791	1.127	1.827	1.021
Credit retailers	0.024	0.005	0.019	0.019	0.024	0.005
Manage retailer participation	(3)	(3)	(3)	(3)	(3)	(3)
Reconcile and monitor system	0.245	0.222	0.245	0.222	0.271	0.145
Total State, Local and EBT Vendor Cost	**$2.820**	**$1.923**	**$2.804**	**$1.969**	**$2.937**	**$1.590**
FNS Cost	0.249	n.a.	0.249	n.a.	0.249	n.a.
Grand Total Cost	**$3.070**	**$1.923**	**$3.053**	**$1.969**	**$3.186**	**$1.590**
Difference from Combined Method	n.a.	n.a.	-$0.016	+$0.046	+$0.117	-$0.333

n.a. = not applicable

Notes: [1] FNS costs are excluded from the costs of individual functions.
[2] Per-case month costs under the caseload method are not always the same for the food stamp and cash programs, because of costs that are directly assigned to one program or the other.
[3] Costs to manage retailer participation were not separated for the State and local agency/EBT project in New Mexico.

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Exhibit 2-13

EFFECTS OF COST ALLOCATION METHOD ON EBS COSTS PER CASE MONTH: RAMSEY COUNTY

Function[1]	Combined Caseload/ Transaction Method		Caseload Method[2]		Transaction Method	
	Food Stamp Program Cost per Case Month	Cash Programs Cost per Case Month	Food Stamp Program Cost per Case Month	Cash Programs Cost per Case Month	Food Stamp Program Cost per Case Month	Cash Programs Cost per Case Month
Authorize access to benefits	$0.579	$0.549	$0.579	$0.549	$0.640	$0.463
Deliver benefits	2.705	2.576	2.015	3.560	2.756	2.504
Credit retailers	0.040	0.552	0.040	0.552	0.040	0.552
Manage retailer participation	0.020	0.002	0.013	0.013	0.020	0.002
Reconcile and monitor system	0.765	0.776	0.765	0.776	0.975	0.478
Total State, Local and EBT Vendor Cost	**$4.110**	**$4.455**	**$3.412**	**$5.450**	**$4.431**	**$3.998**
FNS cost	0.275	n.a.	0.275	n.a.	0.275	n.a.
Grand Total Cost	**$4.385**	**$4.455**	**$3.687**	**$5.450**	**$4.706**	**$3.998**
Difference from Combined Method	n.a.	n.a.	-$0.698	+$0.995	+$0.321	-$0.457

n.a. = not applicable

Note: [1] FNS costs are excluded from costs of individual functions.

[2] Per-case month costs under the caseload method are not always the same for the food stamp and cash programs, because of costs that are directly assigned to one program or the other.

The cash program costs presented in this section **are not full resource cost estimates**. Most are drawn from the sites' cost reports, which identify both joint and cash-only costs. Additional cash program costs come from joint costs identified in the time studies and interviews conducted by the evaluation, some of which are not included in the cost reports. In accordance with the evaluation plan established by FNS and the contractor, the data collection did not include other unreported costs exclusive to the cash programs. As a result, the cash program cost estimates do not include income maintenance staff time for dealing with recipient problems involving cash benefit issuance and delivery. In addition, settlement and reconciliation costs may be understated for the cash programs, to the extent that these activities involve State or local agency staff who are not involved with the Food Stamp Program. However, these gaps are likely to be quite minor relative to the cash program costs that are available.

Food Stamp and Cash Program EBT Costs under the Combined Caseload/Transaction Allocation Method

Under the combined caseload/transaction allocation method, the relationship between cash program EBT costs (to the extent to which they are measured) and food stamp EBT costs differs across the sites, as Exhibits 2-12 and 2-13 indicate. In New Mexico, the cash program cost is $1.923 per case month, or $0.897 per case month **less** than the food stamp cost (before adding FNS costs). The same method yields a much higher cash program cost of $4.455 per case month for Ramsey County, which is $0.345 per case month **greater** than the food stamp cost for this site (again excluding FNS costs).

In New Mexico, the greatest cost difference between the food stamp and cash program costs is in the function with the greatest cost for both programs: delivering benefits. Transaction fees are the same for both programs in New Mexico, so the Food Stamp Program's higher average number of transactions per case month (9.1 versus 5.3 for cash, including POS, paper voucher and ATM transactions) drives the cost difference that appears for this function in Exhibit 2-12. The difference in transaction volume between the food stamp and the cash program also explains the lower cash program costs for crediting retailers. Cash program costs per case month for the other functions (authorizing access to benefits and system reconciliation and monitoring) are lower than food stamp costs in New Mexico, despite the fact that most costs

for these function are allocated by caseload, because of the food stamp-specific benefit issuance costs measured by the evaluation (for which no counterpart cash program costs were collected).

Ramsey County's cash program EBS costs are much closer to the food stamp costs for most functions, as Exhibit 2-13 shows. Cash program costs to credit retailers are considerably higher than food stamp costs in Ramsey County, because of higher vendor charges and the fees that the County pays to POS cash issuers for their costs of cash, security, and other expenses. (These fees do not include equipment costs, which are part of the benefit delivery cost.) Benefit delivery costs for cash programs are much higher in Ramsey County than in New Mexico ($2.576 per case month versus $1.095 per case month): while the system operator's fee for an ATM transaction is much lower in Ramsey County, the addition of fees to ATM owners (even at the discount negotiated by the County) boosts this key cost much higher. Ramsey County's food stamp-cash difference in costs to reconcile and monitor the EBS system (a cash program cost of $0.776 per case month versus a food stamp cost of $0.765 per case month) is due to cash-specific reconciliation costs, which more than offset the food stamp-specific costs of State issuance reporting.

Effects of Using the Caseload Allocation Method on Food Stamp and Cash Program EBT Costs

In both demonstration sites, using the caseload method to allocate joint costs yields lower food stamp costs and higher cash program costs than those calculated with the combined caseload/transaction method (hereafter referred to as the "combined method"). This result is as expected, given that the Food Stamp Program accounts for a much higher proportion of transactions than cases. (The caseload and transaction data for the two sites are presented in Appendix B, Exhibit B-17.) In New Mexico, the food stamp cost is $3.053 per case month under the caseload method, $0.016 per case month less than under the combined method. The impact on food stamp costs is greater in Ramsey County, where the caseload method yields a cost of $3.687 per case month, $0.698 per case month less than with the combined method. The use of the caseload method affects Ramsey County costs more because cash cases make up a larger percentage of the total caseload, and because a larger proportion of costs are directly charged to the Food Stamp and AFDC Programs in New Mexico. In both sites, using the

caseload method would increase the savings in Food Stamp Program issuance costs under EBT, when compared with the adjusted coupon system costs.

Per-case-month costs under the "caseload method" are not always the same for the food stamp and cash programs, because of costs that are directly assigned to one program or the other. In New Mexico, food stamp costs are higher than cash costs even under this method, because of transaction fees (which are directly charged by program) and directly measured food stamp costs for client problem-solving and reconciliation. In Ramsey County, the high ATM fees (which are assigned solely to the cash programs) make cash benefit delivery costs higher than food stamp benefit delivery costs ($3.560 per case month versus $2.015 per case month) under the caseload allocation method. Ramsey County has more costs that are indirectly allocated in proportion to total transactions under the combined method, so more of its costs shift to the cash programs under the caseload method.

Effects of Using the Transaction Method on Food Stamp and Cash Program EBT Costs

The transaction method, as used in calculating the costs in Exhibits 2-12 and 2-13, allocates joint (or shared) costs as follows.

- POS-related costs are allocated in proportion to POS transactions;
- Other joint costs, including card issuance, training, reconciliation and montoring, are allocated by total transaction percentages.

The transaction method is based on the premise that the primary purpose of an EBT system is to process transactions, and that all costs are related to this function. In some cases, it is likely that the more transactions occur, the more costs will be incurred. For example, each transaction carries a risk of a problem with the card or the account, and adds to the wear and tear on the card. Transaction volumes also affect the level of resources required for reconciliation, since each transaction must be "processed" whenever the transaction log is accessed by reconciliation programs. Even costs that are not directly affected by transaction volumes might be allocated in this manner under the view that, lacking any other indicator of resource use, each program benefits from the availability of the system in proportion to the number of program transactions.

The transaction method yields higher food stamp costs than those generated by the other two methods. Under the transaction method, New Mexico's food stamp cost is $3.186 per case

month, $0.117 per case month more than the combined method figure (see Exhibit 2-12). The New Mexico cash program cost is $1.590 per case month under the transaction method, $0.333 per case month less than under the combined method. Ramsey County's costs under the transaction method are $4.706 per case month for food stamps and $3.998 per case month for cash. The greater total costs in Ramsey County account for the greater ($0.292 per case month) difference in food stamp costs between the transaction and combined methods. Under the transaction method, New Mexico's EBT system would still have lower Food Stamp Program costs than the coupon system, but the Food Stamp Program costs for Ramsey County's EBS system would exceed the adjusted coupon system cost.

Simulated EBT Costs for Food Stamp-Only Systems

One of FNS' goals in sponsoring the State-initiated EBT demonstrations was to test the feasibility and cost-competitiveness of multi-program systems. Analyses of data from the Reading EBT demonstrations, which were limited to the Food Stamp Program, had suggested that combining food stamp and cash benefits would reduce costs through the sharing of POS equipment, EBT cards, and other resources.

To examine how much cost savings the demonstrations realized from integrating food stamp and cash benefits, estimates of costs for food stamp-only EBT systems in the two sites were computed. In this section and in Exhibit 2-14, these estimates are compared with the actual Food Stamp Program costs for the two sites (based on the combined allocation method).

The overall cost difference between the single- and multi-program EBT systems ranges from $0.265 per case month in New Mexico to $0.677 per case month in Ramsey County. The simulated cost of a food stamp-only EBT system in New Mexico is still less than the adjusted coupon system cost ($3.334 versus $4.040 per case month) and only slightly more than the baseline coupon system cost of $3.233 per case month. However, the simulation pushes cost of a food stamp-only Ramsey County EBS system to $5.062 per case month, substantially above the adjusted coupon system cost of $4.532 per case month. The estimated savings from having a multi-program EBT system amount to only 7.9 percent of the estimated food stamp-only cost in New Mexico, but Ramsey County's savings are 13.4 percent of the estimated food stamp-only cost.

Exhibit 2-14

COMPARISON OF ACTUAL EBT FOOD STAMP PROGRAM COSTS AND ESTIMATED COSTS FOR FOOD STAMP-ONLY EBT SYSTEM

Function[1]	New Mexico			Ramsey County		
	Actual EBT System Food Stamp Cost per Case Month[2]	Estimated Food Stamp-Only EBT System Cost per Case Month	Savings per Case Month from Multi-Program EBT System	Actual EBS System Food Stamp Cost per Case Month[1]	Estimated Food Stamp-Only EBS System Cost per Case Month	Savings per Case Month from Multi-Program EBS System
Authorize access to benefits	$0.749	$0.900	$0.151	$0.579	$0.773	$0.194
Deliver benefits[3]	1.802	1.842	0.039	2.705	2.858	0.152
Credit retailers	0.024	0.026	0.002	0.040	0.040	(4)
Manage retailer participation	n.a.	n.a.	n.a.	0.020	0.022	0.002
Reconcile and monitor system	0.245	0.318	0.073	0.765	1.095	0.329
Total State, Local and Vendor Cost	**$2.820**	**$3.085**	**$0.265**	**$4.110**	**$4.787**	**$0.677**
FNS Cost	0.249	0.249	(5)	0.275	0.275	(5)
Grand Total Cost	**$3.069**	**$3.334**	**$0.265**	**$4.385**	**$5.062**	**$0.677**

n.a. = not applicable.

Notes: [1] FNS costs are excluded from costs of individual functions.

[2] Combined caseload/transaction allocation method used to calculate actual EBT system Food Stamp Program costs.

[3] Benefit delivery cost estimates for food stamp-only system do not include any change in per-transaction fees.

[4] Cost of crediting retailers for food stamp redemptions in Ramsey County is charged separately, so cost is unchanged.

[5] FNS costs are Food Stamp Program-only, so they are the same for single- and multi-program systems.

Both demonstration sites appear to have realized substantial savings, estimated at $0.151 to $0.194 per case month, in the cost of authorizing access to benefits. These savings are entirely in the areas of card issuance and training. Under the food-stamp-only scenario, these costs are borne solely by the Food Stamp Program, but they are reduced in proportion to the number of cases receiving only cash benefits (except for equipment costs, which were assumed to be fixed). The resulting cost for this task is 26 to 61 percent higher than the actual multi-program system cost. The savings on this task are greater in Ramsey County because a higher proportion of the overall caseload receives both cash and food stamp benefits. The multi-program system spreads the cost of card issuance and training for these cases between the Food Stamp and cash programs. The multi-program systems do not appear to realize any savings in the cost to create and post benefit files, because these costs are presumably a function of the number of issuances. The overall cost difference between the multi-program and food stamp-only systems in the cost of authorizing access to benefits amounts to about 20 to 34 percent.

The benefit delivery costs for the two sites appear to be much less affected by cost-sharing between the Food Stamp and cash programs. Overall, the food stamp-only system costs for this task are estimated at $0.039 per case month higher in New Mexico, and $0.152 per case month higher in Ramsey County, as indicated in Exhibit 2-14. Given the substantial cost of this function, these differences amount to 2 percent and 6 percent, respectively. While most POS network costs are assumed to be fixed and therefore borne solely by the Food Stamp Program under the food stamp-only simulation, the cash programs actually bear only a very small proportion of these costs. As a result, the cost for deploying and maintaining the terminal network is only 4 to 7 percent higher with the food stamp-only system. The simulation also yields at most a small difference in transaction processing costs (none in New Mexico), because transaction fees and other variable costs make up nearly all of the cost of this task. *It is important to note, however, that the vendors' transaction fees could be substantially higher under the lower volume generated by a food stamp-only EBT system, especially if vendor management and technical support costs are not billed separately.* The difference in the cost of resolving transaction problems and providing balances is larger in relative terms (about 9 to 11 percent); the main reason for this difference is the fixed cost of the audio response units (ARUs), which would be borne entirely by the Food Stamp Program in a food stamp-only

system. (The ARUs are electronic devices that process automated telephone balance inquiries and, in New Mexico, authorize paper voucher transactions.)

Multi-program systems do not appear to produce significant dollar savings in the costs to **credit retailers** and **manage retailer participation**. The simulated costs for these functions with the food stamp-only system are only $0.002 per case month higher than with the multi-program systems. The actual costs of these functions are low, and those costs that are not charged directly are allocated by POS transactions (which are 93 to 94 percent food stamp) under the combined allocation method.

The largest percentage difference between single- and multi-program EBT system costs is in **system reconciliation and monitoring.** The Project Director and Project Assistant for each project, other management and technical support personnel, and non-labor expenses associated with these positions, are considered fixed costs. Therefore, the single-program EBT system estimate includes 100 percent of these costs, which are spread across all programs in the multi-program estimates. Other reconciliation and monitoring costs are the same as the actual allocated costs, under the assumption that they are variable. These assumptions yield a $0.073 per case month higher cost for the food stamp only system in New Mexico, and a striking $0.329 per case month increase over multi-program system costs in Ramsey County. (The percentage differences for this task are 30 percent in New Mexico and 43 percent in Ramsey County.) The greater difference in Ramsey County is due to both the higher cost of this function and, as in the case of card issuance and training costs, the larger proportion of the caseload receiving both cash and food stamp benefits.

Thus, it appears clear that cost-sharing with cash programs contributed significantly to the cost-competitiveness of the Ramsey County EBS system. If transaction fees were higher under a food stamp-only system, even the New Mexico EBT system might not be cost-competitive with the mail coupon system.

2.9 SUMMARY OF EBT SYSTEM DESIGN, DEVELOPMENT, AND IMPLEMENTATION COSTS

The costs of EBT system design, development, and implementation for the two demonstration sites are compared in Exhibit 2-15. (The information in this section is drawn

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Exhibit 2-15

SUMMARY OF EBT SYSTEM DESIGN, DEVELOPMENT, AND IMPLEMENTATION COSTS: NEW MEXICO AND RAMSEY COUNTY (Excluding FNS Costs)

	New Mexico			Ramsey County		
Phase	Food Stamp	Cash Programs[1]	Total[2]	Food Stamp	Cash Programs	Total[2]
Design and Development						
State and Local Agencies	$131,221	$89,032	$220,253	$392,345	$110,372	$502,717
Vendor(s)	359,921	245,231	605,152	652,261	81,325	733,585
Total	**491,142**	**334,263**	**825,405**	**1,044,606**	**191,697**	**1,236,302**
Implementation						
State and Local Agencies	313,471	66,955	380,426	392,191	28,702	420,893
Vendor(s)	192,805	54,758	247,563	187,031	45,352	232,383
Total	**506,276**	**121,713**	**627,989**	**579,222**	**74,054**	**653,276**
All Phases						
State and Local Agencies	444,692	155,987	600,679	784,536	139,074	923,610
Vendor(s)	552,726	299,989	852,715	839,292	126,677	965,968
Total	**$997,418**	**$455,976**	**$1,453,394**	**$1,623,828**	**$265,751**	**$1,889,578**
Inflation-Adjusted Totals (1992 Dollars)						
State and Local Agencies	476,089	169,790	645,878	849,098	151,606	1,000,704
Vendor(s)	603,264	330,521	933,786	935,035	141,720	1,076,755
Total	**$1,079,353**	**$500,311**	**$1,579,664**	**$1,784,133**	**$293,326**	**$2,077,459**

Source: Michele Ciurea et al., The State-Initiated EBT Demonstrations: Their Design, Development and Implementation, Cambridge, Massachusetts: Abt Associates Inc., forthcoming.

Note: [1] New Mexico cash program costs for design and development include costs allocated to the Child Support Enforcement program. This program was not allocated costs during the implementation phase.

[2] Food stamp and cash costs do not always sum exactly to total because of rounding.

from another report on the State-initiated EBT demonstrations, which discusses the start-up costs of the demonstrations and the reasons for differences between them in more detail.)[1] In total, the New Mexico EBT project cost $1,453,394, while the Ramsey County EBS project cost $1,889,578. (These costs exclude FNS' direct costs.) Under FNS' regulations for EBT systems, start-up costs may be amortized over up to seven years in determining the total reimbursable EBT system cost.[2] If the Food Stamp Program share of EBT start-up costs for these demonstrations were amortized on a monthly basis over seven years and divided by the July 1992 program caseloads, the overall startup cost would be $0.527 per case month in New Mexico and $1.066 per case month in Ramsey County. For cash programs, the amortized start-up cost would be $0.575 per case month in New Mexico and $0.249 per case month in Ramsey County.[3] These figures exclude system operating costs and do not allow for any caseload increases, which would reduce the per-case-month startup cost.

The costs reported here are resource costs. They were obtained from the monthly cost reports submitted by each demonstration site, from interviews, and from information submitted separately for purposes of the evaluation. Some costs had to be imputed, primarily vendors' overhead costs and the New Mexico vendor's data processing costs. Other costs -- for example, the New Mexico field offices' design phase costs -- were not reported, but are estimated to have been relatively small. (All significant participants were interviewed at the end of each phase, and those whose costs were not reported provided estimates of their time and other identifiable costs.) The Ramsey County costs do not include the design, development and implementation of the original cash-only EBS system, which was in operation when the FNS-sponsored demonstration began. Thus, the cash portion of the start-up costs for the multi-program EBS system represents the cost of modifications to the cash functionality and a share of the cost of common features added to the system.

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[1] Ciurea et al., op. cit..

[2] 7 CFR Section 274.12 (c) (3) (iv.).

[3] The New Mexico cash program start-up cost of $0.575 per case month is only for the AFDC program; CSE program costs are excluded from this calculation because this component was not implemented. Total start-up costs allocated to the AFDC program were $369,249.

Design and development costs are combined in Exhibit 2-15 because the distinctions between these activities were closely related and often overlapped.[1] The design and development phases included the following activities:

- designing the EBT systems;
- acquiring and developing system hardware and software;
- developing training materials;
- recruiting retailers; and
- preparing for and performing the functional demonstrations and system acceptance tests.

Design and development activities cost $825,405 in New Mexico and $1,236,302 in Ramsey County. Labor costs account for most of the cost differences between sites. The Ramsey County project had a larger project team, and was able to enlist technical assistance from other parts of the government agency as needed.

The implementation phase included the following activities:

- acquiring and installing POS equipment;
- training staff, retailers and recipients;
- certifying third-party processors; and
- resolving initial operations problems.

Implementation costs were roughly similar across sites: $627,989 in New Mexico and $653,276 in Ramsey County. Although it is not possible to separate the costs of specific implementation activities, it is important to note that different tasks were emphasized at each site. Securing retailer cooperation was a lengthier, more difficult, and costlier process in Ramsey County. Equipment installation for retailers was also a more costly undertaking because

[1] Separate data on design and development costs are provided in Ciurea et al., op. cit.

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Ramsey County, POS installation costs were higher in Reading than in New Mexico because the government paid to equip all lanes.

2.10 GENERALIZABILITY OF EVALUATION RESULTS

The evaluation has shown that the New Mexico and Ramsey County EBT systems are cost-competitive with the coupon systems in those sites. Will EBT systems be cost-competitive elsewhere? To address this question, this section presents some additional data on the generalizability of the administrative cost findings. In particular, the following questions are considered:

- How do the coupon issuance cost estimates for New Mexico and Minnesota compare with coupon issuance costs in other States?
- How do the EBT system operating costs compare with those of the Reading, Pennsylvania, EBT system?

Coupon System Cost Comparisons

Current issuance cost data on all States are available from their quarterly Financial Status Reports (SF-269 forms) for the Food Stamp Program. These costs vary considerably, both across and within groups of States with similar issuance systems. In the 1991 Federal fiscal year (the most recent available data), reported issuance costs for the 15 States that primarily used the direct mail coupon issuance method ranged from $0.33 to $3.14 per case month, with a weighted average of $1.32 per case month. Issuance costs for the eight States that mainly use the Authorization-to-Participate (ATP) coupon issuance system averaged $1.89 per case month, with a range from $0.98 to $3.56 per case month. (These States mail ATP cards indicating allotments to recipients, who redeem them for coupons at a food stamp office or other issuance site.) In the seven States that mainly use the direct access coupon issuance method, the weighted average issuance cost was $1.68 per case month, with a range from $0.79 to $3.82 per case month. (These States send allotment information or pre-counted coupon allotments to issuance sites, where recipients pick up their coupons. The ATP and Direct Access States use direct mail as a secondary issuance method, generally for a small proportion of cases.)

These data are not directly comparable to the evaluation estimates of coupon system costs, because the definition of issuance costs for the SF-269 reports does not include several of the cost elements measured by this evaluation, especially local agency labor to resolve issuance problems and data processing. Also, States may use more indirect methods to assign costs to the issuance function than those used by the evaluation, possibly leading to higher or lower costs.

In an effort to obtain more comparable external cost data, eight non-demonstration States were asked to provide information on their reported issuance costs and other identifiable issuance costs. The survey methods and detailed results are presented in Appendix C. Three of the sample States (West Virginia, Vermont and Kansas) use the direct mail issuance method, as in New Mexico and Ramsey County. Another three States (Connecticut, the District of Columbia, and New Jersey), use the ATP method. The remaining two States (Alabama and Illinois) use the direct access method.

This small-scale survey found that there was considerable variation in which costs are included in the reported issuance costs. Some key costs were reported consistently (such as postage in the mail issuance States and issuance agent fees in ATP States). However, the variation in what costs were reported severely limited the issuance cost comparisons that could be made, even among States that shared the same issuance system. While some States were able to supply substantial data on actual issuance costs that were not reported as such, others were not. Thus, the survey did not provide sufficient data to permit a comprehensive, valid comparison of coupon issuance costs between the demonstration sites and the surveyed States.

Specific reported cost items provided by the mail issuance States in the survey can, however, be directly compared with the same cost items from New Mexico and Ramsey County. In Exhibit 2-16, the major categories of clearly identified reported costs in the survey States are compared with the same cost categories for the demonstration sites, using the adjusted coupon costs. All five sites have distinct mail issuance units, and the comparable costs are the labor, postage and other direct costs for these units. (The mail issuance units in Vermont and Minnesota process cash benefit checks and non-issuance mailings, so the labor and other direct costs for these units represent allocations of the total unit cost. The other mail issuance units are single-purpose, so all of their costs are food stamp issuance costs.)

Exhibit 2-16

COMPARISON OF SELECTED FOOD STAMP COUPON ISSUANCE COSTS FOR DEMONSTRATION SITES AND NON-DEMONSTRATION DIRECT MAIL STATES

Cost Item	Demonstration Sites		Non-Demonstration Direct Mail States		
	New Mexico Adjusted Cost per Case Month[1]	Ramsey County Adjusted Cost per Case Month[2]	Kansas Cost per Case Month[3]	Vermont Cost per Case Month[4]	West Virginia Cost per Case Month[4]
Mail Issuance Unit Labor	$0.252	$0.261	$0.246	$0.406	$0.181
Postage	1.328	1.001	1.567	0.868	0.812
Equipment and Other Issuance Unit Direct Costs	0.178	0.448	0.142	0.054	0.032
Total Comparable Costs	**$1.758**	**$1.710**	**$1.955**	**$1.327**	**$1.025**
Indirect Costs of Mail Issuance Unit	0.114	0.005	n.a.	n.a.	n.a.
Other State Costs	0.102	0.262	n.a.	n.a.	n.a.
Total State Cost	**$1.974**	**$1.977**	**$1.955**	**$1.327**	**$1.025**

Notes:
[1] New Mexico data are for April 1991 - June 1992.
[2] Ramsey County data are for January - July 1992.
[3] Kansas data are for July 1991 - June 1992. Actual reported cost was adjusted to include issuance costs charged to "other" cost category on SF-269. (See Appendix C for explanation.)
[4] Vermont and West Virginia data are for July 1991 - June 1992, as reported on SF-269.

As the exhibit shows, issuance unit labor and postage costs for the demonstration sites are within the range of costs among the non-demonstration States. Vermont, the smallest of the group, has the highest labor cost, while West Virginia has the lowest. Postage is higher in the demonstration sites than in two of the three non-demonstration States, but lower than in Kansas. New Mexico's other direct costs (which include equipment, supplies, rent and security) are similar to those in Kansas, which had the most comprehensive reported costs of the three survey States. Ramsey County's other direct costs are much higher (primarily because of $0.285 per case month in equipment costs), while West Virginia's are by far the lowest. Indirect costs and other State costs not included in the non-demonstration States' reported costs add $0.216 to $0.267 per case month to the demonstration sites' totals. The non-demonstration States also do not include local agency costs in their reported issuance costs; these costs, as discussed earlier, make up a substantial portion of the demonstration sites' total adjusted coupon costs.

The coupon issuance costs from New Mexico and Ramsey County can also be compared with full resource cost estimates for Reading, Pennsylvania, and the State of Washington. The Reading estimates, which represent a pure ATP issuance system, were prepared for the evaluation of the State-operated EBT system. The Washington data, which represent a combination of ATP and mail coupon issuance, were collected during the baseline period of this evaluation, when Washington was a demonstration site. (The collection and analysis of the Washington data are discussed in Appendix D.) In both sites, State and local costs were collected through a comprehensive resource inventory approach, including time studies of local office workers.

The Reading data are from 1988, and the Washington data are from 1989, so both sites' costs have been inflated to 1992 dollars for comparison purposes. However, this adjustment cannot compensate for other changes in costs. For example, if rising loss rates (a common problem in urban areas) have increased local staff time to replace lost benefits, actual costs in Reading or Washington would be higher.

At $2.84 per case month, the adjusted State and local cost in Reading is substantially lower than the combined State and local adjusted coupon costs of $3.31 per case month in New Mexico and $3.80 per case month in Ramsey County. However, the combined State and local cost for Washington is $3.35 per case month (after adjusting for inflation), about the same as

in the demonstration sites. Local labor costs are substantially lower in Reading than in Washington and the demonstration sites, because Reading had no over-the-counter coupon issuance (which the other three sites did) and lower levels of effort devoted to issuance problems.

The preceding discussion of coupon issuance costs highlights three points. First, coupon issuance costs vary substantially, so an EBT system that is cost-competitive in one area might not be in another. Second, reported issuance costs must be supplemented by in-depth analysis of all resources devoted to coupon issuance, especially at the local office level, to determine the true cost of coupon issuance. Finally, all of the evidence supports the view that the coupon costs measured in the demonstration sites are fairly typical, especially for urbanized areas served by a central mail issuance unit.

Comparison of New Mexico, Ramsey County and Reading, Pennsylvania, EBT Costs

In Exhibit 2-17, the New Mexico and Ramsey County EBT system costs are compared with the costs measured for the extended Reading, Pennsylvania, EBT demonstration. The Reading demonstration was much smaller, with only 4,241 food stamp cases in 1988; in July 1992, Ramsey County had 18,129 food stamp cases, and New Mexico had 22,516. The Reading system served only the Food Stamp Program. Unlike the State-initiated demonstrations, the extended Reading EBT demonstration relied on the State agency as system operator, with contractors providing POS maintenance and concentrator bank services. (The original Reading EBT system was implemented and operated by a FNS contractor. The operating costs for this earlier period are not presented here.)

As Exhibit 2-17 shows, costs for all EBT functions were considerably higher in Reading than in either State-initiated demonstration. The overall Reading EBT system operating cost was $10.84 per case month (in 1992 dollars), compared with $3.07 in New Mexico and $4.38 per case month in Ramsey County. (The previously published estimates for the State-operated EBT system in Reading, which totalled $9.14 per case month in 1988 dollars, are included in Exhibit 2-16.[1] The 1992 costs for the Reading EBT system are merely the same costs adjusted for

[1] Kirlin et al., op. cit.

Exhibit 2-17

COMPARISON OF EBT SYSTEM COSTS PER CASE MONTH IN NEW MEXICO, RAMSEY COUNTY AND READING, PENNSYLVANIA

Function	New Mexico	Ramsey County	Reading, Pennsylvania (1988 Dollars)	Reading Pennsylvania (1992 Dollars)
Authorize access to benefits	$0.75	$0.58	$1.74	$2.06
Deliver benefits	1.80	2.70	3.83	4.54
Credit retailers	0.02	0.04	1.13	1.34
Manage retailer participation	0.16	0.19	0.33	0.39
Reconcile and monitor system	0.33	0.87	2.10	2.49
TOTAL COST	**$3.07**	**$4.38**	**$9.14**	**$10.84**

Source: Kirlin et al., (1990). Consumer Price Index for All Urban Consumers used to inflate to 1992 dollars.

inflation. Actual current costs may be lower.) The smallest cost difference between the Reading EBT system and the State-initiated systems is in managing retailer participation, which is largely unaffected by EBT (as discussed previously).

The greatest cost difference between the State-initiated EBT systems and the Reading system is in benefit delivery costs. The cost of this central function in New Mexico is $2.74 per case month lower (in 1992 dollars); Ramsey County's cost is $1.84 per case month lower. POS network costs are the principal reason for this difference: Reading had an entirely dedicated network of POS terminals and telephone lines furnished by the government[1]. This contrasts starkly with New Mexico's extensive cost sharing arrangements with retailers and third-party networks. Ramsey County bears nearly all of the costs of its POS network, but Reading had far more stores equipped, relative to its caseload, than does Ramsey County, as discussed in Section 2.9. Both Ramsey County and New Mexico also save by spreading POS network costs over cash transactions as well as food stamp transactions. Reading's costs for resolving transaction problems and providing balances were more than twice Ramsey County's $0.30 per case month cost for this task. However, the transaction processing cost of $0.28 per case month in Reading was remarkably low, compared with Ramsey County's cost of $1.02 per case month, although the Ramsey County figure includes data processing and telecommunications costs that were assigned to other tasks in Reading. (The Reading transaction processing cost is not truly comparable to New Mexico's transaction processing cost, because of the other tasks included in the transaction fees.)

In other functions, differences in scale and the integration of food stamp and cash benefits account for the cost differences between Reading and the other sites. The costs to authorize access to benefits are substantially lower in New Mexico and Ramsey County than in Reading, presumably because of the Reading project's small scale and food stamp-only configuration. (While card replacement and benefit issuance costs can be expected to be proportionately higher for a larger project area, training is a quasi-fixed cost. Regardless of the caseload, each office needs to have a certain number of training sessions each week, or even daily, to accommodate

[1] The POS terminal cost for the Reading EBT system is based on the cost to buy the equipment from the original lessor, amortized over the remainder of the terminals' five-year expected life. The same equipment is still in service, several years after the end of this expected life. Therefore, current costs for the Reading EBT system are lower.

expedited cases.) While the total dollar cost of reconciliation and monitoring was lower in Reading than in the other sites, the food stamp per-case-month cost was $1.62 to $2.16 higher, because the Reading system was much smaller and lacked the program integration of the State-initiated demonstrations.

The preceding comparisons indicate that the same factors have shaped EBT system costs in New Mexico, Ramsey County, and Reading. The extent to which POS costs are shared with commercial uses is a critical determinant of whether an EBT system is cost-competitive with the coupon system that it replaces, especially the economical, centralized mail issuance systems used in New Mexico and Minnesota. The scale of the project (including the total food stamp and cash caseload, and also the ratio of recipients to retailers) is an equally critical variable. Finally, a system operator that truly integrates EBT with commercial EFT processing in the same market can spread the cost of management and technical support over a much larger base of customers than a system operator that does not achieve this synergy. This integration does, of course, require sometimes complicated efforts to mesh Food Stamp Program requirements with the standards and expectations of commercial EFT system participants.

2.11 CONCLUSIONS

The results of the New Mexico and Ramsey County EBT demonstrations indicate that an **EBT system can be cost-competitive with a coupon issuance system** for the Food Stamp Program, even when it takes the place of a relatively inexpensive mail issuance system. New Mexico's food stamp EBT cost of $3.07 per case month is not only cost-competitive when measured against the adjusted coupon system cost of $4.04 per case month, but also is lower than the baseline coupon system cost for the demonstration site. At $4.38 per case month, the Ramsey County EBS system is cost-competitive with the adjusted coupon system costs of $4.53 per case month, but exceeds the baseline coupon system cost of $2.82 per case month.

The cost of an EBT system depends on four key elements:

- the efficiency of client training and card issuance;
- the fees and other charges paid to the system operator;

- the extent to which POS network costs are shared with retailers and third-party networks; and
- EBT project management and support costs.

These are the areas in which the costs of the New Mexico and Ramsey County EBT systems differ.

The most significant difference between the sites is in POS network costs, which are $1.35 per case month higher in Ramsey County. Reducing POS network costs in Ramsey County would require either an increase in commercial POS activity (which would activate the less expensive third party transaction fees in place of the current equipment cost-sharing charges) or a greater willingness by retailers or third parties to share these costs. The former change is beyond the County's power, and the latter would require reopening the difficult negotiations with retailers that delayed the project for over a year.

The EBT systems have lower costs for FNS and for existing State agency units, thanks to the elimination of coupon supply and mailing expenses. The largest cost center in the New Mexico EBT system is the system operator; in Ramsey County, the local agency (including the EBT project unit) incurs the most costs.

EBT system costs for the Food Stamp Program vary somewhat, though not radically, when different cost allocation methods are used. Cash program EBT costs are $1.92 per case month in New Mexico and $4.46 per case month in Ramsey County (using the combined caseload/transaction allocation method selected for the evaluation). Allocating shared costs in proportion to caseload tends to shift costs away from the Food Stamp Program and toward AFDC and other cash assistance programs, while allocating all costs on the basis of numbers of transactions shifts costs from cash programs to the Food Stamp Program.

Savings in food stamp costs from having a multi-program system appear to make the difference that allows the Ramsey County EBS system to be cost-competitive with the paper system, but New Mexico's EBT system might be cost-competitive even without its cash component. These estimates are based on simulations of costs for a food stamp-only system, and must be treated with caution; such a system might also incur higher per-transaction fees and other vendor charges, which could push the costs of a food stamp-only system much higher. Further evidence of savings in multi-program systems, however, comes from the fact that both

New Mexico and Ramsey County have much lower EBT costs than the $9.14 per case month operating cost of the extended EBT demonstration in Reading, Pennsylvania.

Start-up costs for the two projects were substantial: $1.6 million in New Mexico and $2.1 million in Ramsey County (in 1992 dollars). The principal reasons for the cost difference between the sites were the more complex and independent design of the Ramsey County system, and the greater number of terminals deployed at Ramsey County's expense. (POS terminal installation costs are included in the start-up figures, but terminal depreciation is part of the operating cost.) If Food Stamp Program start-up costs were amortized over seven years (as specified in FNS regulations), the monthly cost per case would be $0.53 per case month in New Mexico and $1.07 per case month in Ramsey County.

The coupon system costs for New Mexico and Ramsey County are similar to data on comparable cost items from other mail-issuance States, as obtained in a survey of non-demonstration States. Lower issuance costs were measured by this evaluation in Washington State and by the evaluation of the State-operated EBT demonstration in Reading, but even these costs were higher than New Mexico's EBT system costs. Reported issuance costs (as provided to FNS) appear to exclude important resource costs that should be considered in projecting the potential cost-competitiveness of EBT in other States.

While the evaluation has devoted substantial resources to measuring coupon and EBT system costs in the demonstration sites, the results should be viewed as potentially subject to change. Both New Mexico and Ramsey County have proposed expanding their EBT systems, as discussed in Chapter 7. As mentioned earlier in this chapter, New Mexico's vendor has assumed all POS terminal costs without any offsetting increase in transaction fees. Both sites can be expected to modify their operations over time, finding ways to be more efficient but also confronting new problems that could increase costs. The long-run costs of these demonstrations should be monitored closely to verify the findings in this chapter.

Moreover, the administrative costs of the EBT systems must be considered along with impacts on benefit loss and program participants' costs, to see if any of the factors that make one site's administrative costs different from the other's have important repercussions. These additional impacts are considered in the subsequent chapters and integrated in Chapter 7.

Chapter 3

EBT IMPACTS ON BENEFIT LOSS AND DIVERSION

Any food stamp benefit issuance system is prone to vulnerabilities that lead to the deliberate or inadvertent loss, theft or misapplication of program benefits. Critics of the Food Stamp Program often point to such problems of fraud and abuse. While some of their criticism concerns problems related to the certification process -- that is, the rules and procedures for determining program eligibility and benefit allotments -- the focus is often on the methods used to issue food stamp benefits and in the way the benefits are used. Examples of such problems, are easy to find. State and local agencies are sometimes admonished (or even sanctioned) by FNS for excessive coupon mail loss rates. Participating food retailers complain about food stamp recipients who make frequent small dollar purchases in order to accumulate cash change for non-food items. Documented cases exist of individuals using food stamp coupons to buy illegal drugs, weapons, or other illicit items.

3.1 INTRODUCTION

This chapter examines the question of whether the EBT system in New Mexico and the EBS system in Ramsey County, Minnesota, reduce food stamp benefit loss and diversion relative to benefit issuance in the form of food stamp coupons.

The analysis measures total benefit loss and diversion as the sum of three component measures: program losses, participant losses, and benefit diversions. **Program losses** are benefit losses that directly increase the costs of the Food Stamp Program, and ultimately the cost to taxpayers, whether that cost is incurred at the federal, State, or local level. An example of a program loss occurs when food stamp benefits are replaced after being reported as lost or stolen from the mail.[1] **Participant losses** do not increase program costs but increase the costs to food stamp recipients, participating food retailers or financial institutions. Food stamp

[1] "The State Agency shall issue replacement coupons only if the coupons are reported stolen from the mail or lost in the mail in the period of their intended use and the household requesting the replacement has not already been issued two replacements in the previous 5 months." Code of Federal Regulations, Subchapter C, Section 274.3(c).

coupons that are stolen from recipients, for example, impose a loss on the recipient but not the program; stolen benefits are not replaced by the Food Stamp Program. **Benefit diversions** do not increase either program or participant costs but divert food stamp benefits from their intended use. The stated objective of the Food Stamp Program is to increase the food purchasing power of financially needy households. The diversion of program benefits detracts from this objective, such as when recipients use benefits to buy non-food items.

Research Approach

The analysis examines benefit loss and diversion in the context of five broad categories of program vulnerabilities. Vulnerabilities in these categories lead to either increased program costs, increased participant costs, or diversion of food stamp benefits from their intended use:

- **excessive recipient authorizations**, which result in food stamp recipients receiving benefits in excess of their entitled allotment;
- **excessive redemption credits**, when food retailers or banks receive cash credits beyond the actual value of benefits they redeem;
- **benefit handling or production losses and thefts**, or benefits that are redeemed without being authorized for issuance;
- **benefits lost by or stolen from recipients**, which result in someone other than the program recipient redeeming the benefits; and
- **benefits used in an unintended manner**, such as when recipients use

choice of comparing EBT loss rates to the pre-existing local office coupon issuance procedures in Ramsey County or to the new central issuance procedures. To approximate the level of loss that would have occurred in Ramsey County had EBS not been implemented, we diverted from the pure pre/post design and chose to estimate coupon mail and inventory loss rates using 1992 statewide data from the MAXIS system.

Reported data on other types of coupon loss and diversion are less available, and extant data on EBT system losses and diversions are quite limited. For the most part, these data gaps were filled by estimates provided by individuals familiar with specific areas of loss or diversion or with electronic payment systems or funds transfer in general. These respondents consisted of representatives from both EBT sites, two technical system consultants, an executive from a major credit card company, an officer of a system processing firm, and an agent of the Office of the Inspector General of the USDA. Other estimates were generated from data collected during interviews with participating retailers and recipients and with representatives of financial institutions. These interviews are discussed in more detail in Chapter 4 (recipients), Chapter 5 (retailers) and Chapter 6 (financial institutions).

To the extent possible, we attempted to validate the EBT loss estimates of the expert respondents with extant data sources, such as system reports or interviews with retailers, participants, and representatives from financial institutions. If a loss estimate differed between expert and extant sources, we elected to use the extant estimate, regardless of the magnitude of the difference. We base this decision rule, which was also used in previous evaluations, on the more factual nature of extant data sources, such as EBT system reports, and on the more informed knowledge and first-hand experience of specific loss incidents that were reported by the various participant groups that we interviewed.

When expert respondents were the only source for a loss estimate, the reported estimate is the simple arithmetic mean of the most consistent responses. Thus, if the response of one expert was not in line with the other responses, the anomolous response was omitted from the computation of the mean estimate.

The analysis presents estimates of benefit loss and diversion in terms of the percentage of total benefits issued by each system and in dollars per case month. The resulting estimates should be viewed with caution, however, because the analysis does rely on both expert

judgments and reported data. The methodology is more useful for showing the relative importance of each vulnerability and the expected direction of an EBT effect than for estimating the absolute magnitude of benefit loss and diversion.

Highlights

The EBT and EBS systems appear to reduce benefit loss and diversion below the levels experienced with direct mail coupon issuance. The EBT system in New Mexico reduces total benefit loss and diversion from an estimated 2.40 percent of benefits ($4.38 per case month) to an estimate of 0.60 percent of benefits ($1.09 per case month). The Ramsey County EBS system reduces total estimated loss and diversion from 3.18 percent of benefits ($5.29 per case month) to 0.61 percent of benefits ($1.01 per case month). These estimated effects amount to a potential total savings of lost and diverted benefits of between $69,000 and $77,000 per month in each site.

Program losses, or losses that add to the cost of the Food Stamp Program, are relatively small in the coupon system, amounting to less than one percent of total benefits issued in each site. The EBT and EBS systems nearly eliminate most of these losses, however, especially losses associated with lost or stolen coupon mail issuances.

The EBT and EBS systems also reduce some participant losses, particularly those caused by lost or stolen food stamp benefits. Other participant losses will likely increase, however, particularly retailer losses that result from unauthorized manual transactions.

The EBT and EBS systems sharply reduce certain sources of benefit diversion, particularly recipients' use of cash change for non-food purchases. The elimination of cash change alone accounts for roughly 20 to 30 percent of the total EBT impact on benefit loss and diversion.

Overall EBT and EBS loss and diversion estimates are roughly comparable but somewhat lower than the loss and diversion levels estimated during the extended EBT demonstration in Reading, Pennsylvania.[1] During the extended Reading EBT demonstration, overall EBT benefit loss and diversion was estimated at 1.07 percent of benefits issued. Coupon loss rates in

[1] Kirlin, et al., op. cit., p. 142.

Reading, which were estimated at 3.15 percent of benefits, are not directly comparable to those in Ramsey County or New Mexico because an ATP issuance system was used in Reading, unlike the direct mail systems that were used in New Mexico and Ramsey County.

These results are presented in more detail in Sections 3.2 - 3.7. Sections 3.2 - 3.6 discuss benefit loss and diversion in the context of the five major vulnerabilities identified earlier. Each section assesses first the relevant losses and diversions in the coupon systems used by each site, and then those of the EBT and EBS systems. Section 3.7 reviews the overall loss and diversion levels of both systems in each site and separately discusses the component measures of program loss, participant loss, and benefit diversion.

3.2 EXCESSIVE AUTHORIZATIONS

Eligibility for the Food Stamp Program is based on household circumstances such as household size and composition, earnings, and resources. This information is collected from clients when they originally apply for program benefits, and is updated periodically and when client circumstances change. State or county agencies often maintain this information in case records on an automated system that determines program eligibility and monthly benefit allotments. In New Mexico, the ISD2 system is used for this purpose. The MAXIS system is used in Minnesota.

The automated system in each site generates a monthly authorization file of eligible households and the appropriate issuance amounts. Each record on the authorization file contains an EBT field that indicates whether a case receives benefits through the EBT system. Issuance amounts for EBT cases are routed into separate EBT authorization files. In New Mexico, these files are transmitted to the EBT system processor where the allotment information is posted to client accounts. In Minnesota, the files are sent to the Ramsey County Community Human Services Department (RCCHSD), which then transmits the files to the EBT system processor.

Information about the remaining non-EBT cases is forwarded to a coupon issuance center at each site. In Minnesota, the MAXIS authorization file is routed to the Issuance Operations Center (IOC) of the Department of Human Services. There it is used to print out issuance documents that are read by a coupon insertion machine, which stuffs coupons into envelopes and applies postage. In New Mexico, the ISD2 authorization file is sent to the Food Assistance

Bureau for coupon issuance purposes. After a coupon insertion machine stuffs the coupons and issuance documents into envelopes, the envelopes are mailed to food stamp recipients.[1]

Excessive Coupon Authorizations in the Direct Mail Issuance System

In the direct mail coupon issuance system, excessive authorizations occur when the value of coupons mailed exceeds the value of benefits that are authorized. Excessive coupon authorizations examined in this analysis consist of those caused either by mail loss or theft or by duplicate issuances.

Coupon mail losses occur when coupon issuances are lost or stolen prior to receipt by the recipient, or when the recipient falsely reports a coupon mail issuance as undelivered. State agencies use certified mail as the main control against mail losses, and 65 percent of all food stamp cases in Ramsey County received coupons by certified mail before the EBS system processed food stamp benefits. Prior to implementation of the EBT system in Bernalillo County, recipients in the following categories received their benefits by certified mail: those living in high-mail-loss areas; those with prior mail losses; and those receiving issuances greater than $324.

Duplicate coupon issuances result when households receive more than one regular monthly food stamp issuance. One example of a duplicate issuance occurs when an error in the automated eligibility system generates more than one issuance record for a household on the authorization file. Another type occurs when more than one issuance document is mistakenly printed for a household and is fed into the coupon insertion machine, which subsequently generates an extra issuance.

Various reconciliation efforts are performed by personnel at each site to ensure that the correct amounts of coupons are issued. For example, coupons are counted and signed for when they are removed from vault storage and counted again when transferred to the coupon insertion area. Also, if booklets remain after the coupon insertion machine finishes a batch, or the

[1] Some recipients in each site received their coupon issuance over-the-counter at county offices.

machine runs out of booklets before finishing, the stuffed envelopes are inspected to determine which one does not contain the appropriate number of coupon booklets.

Estimated Coupon Losses

State agencies are required to track issuance replacements that result from coupon mail losses and report the replacement amount on the FNS-259 report. According to FNS-259 data provided by the State of Minnesota Human Services Department, the total statewide dollar value of coupon replacements (excluding coupons that were returned in the mail or not replaced) for January-June, 1992, was $571,818, or about 0.75 percent of the total statewide food stamp coupon mail issuance during the period. In Bernalillo County, New Mexico, county losses between October, 1989, and July, 1990, were approximately $170,489, or about 0.77 percent of the total food stamp mail issuance in the county.[1] These estimates are presented in Exhibit 3-1 and reflect actual mail losses, regardless of the mail loss rate tolerated by program regulations. Because these losses add to program costs, they are considered program losses.

Coupon losses resulting from a participant receiving a duplicate issuance were much lower than mail losses. Duplicate issuances accounted for approximately 0.01 percent of total Bernalillo County food stamp coupon issuances and zero percent of Minnesota food stamp issuance. Not all of the losses due to duplicate issuances, however, result in direct increases in Food Stamp Program costs. During Fiscal Year 1992, the State of New Mexico collected or recouped 51 percent of claims due to agency errors, which include duplicate issuances. Data specific to recoupment of duplicate issuances are not available, but if the 51 percent figure is used, estimated program losses from duplicate issuances in New Mexico would be only about 0.005 percent of total issuance.

[1] A total of $76,437,854 in food stamp benefits were issued in Minnesota between January and June, 1992. In Bernalillo County, $22,154,108 in food stamp benefits were issued between October, 1989, and July, 1990.

As mentioned earlier, we diverted from the pre/post design by using 1992 data from the State of Minnesota MAXIS system rather than pre-EBT system data to estimate Ramsey County coupon losses. The New Mexico estimate is based on pre-EBT system data.

Exhibit 3-1

SUMMARY OF FOOD STAMP COUPON AND EBT VULNERABILITIES RESULTING IN EXCESS RECIPIENT AUTHORIZATIONS[a]
(In Percent of Benefits Issued)

	New Mexico	Ramsey County
Coupon Vulnerability		
Coupons are lost or stolen in mail	0.77	0.75
Duplicate issuance sent	0.01	0.00
Total	0.78	0.75
EBT Vulnerability		
State or county agency employee posts benefits to fictitious case or inflates benefits to an existing case	0.00	0.00
System processor employee posts benefits to fictitious case or inflates benefits to an existing case	0.00	0.00
Recipient overdraws account in a backup transaction or other error leading to retailer loss		
• loss reimbursed by State or county	0.00	0.01
• unreimbursed loss	0.03	0.09
Software error incorrectly credits client account	0.00	0.00
Double posting of issuance file	0.00	0.00
Total	0.03	0.10

Note: [a] Excludes amounts recovered or recouped from retailers or recipients.

Excessive Authorizations in an EBT System

In an EBT system, excessive authorization occurs if a recipient's benefit account is credited in excess of the amount of benefits authorized for that case. Excessive authorizations could be caused by human error, such as double posting of an authorization file, or by a system problem, such as a software error.

Excessive authorizations can also result from fraudulent behavior; for example, an employee of the system processor or the county or State agency might inflate the issuance to an existing case or create and post benefits to a fictitious recipient case. A number of measures are used in both sites to control against excessive authorizations caused by this type of fraudulent behavior. Both sites separate employees that authorize benefits from those that issue benefits and use security codes to limit the access of employees only to certain administrative functions. In addition, benefits in both systems are reconciled daily, which would detect imbalance situations created by the fraudulent activity.

Excessive authorizations resulting from fraudulent behavior by State or county agency employees are not estimated under a coupon system. Excessive coupon authorizations of this type are considered losses during the certification process, which would be unaffected by whether benefits were issued by coupon or EBT systems. We consider excessive authorizations under an EBT system in this analysis as only those losses that occur outside of the certification process -- that is, excessive authorization vulnerabilities that may be affected by EBT issuance.

A second type of excessive EBT authorization occurs when a recipient overdraws an account in a backup transaction. In both sites, retailers are encouraged to telephone for purchase authorization for a backup transaction but are not required to do so. Both sites will guarantee the full value of **authorized** backup transactions, but the Ramsey County CHSD will guarantee only $40 and the New Mexico HSD will not guarantee any amount for **non-authorized** backup transactions. Losses from non-authorized backup transactions in New Mexico and those in excess of the $40 guarantee in Ramsey County are borne by the retailer.

A third type of excessive authorization in an EBT system is an incorrect credit to a client account from either an error in the transaction processing software or a double posting of an issuance file. System testing prior to the implementation of both systems was conducted to

control against these types of excessive EBT authorizations, and both EBT systems are designed to reject allotment postings with duplicate authorization numbers.

Estimated EBT Losses

The expert respondents believed that overdrawn backup transactions and system processing errors represent the most likely excessive EBT authorization vulnerabilities, assigning to these vulnerabilities a combined estimated loss average of 0.02 percent of benefits issued in both sites. This estimate is somewhat lower than those provided by EBT project staff and retailers in both sites. Because EBT project staff based their estimates on documented losses and retailer respondents are knowledgeable about specific occurrences of these types of incidents, our estimates of losses from overdrawn backup transactions and system processing errors are based on these sources.

After the food stamp portion of the Ramsey County EBS system went on-line in September 1991, Ramsey County's payments to retailers for the first $40 of backup transactions with insufficient funds averaged about 0.03 percent of total monthly food stamp issuance. More recently, the rate has averaged about 0.005 percent. New Mexico, which does not guarantee non-authorized backup transactions, has not paid any funds to retailers for losses incurred due to insufficient funds.

Retailers in both sites were asked about permanent (i.e., unreimbursed) losses arising from EBT sales. They were not asked to distinguish between losses arising from backup transactions, and those arising from other sources (e.g., system processing errors). A sample of 43 Ramsey County retailers report experiencing permanent losses equivalent to a little over 0.09 percent of benefits due to EBT sales for which the wrong amount was transferred to the retailer's account.[1] In Bernalillo County, where the New Mexico HSD makes no guarantee for backup transactions, a sample of 44 Bernalillo County retailers reported losses from EBT sales of this type equivalent to 0.03 percent of benefits issued.

[1] Coupon losses that are comparable to those resulting from EBT processing errors or unreimbursed backup transactions are not considered here because, unlike the EBT losses, coupon losses of this type do not result in an increased authorization to food stamp recipients. Comparable coupon losses are addressed in Section 3.2 -- Excessive Redemption Credits.

Respondents to the vulnerability interviews estimated loss rates that round to zero percent in both sites for vulnerabilities that involved State agency or county office employees or employees of the system processor. Respondents noted that one of these vulnerabilities would require the unlikely condition of collaboration between the system processor employee and a food stamp client. One respondent did note, however, that collaboration involving a system processor employee would be more probable in Bernalillo County, given that FNBIA is located in Albuquerque, but still assigned a near-zero profitability to the vulnerability.

Respondents also estimated zero loss rates in both sites for double posting of issuance files and software errors, based on the system controls designed to prevent such errors.

Exhibit 3-1 summarizes coupon and EBT losses that result in excess client authorization. As shown in the exhibit, the expected losses due to excessive EBT authorizations are estimated at 0.10 percent of benefits issued in Ramsey County ($0.17 per case month) and 0.03 percent of benefits issued in Bernalillo County ($0.06 per case month). These respective estimates are about 13 percent of the comparable Ramsey County coupon loss rate of 0.75 percent of issuance and only four percent of the Bernalillo County coupon loss rate of 0.78 percent of benefits issued.

Of these EBT losses, only 0.005 percent of total Ramsey County issuance would be added to Ramsey County program costs (or about $0.01 per case month), and the New Mexico HSD would experience no additional costs. While some of the Ramsey County losses are being recovered with an on-line representation function implemented in December 1992, it is too early to estimate the proportion of overdrawn funds that will be recovered.

All other losses are considered participant losses because they would be borne by retailers in both sites. Although it is possible that some portion of these losses will be recovered through re-presentation (which exists on-line in Bernalillo County), the losses are treated as permanent in this analysis because retailers reported them that way.

3.3 EXCESSIVE REDEMPTION CREDITS

Food stamp benefit redemption by retailers in the coupon system differs considerably from an EBT system. To redeem coupons, store personnel must endorse the coupons with a stamp that identifies the store, count the coupons, and complete a Redemption Certificate. The

grocer then deposits the coupons and the Redemption Certificate into the store's bank account along with other store receipts. Banks generally give retailers immediate credit for food stamp coupon deposits, then forward the coupons to a Federal Reserve branch bank.

Banks are prohibited from accepting a food stamp coupon deposit unless the deposit is accompanied by a Redemption Certificate. The Redemption Certificate, which proves that the store is authorized to accept coupons, is provided by FNS to all authorized stores. The certificates are encoded with a store's authorization number, which helps FNS track food stamp redemptions at the individual store level.

In an EBT system, grocers receive credit electronically for the food stamp purchases made at their stores. At the end of a "cutover" period, the EBT system totals the credits of each retailer and prepares a file to transfer funds to the retailers' bank accounts. For the Ramsey County EBS system, this file is transmitted from TransFirst, the EBS system processor, to NationsBank, the EBS system's clearinghouse bank. NationsBank debits an account held by TransFirst for the sum total of the food stamp transactions and initiates a process through the ACH network to credit individual retailer accounts. Separately, TransFirst sends a payment request through the HHS Payment Management System for reimbursement for the debit, and payment is made through the Fedwire system.

The process is slightly different in New Mexico because FNBIA, the EBT system processor, is a financial institution and can act as a clearinghouse bank. Many of the retailers participating in the New Mexico EBT demonstration use FNBIA as their depository bank. For retailers with FNBIA business accounts, the EBT system merely generates a notice to credit the retailer's account for the total amount of EBT business for the day. FNBIA's decision to advance credit to their retailers is not compelled by the EBT system's design. FNBIA made the decision voluntarily, as both a marketing strategy and to reduce the number and cost of ACH transmissions. Non-FNBIA retailers are credited through the ACH network, out of funds reimbursed to FNBIA for all retailer credits through the HHS Payment Management System and Fedwire, as is the case with TransFirst.

Excessive Redemption Credits in the Coupon System

Excessive redemption credits occur when a food retailer or bank receives dollar credit for a food stamp deposit that exceeds the dollar value of the deposit. Examples of situations that create excessive redemption credits include a non-authorized store that accepts and redeems food stamp coupons, or a grocer or bank that overstates the value of a coupon deposit on a Redemption Certificate or deposit certificate (and the discrepancy is not discovered). For this last vulnerability, the analysis combines both deliberate and inadvertent errors.

Estimated Coupon Losses

Losses that occur from excessive redemptions appear to be fairly small in the coupon system. Interviews with FNS field office personnel (who monitor redemptions by non-authorized stores) and with bank and food retailer personnel suggest that excessive redemption losses are rare and usually involve only small dollar amounts.

The Minneapolis Computer Support Center (MCSC) of FNS generates monthly listings of coupon redemptions by non-authorized stores and forwards the appropriate listing to each of the FNS Field Offices. Respondents from the Albuquerque and St. Paul Field Offices could not recall when they last identified from an MCSC listing a case involving a non-authorized food retailer that was fraudulently redeeming food stamp coupons (e.g., redemptions by disqualified stores). Most of the cases follow store ownership changes, where the new owner is not aware that he must re-apply for authorization. For analytic purposes, we assume rates of 0.0 percent of total issuance for coupon losses due to this type of vulnerability.

Zero losses are also estimated for situations in which a disqualified store continues to accept food stamp coupons but turns them over for deposit by a store that is authorized. Although Field Office respondents believed that such activity [illegible] losses from actual

Of these deposit errors, however, bank interviews indicate that all discrepancies found between the credited amount and the physical count of coupons are ultimately resolved or corrected by debiting or crediting the appropriate account. For unresolved errors discovered at the Federal Reserve, the account of the depository bank is credited or debited by the amount of the error. Unresolved errors at local banks are debited or credited to the account of the retailer who deposited the coupons. Thus, any permanent losses of this type are incurred by retailers and local banks.

Respondents report that permanent losses borne by local banks are rare and usually involve small amounts of money. The analysis presented in Chapter 6 estimates that unresolved accounting error losses add to local bank costs about $0.01 per $1,000 of food stamp coupon deposits. This amount translates into a loss rate of 0.001 percent of food stamp coupon deposits.

Participating food retailers, who also incur accounting error costs, report losses that amount to 0.001 percent of coupon issuance in New Mexico and about 0.01 percent in Ramsey County. Retailer losses are discussed in Chapter 4.

Combining retailer and local bank losses, we estimate that excessive coupon redemption credits equal less than 0.002 percent in New Mexico and 0.011 percent in Ramsey County. These totals are the **participant loss rates**, because local banks and retailers incur the costs of the losses. Total program losses are zero because none of the vulnerabilities add to program costs.

Excessive Redemption Credits in an EBT System

An EBT system automates nearly the entire retailer and bank redemption processes and eliminates the active role of retailers and banks in receiving credit for food stamp benefit deposits. Although automated redemption processes eliminate the potential for some types of benefit loss, such as those arising from inflated coupon deposit documents, EBT redemption introduces other potential vulnerabilities that may lead to excessive redemption credits. For purposes of the analysis, excessive redemption credits in an EBT system are defined as situations in which the dollar amount electronically credited to a retailer's bank account exceeds the value of benefits actually redeemed by recipients at the retailer's store.

Excessive redemption credits in an EBT system could occur through several potential vulnerabilities. Employees at the system processor or concentrator bank could inflate credits to legitimate store accounts or create and credit fictitious retailer accounts. In addition, funds transfers through the ACH process could be altered deliberately to increase grocer credits, or a system software error could inflate the value of a transaction and overcredit a retailer account. A non-EBT terminal also could be configured to transmit EBT transactions to the system.

Other potential vulnerabilities in this category rely less on technological expertise or system processing errors. For example, a store owner could simply submit a voucher for a backup transaction that was never processed. Alternatively, a store employee could learn a client PIN and card number and manually enter the numbers into an EBT terminal without client consent. The employee could then take the equivalent amount of money from the cash register, thus leaving the store's internal accounting in balance.

One primary control against these types of vulnerabilities is deterrence caused by the likelihood of detection. Daily reconciliation reports in both EBT systems would show imbalance situations if funds directed to a store account were arbitrarily increased without offsetting client debits or without diverting credits from other stores. These reports would also identify the account into which the funds were directed, and consequently the beneficiary of the diverted funds.

Project staff in both sites believe that EBT food stamp clients track closely their remaining account balances, given their dependence on benefits and their typically small average balances. Excessive redemption credits that are diverted from client accounts but leave the system in balance, therefore, would likely be detected by the affected clients, even if only small dollar amounts were involved.

A second major control against excessive redemption vulnerabilities is simply the relatively small amount of money that exists in the Ramsey County and New Mexico EBT systems. Several respondents pointed out that if an individual possessed the technological expertise to reconfigure a non-EBT terminal, for example, the individual would likely penetrate a debit card or credit card network because those networks offer much greater potential prizes. As EBT systems increase in scale, however, the potential for excessive redemption vulnerabilities increases accordingly.

Other controls consist of physical and personnel security at the system processor, merchant and terminal system control files, and the pre-note procedure to open an ACH destination account. These controls limit employee access to key processing functions and direct the sources and destinations of funds to those authorized by program personnel.

Respondents observed that the major controls against these types of vulnerabilities were aimed at detection rather than prevention. Although detection serves as a deterrent to potential violators, respondents included in their estimates the possibility that an individual could compromise the system and then flee the country before being detected. Although the probability of this type of crime at any given time is extremely small, respondents provided non-zero estimates of expected loss for each potential vulnerability.

Respondents pointed out that EBT systems offer much more recourse than a coupon system in reclaiming excessively redeemed funds, especially those caused by system problems such as software errors. Respondents noted, however, that the ability to reclaim funds from retailer accounts was limited more by program policy than by technical system constraints. Current EBT policy in both sites relies on voluntary retailer cooperation to resolve credit disputes. One respondent contrasted this policy to that of credit card companies, which employ very stringent guidelines with respect to merchant reimbursement and withhold reimbursement while client disputes are unresolved.

Estimated EBT Losses

Evidence suggests that the most likely vulnerability, but one that involves only small dollar amounts, is that of a store employee who learns a PIN and card number and manually enters the information into a terminal without client consent. A New Mexico respondent reported a recent case of a store clerk who used customer card numbers and PINs to steal approximately $7,000 over a two-week period. The majority of the theft was from debit card accounts, and the clerk did not steal benefits from any food stamp accounts (a small amount was taken from AFDC accounts). The respondent estimates that about $300 has been taken from food stamp accounts during four similar incidents over the past two years. This amount translates into less than 0.001 percent of benefits issued over the period, as shown in Exhibit 3-2.

Exhibit 3-2

SUMMARY OF FOOD STAMP COUPON AND EBT VULNERABILITIES RESULTING IN EXCESS RETAILER REDEMPTION CREDITS
(In Percent of Benefits Issued)

	New Mexico	Ramsey County
Coupon Vulnerability		
Non-authorized store accepts and redeems coupons	0.00	0.00
Redemption certificate or deposit document may be inflated by retailer or bank	<0.01	0.01
Total	<0.01	0.01
EBT Vulnerability		
Store accounts are altered by system processor employee	<0.01	<0.01
Fictitious store accounts are created by system processor employee and credited	<0.01	<0.01
Funds transfer through ACH process is altered to increase grocer credits	<0.01	<0.01
Software error overcredits retailer account	<0.01	<0.01
Store submits voucher for bogus sale	<0.01	<0.01
Store clerk learns client PIN, manually enters account information into terminal without client consent	<0.01	<0.01
Non-EBT terminal configured to transmit EBT-transactions to system	<0.01	<0.01
Total	0.04	0.04

Ramsey County respondents know of no actual incidents of this type during twelve months of system operations but acknowledge that it probably has occurred. The Ramsey County EBS system requires a supervisor security code for entry of a manual transaction which could limit the exposure to this vulnerability (although anecdotal evidence suggests that supervisor access codes are commonly shared among store employees). Given the small likelihood of the vulnerability and the additional control measure, we estimate the Ramsey County loss level at 0.00075 percent of benefits issued, or about 75 percent of the New Mexico estimate.

Other excessive redemption vulnerabilities are less likely to occur according to respondents, but could involve potentially larger dollar amounts. Respondent loss estimates averaged less than 0.01 percent of benefits each for vulnerabilities caused by a system processor employee, software errors and non-EBT terminals. These estimates were consistent across sites, although one respondent noted that New Mexico losses by system processor employees might be slightly lower because a financial institution served as that system's processor. Financial institutions are more likely to have stronger controls because they are subject to stricter auditing guidelines.

Altered ACH records are estimated to create potential losses of 0.004 percent of Ramsey County benefits and 0.003 percent of New Mexico issuances. The higher Ramsey County estimate is due to that system's use of a separate clearinghouse bank, unlike the New Mexico EBT system in which the system processor and clearinghouse bank are the same institution (which reduces the volume of ACH transactions).

Respondents estimated loss rates of less than 0.01 percent of benefits issued in Ramsey County and New Mexico due to stores submitting invalid EBT sale vouchers. These loss rates assume a once-a-month occurrence of the vulnerability for approximately $100 per fraudulent transaction.

Total losses from excessive EBT redemption credits are estimated to be about 0.044 percent of New Mexico benefits ($0.08 per case month) and .0385 percent of Ramsey County issuances ($0.06 per case month). EBT loss levels are over four times greater than coupon estimates in New Mexico and about four times greater than Ramsey County coupon estimates. The difference is due to the nature of the losses under each system. EBT system losses are

likely to occur relatively infrequently but could involve large dollar amounts. Coupon losses are more common, but involve smaller dollar amounts.

All but one of the EBT vulnerabilities add directly to program costs, including those vulnerabilities that divert funds from client accounts. Losses arising from store employee entry of card number and PIN are borne by the recipient, even though the transaction was completed without the client's consent. EBT policy in both sites assigned responsibility for PIN safeguard to clients, and neither site reimbursed clients for unauthorized uses of PIN or card numbers.[1] Thus, participant loss equals .001 percent of benefits in New Mexico and .00075 percent of Ramsey County benefits. Program loss equals roughly 0.04 percent of benefits in each site, or total loss minus losses caused by unauthorized client account debits.

3.4 BENEFITS LOST DURING PRODUCTION AND HANDLING

To provide food stamp coupons to recipients, FNS currently contracts with a vendor to print coupons and distribute them to State and county agencies for issuance.[2] Coupons are printed in denominations of $1, $5, and $10, and are packaged in booklets of $2, $7, $10, $40, $50, and $65. The coupons have serial numbers, but carry no personal identification or expiration dates. In New Mexico, coupons are delivered by armored car and stored at the Santa Fe Central Supply Office. The State of Minnesota inventory of food stamp coupons is stored at the Issuance Operations Center. Food stamp coupons circulate only once and are destroyed after they are redeemed at the Federal Reserve Bank.

An EBT system does not have an analogous physical representation of benefits. However, EBT authorizations are transferred from a State agency or county issuance center to the EBT system processor, and vulnerabilities associated with that process are considered in this section.

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[1] This policy could change, however, given a January 1993 preliminary Federal Reserve Board ruling that Regulation E applies to EBT systems. Among other things, Regulation E limits client liability for losses caused by unauthorized transfers from electronic accounts.

[2] FNS hopes to have two vendors under contract for this task by the fall of 1993.

Food Stamp Coupons Lost During Production And Handling

Production and handling losses of food stamp coupons are possible at various points from the initial printing of the coupons until they are issued to food stamp recipients. Coupons can be lost or stolen from producer inventories, while being transported to delivery locations, or from inventories maintained by State agency or county issuance centers. Other types of loss considered in this section include counterfeit food stamp coupons and coupons that are "recycled" or recirculated after redemption.

Not all of these losses are measured by a formal reporting system because certain types of losses are infrequent and some go undetected. Estimates for these types of losses are based on interviews with FNS and USDA personnel who have investigated or are otherwise familiar with known incidences of theft and loss for which no formal reporting system exists. These sources provided estimates of losses associated with coupons stolen during production, shipment, or storage; recycled coupons; and counterfeit coupons.

Estimated Coupon Losses

Estimates of coupons lost during production and handling are based on interview data. The only reported case of coupons stolen from producer or distributor inventories occurred in 1984 and involved about $4 million worth of food stamp coupons. This leakage equals 0.004 percent of the $103.6 billion in food stamp benefits that were issued in the United States between October 1983 and January 1992. We estimate a 0.0 percent program loss, however, because nearly all of theft was subsequently recovered or paid back in cash.

The only reported case of recycled coupons occurred in Puerto Rico in the late 1970s and involved $11 million worth of food stamp coupons, which translates into 0.008 percent of the $144.2 billion in food stamp benefits that was issued in the United States between October 1979 and January 1992. About one-half of the leakage was recovered, however, so the estimated program loss for recycled coupons is about 0.004 percent of benefits issued.

Since October 1986, approximately $1.2 million in counterfeit food stamp coupons have been either discovered by Federal Reserve Bank Staff or seized by Federal Investigators. Although respondents would not estimate the possible level of undetected counterfeit coupons, we make the assumption that very few counterfeit coupons are undetected, given the Federal

Reserve Banks' efforts to check the authenticity of all submitted coupons. Total counterfeit coupons thus amount to an estimated $1.2 million, or about 0.0017 percent of the $71.6 billion in food stamp issuance between October 1986 and January 1992. Participant losses equal 0.0017 percent of food stamp issuance, because counterfeit coupons are charged back to merchants.

The final category of coupon production losses are losses from central State agency coupon inventories. These losses can occur because the wrong amount of coupons were inserted in a mail issuance envelope or were shipped to a local distribution point, or the coupons were stolen.[1] State of Minnesota MAXIS reconciliation reports indicate that coupon inventory discrepancies amounted to 0.001 percent of all food stamp issuance between January and June, 1992. State of New Mexico inventory discrepancies totaled 0.01 percent of total benefits issued during the same time period. Program loss rates are equal to the total loss rates because any inventory losses that are resolved in subsequent months would be reflected in the latter months' reports.

The above estimates of coupon production loss rates do not account for the possibility of a major coupon theft at either State's central issuance facility.[2] Both facilities are housed in secure buildings, however, and we found no instance of coupon theft from these or similar sites throughout the county. We therefore assume a long-term estimate of essentially zero percent for loss from centralized issuance facilities.

EBT Benefits Lost During Production and Handling

The only vulnerability category considered for EBT production losses occurs when benefits are lost or tampered with during the transfer of the authorization file from a State agency or county office to the system processor. In Ramsey County this transfer is a two-step process. The Ramsey County authorization file is created by the MAXIS system, loaded on to

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[1] These coupon losses are treated separately from the analysis of Excessive Authorizations (Section 3.1) because coupon production losses do not necessarily increase the amount issued to clients.

[2] Loss attributable to theft of small amounts of coupons by State employees would be measured in the coupon inventory discrepancies already examined.

magnetic tape, and transferred by courier to the Ramsey County CHSD. The second step of the process involves electronically transmitting the authorization file from the Ramsey County CHSD to ACS/TransFirst, where it is applied to client accounts. The data are electronically transmitted over a dedicated communications line and are structured in a specific file format.

Transfer of the Bernalillo County authorization file omits the first step from the Ramsey County process. The authorization file is transferred directly from ISD2 (the system that creates the file) to FNBIA through a dedicated communication line and in a specific file format.

Estimated EBT Losses

Expert respondents considered it very unlikely that benefits would be lost during the transfer of the authorization file from State agency or county office to the system processor, and approximated less than .01 percent loss rate in each site, as shown in Exhibit 3-3. Respondents reasoned that to accomplish this act, an individual would have to possess very sophisticated technical equipment and detailed knowledge of system operating procedures and file formats. Such individuals would likely direct their efforts at networks which transmit larger sums of money, such as banking, debit card or credit card networks.

3.5 BENEFITS LOST OR STOLEN FROM RECIPIENTS

Food stamp benefits that are lost or stolen from recipients do not normally add directly to program costs. These types of vulnerabilities are considered participant losses rather than program losses, because these losses are borne by food stamp recipients and not the Food Stamp Programs.

In addition to benefits lost by or stolen from recipients, participant loss may be caused by food retailers that discount the value of food stamp benefits on purchases or overcharge food stamp participants. This activity is prohibited by Food Stamp Program Regulations and can result in a monetary fine or disqualification from accepting food stamp benefits.

Lost or Stolen Coupon Benefits

Lost or stolen food stamp coupons are not replaced because, like cash, food stamp coupons do not contain identifying information, and a person finding or stealing the coupons can

Exhibit 3-3

SUMMARY OF FOOD STAMP COUPON AND EBT VULNERABILITIES RESULTING IN BENEFIT LOSS OR THEFT DURING PRODUCTION AND HANDLING
(In Percent of Benefits Issued)

	New Mexico	Ramsey County
Coupon Vulnerability		
Coupons are stolen during production, shipment, or storage	<.01	<.01
Recipient is given too many coupons	.01	<.01
Cancelled coupons are taken from redemption process and re-used	<.01	.01
Coupons are counterfeited	<.01	<.01
Total	.02	.02
EBT Vulnerability		
Authorization file is tampered with or intercepted and replaced during physical transfer to county office	N/A	.00
Authorization file is tampered with or intercepted and replaced during electronic transmission to system processor	<.01	<.01
Total	<.01	<.01

make purchases without having to establish his or her identity. Food store clerks may ask for a program identification card to prove program participation, but they are not required to and few ever do so.

Estimated Coupon Losses

Estimates of lost and stolen food stamp coupons and discounting or overcharging by food retailers are based on interviews conducted prior to implementation of the EBT systems with 87 food stamp recipients in Ramsey County and 85 recipients in New Mexico. Ramsey County recipients reported lost or stolen coupons that were equivalent to 1.2 percent of benefits issued ($2.00 per case month) and grocer overcharges amounting to 0.1 percent of benefits issued ($0.17 per case month). While total Ramsey County **participant losses** equal 1.3 percent of benefits issued, **program losses** equal zero percent because the benefits are not replaced.

Recipients in Bernalillo County reported lost or stolen coupons that were equivalent to 0.3 percent of benefits issued ($0.55 per case month) and grocer overcharges amounting to 0.2 percent of benefits issued ($0.37 per case month). Total **participant losses** are thus 0.5 percent of benefits. As with the Ramsey County losses, Bernalillo County **program losses** equal zero percent of benefits issued.

Stolen EBT Benefits[1]

Benefits stolen from participants in the EBT demonstrations may be replaced in some situations. EBT policy at both sites relies on participants to safeguard their benefit card and PIN, and neither site replaces benefits stolen by unauthorized use of a card and PIN. However, if the benefits are stolen by tampering with system files, the use of a counterfeit benefit card, or a software error, then benefits would be replaced and the theft would add to program costs.

Another vulnerability to EBT benefit theft involves recipients that never pick up their benefit card. Under this vulnerability, an EBT specialist could take the card, select a PIN, and

[1] Only stolen EBT benefits are considered here. EBT benefits cannot be "lost" because they are electronically represented, and audit records document any transactions involving the benefits. EBT benefit cards can be lost, but benefits can be transferred to a new card as in the case of stolen cards.

access the recipient's benefits. This type of vulnerability could go undetected for as long as the client did not attempt to access his or her benefits.

Both sites screen employees and will age dormant accounts off the system to control against this type of vulnerability. Aging dormant accounts involves the removal of benefits from client accounts on the EBT system that have not been accessed (i.e., are "dormant"). Food Stamp Program regulations allow EBT sites to expunge recipient accounts after one year of inactivity. Ramsey County has not implemented an aging process, but CHSD caseworkers notify clients who have not accessed their benefits for 45 days. New Mexico began aging dormant account benefits in September 1992.

Estimated EBT Losses

As shown in Exhibit 3-4, our seven respondents estimate that 0.16 percent of Bernalillo County EBT issuances will be lost or stolen from recipients, and 0.10 percent of Ramsey County issuances. This cross-site difference stems from estimates of grocer overcharges and benefit value discounting. Respondents estimated that EBT losses of this type would be only slightly less than coupon levels. Thus, the cross-site difference that was reported by recipients for overcharges and discounting in the coupon systems carry over to the EBT loss rates.

Exhibit 3-4

SUMMARY OF FOOD STAMP COUPON AND EBT VULNERABILITIES RESULTING IN BENEFITS LOST OR STOLEN FROM RECIPIENT
(In Percent of Benefits Issued)

	New Mexico	Ramsey County
Coupon Vulnerability		
Recipient loses coupons or has them stolen	0.30	1.20
Grocer overcharges recipient or discounts coupon value	0.20	0.10
Total	0.50	1.30
EBT Vulnerability		
Unauthorized use of recipient EBT card	<0.01	<0.01
Counterfeit EBT card used to access recipient account	0.00	0.00
Discounting or overcharging by retailer	0.15	0.09
Tampering with recipient account by retailer, State or local agency personnel or employee of system processor	0.00	0.00
Software error in debiting recipient account	<0.01	0.00
Recipient never picks up card, state or local worker takes card selects PIN and accesses benefits or dormant account	≤0.01	≤0.01
Total	0.16	0.10

Other vulnerabilities were estimated to involve zero loss rates in both sites. These vulnerabilities include counterfeit EBS cards and tampering with recipient accounts.

Total EBT participant losses from lost or stolen recipient benefits amount to about 0.10 percent of Ramsey County issued benefits ($0.17 per case month) and 0.15 percent of Bernalillo County issuances ($0.27 per case month). Program losses are less than 0.01 percent in each site, however, because program costs would increase only for losses due to software errors or an EBT specialist using benefits that were never accessed by a client.

3.6 RECIPIENT USE OF BENEFITS IN AN UNINTENDED MANNER

Recipients may use food stamp benefits at any food retailer establishment that is authorized to participate in the Food Stamp Program. Recipients may use benefits only to purchase authorized items, however, which excludes any non-food products and some prepared food items that many food stores sell. This section considers diversions caused by recipients using food stamp benefits to purchase non-eligible products.

This category of vulnerabilities also considers purchases of non-food items with cash change from food stamp purchases (up to $0.99 in cash change may be returned to a food stamp customer). This action does not violate Food Stamp Program rules (unless repeated small purchases are made to generate change), although it diverts benefits from the program objective of increasing the food purchasing power of recipients.

Unintended Use of Coupon Benefits

Purchase of Non-Eligible Items with Food Stamp Benefits. "Staple" food products such as fish, meat, and dairy products must make up 50 percent of a store's total food sales in order for a store to be authorized to accept food stamp benefits. Food stamp benefits are not restricted to the purchase of staple food products, however, and accessory food items such as coffee or soda are eligible for food stamp purchase.

The Food Stamp Program provides educational material and copies of relevant program regulations to teach recipients and retailers about products that are eligible for food stamp purchase. Retailers are also made aware of the penalties for allowing non-eligible purchases, and some FNS Field Offices distribute newsletters to retailers which identify stores that have

been disqualified or fined for program violations. FNS' Compliance Branch routinely investigates stores that it suspects are allowing non-eligible purchases and sends undercover investigators into targeted stores to attempt food stamp purchases of non-eligible items.

Despite FNS' efforts to control purchases of non-eligible products, there are no regularly reported data on the frequency or value of these purchases. We base our estimate of coupon purchases of non-eligible items on analysis done for the evaluation of the original Reading EBT demonstration. That analysis, which was based on investigations conducted with FNS Compliance Branch staff, estimated that benefit diversion by means of purchases of non-eligible items amounts to 0.17 percent of food stamp benefits.[1]

Selling Benefits for Cash. The practice of selling benefits for cash, or "trafficking", involves a recipient, an authorized retailer, and sometimes a third party or middleman. Although recipients may not always receive cash for trafficked benefits (and stories abound of recipients who buy drugs, guns, or other illicit items with food stamp benefits), the analysis considers only the final step in trafficked benefits, which involves an authorized retailer who provides cash for food stamp benefits.

Recipients or retailers found trafficking benefits can receive temporary or permanent disqualifications or face criminal prosecution (trafficking food stamp benefits is a federal crime, not just a violation of program regulations).

Estimates of food stamp coupon trafficking are subject to considerable debate and vary greatly among experts. A recently completed examination of methodologies to estimate food stamp trafficking noted that "most areas of benefit loss in the Food Stamp Program have been

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[1] Food Stamp Program Redemption System: A Preliminary Assessment. Alexandria, Virginia: FNS, Program Accountability Division, June 21, 1984. Investigators attempted to purchase unauthorized items in a random sample of stores. In 14 percent of the large stores (total monthly sales over $100,000), investigators were able to make an unauthorized purchase; they made three such purchases (enough to disqualify the stores from participating in the program) in 4 percent of the stores. At least one unauthorized purchase was made in 50 percent of the smaller stores; the three-buy rate was 29 percent. In estimating total unauthorized purchases, we assumed that recipients might attempt to buy unauthorized items in 10 percent of their purchases, and that the unauthorized items in these cases would amount to 10 percent of the total value of the intended purchase. We assumed that all attempts to purchase unauthorized items would be accepted in the three-buy stores, half the attempts would be accepted in the one-buy stores, and none would be accepted elsewhere.

studied extensively, are reasonably well understood, and data exist to permit reasonable estimates of benefit loss or diversion. However, such is not the case with redemption diversions, generally, and trafficking in particular."[1] Given the limitations of estimating food stamp trafficking, the analysis employs estimates developed for the evaluation of the original Reading EBT demonstration.[2] Benefit diversion caused by selling benefits for cash was estimated in that evaluation to account for 0.39 percent of benefits issued.[3]

Cash Change from Coupon Purchases. Retailers are permitted to return cash change up to 99 cents for a food stamp coupon purchase. Although program regulations do not restrict recipient use of cash change, we consider using cash change for the purchase of non-eligible food items as a diversion of benefits from their intended purpose.

Estimating the amount of benefit diversion resulting from cash change is a bit tricky and involves some economic theory. It is important, however, to treat this portion of the analysis quite carefully. As shown below, an EBT system's elimination of cash change is a major component of the system's overall impact on benefit loss and diversion.

As a starting point, we use the following equation to estimate the amount of benefits diverted when food stamp recipients receive cash change from food stamp purchases:

$$BD = (1 - MPC(cash)) * \text{cash change},$$

where: BD is the amount of benefits diverted; MPC (cash) is the marginal propensity to consume food out of cash; and cash change is the average amount of cash change received per case month.

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[1] James S. Lubalin et al., Food Stamp Program Integrity Methodological Feasibility Study, Research Triangle Park, North Carolina: Research Triangle Institute, March 1, 1991, p. 7.

[2] Hamilton et al., op. cit., p. 105. The evaluation based its estimate of trafficking on interviews with USDA and FNS personnel that indicated that about one-eighth of all stores disqualified from participation in the Food Stamp Program are caught trafficking, and that one-third of the redemptions at the disqualified stores are trafficked benefits. This information was combined with data from the Program Accountability Division study referenced earlier to arrive at an estimate of total trafficking volume.

[3] This estimate is based on interviews with respondents from FNS' Compliance Branch and the USDA Office of Inspector General who were familiar with coupon trafficking and on data on successful trafficking investigations.

The marginal propensity to consume food out of cash measures how much more a food stamp recipient would spend on food if his or her cash income were increased by one dollar. The term (1 - MPC (cash)) measures how much of that dollar would be spent on non-food items.

The above equation is incomplete, however, because it fails to account for spending behavior that would have occurred in the absence of cash change. That is, cash change should be viewed as a simultaneous marginal **increase** in cash income and a marginal **decrease** in food stamp benefits. Recipients purchase food out of the marginal food stamp benefit according to a marginal propensity to consume food from food stamp benefits. Providing cash change instead of food stamp benefits causes recipients to increase food purchases by the MPC from cash change, while the decrease in benefits caused by the change reduces recipient food purchases by the MPC out of food stamp coupons. The difference between these two MPCs is the amount of benefits, at the margin, that are diverted from food to non-food purchases. Therefore, the revised equation to estimate benefit diversion is:

BD = [MPC (coupons) - MPC (cash)] * (cash change),

where: BD = the amount of benefits diverted; MPC = the marginal propensity to consume out of coupons or cash; and cash change is the average amount of cash change received per case month.

Demonstration projects that issue cash instead of food stamp benefits provide researchers the opportunity to examine how recipients spend their benefits. An evaluation of a cash-out demonstration in Alabama estimated that food stamp recipients' marginal propensity to consume food (MPC) out of cash was 0.073,[1] meaning that food stamp recipients spent only about 7 cents on food out of each marginal dollar of cash that they received. From the same study, researchers also estimated the marginal propensity of food stamp recipients to consume food out of food stamp coupons to be 0.31.[2]

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[1] Thomas Fraker et al., The Evaluation of the Alabama Food Stamp Cash-Out Demonstration, Princeton, New Jersey: Mathematica Policy Research, Inc., April 1992, p. F11.

[2] Fraker et al., op. cit., p. F11.

An evaluation of a cash-out demonstration in San Diego arrived at MPC estimates very close to those in Alabama. The San Diego evaluation estimated the MPC out of cash to equal 0.063 and the MPC out of food stamp coupons to be 0.28.[1] Given the methodological similarities between the two studies, we use the simple arithmetic mean of the MPC estimates in our computation of benefit diversion. The MPC out of cash is thus assumed to equal 0.295, and the MPC out of food stamp coupons is 0.068.

Assuming that the average amount of cash change from any purchase is 50 cents, then the average amount of cash change that is not spent on food would be 11.35 cents [(0.295 - 0.068) * $0.50], and the average amount that is spent on food is 38.65 cents. Based on the average number of monthly EBT purchase transactions by Ramsey County and New Mexico recipients,[2] about 0.54 percent of coupon benefits in both sites were diverted to non-food items.

Estimated Coupon Diversion

Given the estimates provided above, total food stamp coupon benefit diversion due to non-eligible purchases, trafficking, and cash change amounts to 1.10 percent of Ramsey County benefits ($1.83 per case month) and 1.10 percent of Bernalillo County benefits ($2.01 per case month).

Unintended Use of EBT Benefits

Purchase of Non-Eligible Items with Food Stamp Benefits. All but two of the respondents believed that the purchase of non-eligible items would remain unchanged in an EBT system. The two respondents who disagreed believed that EBT losses would be slightly smaller than coupons, a decrease that was attributed by one respondent to the perception by retailers and

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[1] James C. Ohls et al., The Effects of Cash-Out on Food Use by Food Stamp Program Participants in San Diego, Princeton, New Jersey: Mathematica Policy Research, Inc., September 1992, p. F10.

[2] The analysis assumes that food stamp recipient coupon shopping patterns were the same as they are under the EBT system — that is, Ramsey County recipients average 7.4 food stamp EBS transactions per month, and recipients in Bernalillo County average 8.6 food stamp EBT transactions per month. Estimates are based on March 1992 EBT and EBS system operating statistics.

recipients that somehow the EBT system is able to track the items that are purchased.[1] After factoring in the lower estimates, overall benefit diversion from purchases of non-eligible items is estimated to be 0.16 percent of benefits issued in both sites.

Selling EBT Benefits for Cash. Respondent estimates of EBT benefit trafficking varied considerably. Some respondents expected slight decreases in EBT trafficking relative to the coupon estimate, in part because of the system's ability to monitor duplicate card issuances. One variety of trafficking involves the sale of the benefit card and PIN. If sites identify recipients that frequently apply for duplicate cards, they could investigate the recipient and possibly eliminate this source of trafficking.

Respondents also noted that an EBT system offers increased investigative ability to detect retailers that traffic food stamp benefits. EBT systems can provide investigators, for example, with reports of stores that have a suspicious pattern of EBT redemptions. Respondents felt that EBT would not eliminate trafficking, but as the investigative potential of EBT becomes fully utilized, investigators will be provided with a powerful tool to identify and prosecute offenders.

Other respondents expected large decreases in EBT trafficking relative to the coupon system. These respondents noted that there had been few reported cases of EBT trafficking in the two demonstration sites. It is uncertain, however, whether this pattern of relative few reported cases of EBT trafficking in Ramsey County and New Mexico will continue after the novelty of the systems wears off. A recent investigation of the Reading, Pennsylvania EBT system by the USDA Office of Inspector General resulted in the criminal indictment of over 100 food stamp recipients and a food store owner on charges of food stamp trafficking. The Reading EBT system had been operating for about seven years at the time of the arrests.

Overall, respondents estimated that benefit diversions caused by trafficking would average about 0.20 percent of total benefits issued in both sites, or about one-half the coupon estimate.

Cash Change Diversion. The use of cash change for non-food purchases is eliminated in an EBT system because an EBT system debits the exact purchase amount from client

[1] Tracking items purchased through an EBT system is technologically feasible in stores that use bar code scanners, but neither site has developed this capability.

accounts. One respondent noted, however, that EBT participants might purchase food items with EBT benefits and resell the items for cash, as can be done with coupon benefits. Although this practice is not specifically prohibited by program regulations, it certainly diverts benefits from their intended use, albeit in a complicated manner. Given the likelihood that this diversion is uncommon, we estimate the benefit diversion to be about 1 percent of the coupon cash change estimate, or about .01 percent of benefits in both sites.

Estimated EBT Diversion

Combining the EBT diversion rates for purchases of non-eligible items, selling benefits for cash, and cash change diversion, we estimate a total diversion rate of 0.37 percent of benefits in each site. This diversion rate translates into approximately $0.62 per Ramsey County case month and $0.68 per case month in Bernalillo County. These rates are roughly one-third of the comparable coupon rates, as shown in Exhibit 3-5. Program and participant losses would be zero, however, because these diversions do not add to program or participant costs.

3.7 CONCLUSIONS

This chapter presents estimates of program benefit loss and diversion under the direct mail coupon and EBT systems in Bernalillo County, New Mexico, and Ramsey County, Minnesota. As noted in Sections 3.2-3.6, total benefit loss and diversion exceeds the amount that will add ultimately to Food Stamp Program or participant expense. Accordingly, separate subsections examine the total loss level, and the component measures of losses that contribute to program or participant costs and benefit diversions.

Total Benefit Loss and Diversion

Exhibit 3-6 presents a summary of the estimated total benefit loss and diversion rates that were described earlier. As shown in the exhibit, total benefit loss and diversion estimates under a coupon system range from 2.40 percent of New Mexico benefits to 3.18 percent of benefits in Ramsey County. These rates amount to a total monthly coupon benefit loss and diversion of about $95,000 in Ramsey County, or about $5.29 per participating food stamp household. In

Exhibit 3-5

SUMMARY OF FOOD STAMP COUPON AND EBT VULNERABILITIES RESULTING IN RECIPIENT USE OF BENEFITS IN AN UNINTENDED MANNER
(In Percent of Benefits Issued)

	New Mexico	Ramsey County
Coupon Vulnerability		
Recipients purchase ineligible items	0.17	0.17
Recipients sell coupons for cash	0.39	0.39
Recipients use cash change from food stamp purchase for non-food items	0.54	0.54
Total	1.10	1.10
EBT Vulnerability		
Recipients purchase ineligible items	0.16	0.16
Recipients sell coupons for cash	0.20	0.20
Recipients use cash change from food stamp purchase for non-food items	0.01	0.01
Total	0.37	0.37

Exhibit 3-6

SUMMARY OF BENEFIT LOSS AND DIVERSION RATES[a]

	New Mexico		Ramsey County	
	Coupon	EBT	Coupon	EBS
Excessive Recipient Authorizations	0.78%	0.03%	0.75%	0.10%
Excessive Redemption Credits	<0.01%	0.04%	0.01%	0.04%
Production and Handling Losses	0.02%	<0.01%	0.02%	<0.01%
Benefits Lost or Stolen from Recipients	0.50%	0.16%	1.30%	0.10%
Recipient Use of Benefits in an Unintended Manner	1.10%	0.37%	1.10%	0.37%
Total Percentage of Benefits Issued[a]	2.40%	0.60%	3.18%	0.61%
Total Monthly Cost[b]	$91,411	$22,853	$94,813	$18,187
Cost Per Case Month[b]	$4.38	$1.09	$5.29	$1.01

Notes: [a] Excludes amount recovered or recouped from retailers or recipients.

[b] Based on March 1992 Food Stamp Program participation and issuance statistics.

New Mexico, total monthly coupon benefit loss and diversion equals roughly $91,000, or about $4.38 per participating food stamp household.

Total estimated EBT loss and diversion rates for each site are much lower than the comparable coupon levels. In Ramsey County, the estimated EBS rate equals approximately 0.61 percent of benefits issued, or about one-fifth the coupon loss and diversion total. Ramsey County EBS rates translate into total monthly losses and diversions of about $18,000, or about $1.01 per participating food stamp household.

Total EBT loss and diversion in Bernalillo County is estimated at 0.60 percent of benefits issued, or roughly one-fourth of the comparable coupon total. Bernalillo County EBT rates translate into monthly losses and diversions of about $23,000, or about $1.09 per participating food stamp household.

The main source of the large difference between EBT and coupon loss and diversion rates is the elimination of coupon mail losses by the EBT system. In both sites, coupon mail losses accounted for about 0.8 percent of benefits issued, or roughly $22,000 in Ramsey County and $30,000 in New Mexico. Although the EBT systems introduced new authorization vulnerabilities, the average monthly expected loss from the relevant EBT vulnerabilities is a fraction of the coupon rates in both sites.

Another important factor causing a difference between EBT and coupon loss and diversion rates is the vulnerabilities associated with recipient use of benefits in an unintended manner, and more specifically, the elimination of cash change under an EBT system: We estimate that cash change from food stamp coupon sales in each site diverts about one-half of one percent of benefits from their intended use into the purchase of ineligible items. In an EBT environment, this source of benefit diversion is nearly eliminated.

For Ramsey County, the near elimination of lost or stolen coupon benefits reduced estimated loss levels from 1.30 percent (coupon) to 0.10 percent (EBT) of benefits issued. Loss reductions were not as dramatic in New Mexico; estimated EBT losses in that site are one-third of the coupon level. The difference in EBT estimates across the two sites occurs because more Ramsey County recipients reported having their coupon benefits lost or stolen after they were received.

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Exhibit 3-7

SUMMARY OF PROGRAM LOSS RATES[a]

	New Mexico		Ramsey County	
	Coupon	EBT	Coupon	EBS
Excessive Recipient Authorizations	0.78%	0.00%	0.75%	<0.01%
Excessive Redemption Credits	0.00%	0.04%	0.00%	0.04%
Production and Handling Losses	0.01%	<0.01%	0.01%	<0.01%
Benefits Lost or Stolen from Recipients	0.00%	<0.01%	0.00%	<0.01%
Recipient Use of Benefits in an Unintended Manner	0.00%	0.00%	0.00%	0.00%
Total Percentage of Benefits Issued[a]	0.79%	0.04%	0.76%	0.05%
Total Monthly Cost[b]	$30,090	$1,524	$22,660	$1,491
Cost Per Case Month[b]	$1.44	$0.07	$1.26	$0.08

Notes: [a] Excludes amount recovered or recouped from retailers or recipients.

[b] Based on March 1992 Food Stamp Program participation and issuance statistics.

Ramsey County case, or about $21,000 per month. The EBT system in New Mexico reduces program loss by about $1.37 per case, or about $28,000 per month.

Nearly the entire EBT-coupon program loss difference is due to the elimination of mail losses by an EBT system. In Ramsey County, the use of the EBS system eliminates the mail loss rate of 0.75 percent of benefits while adding only 0.01 percent loss in new excessive authorization vulnerabilities. In New Mexico, coupon mail loss is eliminated without adding any new excessive authorization program losses caused by the EBT system.

EBT program savings from the elimination of coupon production and handling losses are partly offset by program losses caused by excessive EBT redemption credits. Program losses associated with lost or stolen benefits and recipient use of benefits in an unintended manner are zero because these diversions do not add to program costs.

Note that Exhibit 3-7 excludes amounts re-presented or recouped from retailers or recipients. Although EBS project staff in Ramsey County and the EBT project director in New Mexico were able to estimate EBT recoupment rates, these rates are not applicable to coupon losses. Overall recoupment rates for errors in the coupon system are available, but these rates are not fully applicable either. Reported coupon recoupment rates reflect amounts recovered from activities that were not considered in this analysis, such as certification fraud. Rather than estimating recoupment rates for coupon vulnerabilities, we omit all recoupment estimates and note that actual net program losses would be somewhat smaller.

EBT program loss rates in Bernalillo and Ramsey County are roughly comparable to those estimated during the extended EBT demonstration in Reading, Pennsylvania.[1] During that demonstration, EBT program loss was estimated at 0.03 percent of benefits issued, versus 0.04 percent and 0.05 percent of EBT benefits in New Mexico and Ramsey County, respectively. Net coupon program loss rates for the extended Reading EBT demonstration are not directly comparable to the rates in Bernalillo and Ramsey County because an ATP system of coupon issuance was used in Reading prior to the EBT demonstration.

[1] Kirlin et al., op. cit., p. 142.

Participant Loss

Benefit losses borne by participants in the Food Stamp Program are expected to decrease under EBT benefit delivery, as shown in Exhibit 3-8. Total participant losses under the New Mexico coupon system are estimated at 0.51 percent of benefits issued, or about $0.93 per case month. Under the EBT system in New Mexico, participant loss is estimated to be 0.19 percent of benefits issued, or about $0.32 per casemonth.

A larger reduction in participant losses is estimated under the EBS system in Ramsey County. Ramsey County participant losses are estimated at 1.32 percent of coupon benefits issued, versus 0.19 percent of EBS benefits. This translates into a reduction from $2.20 per case month under the coupon system to $0.32 per EBS case month.

The biggest source of the decrease is from the reduced likelihood of EBT or EBS recipients having their benefits lost or stolen. As explained in Section 3.5, however, this reduction is greater in Ramsey County where recipients reported a higher frequency of lost or stolen coupons. Slight participant losses in both sites are estimated for unauthorized accesses to recipient EBT accounts.

Retailers using the EBT and EBS systems are expected to experience slight increases in participant losses, due mainly to unauthorized manual transactions that are not backed by sufficient client balances. Participant losses by financial institutions are estimated at about 0.01 percent under both EBT/EBS and coupon delivery systems. As explained in Section 3.3, financial institution losses result from excessive redemption credits in both systems.

Benefit Diversions

Benefit diversions result only from the vulnerabilities discussed in Section 3.6 - Recipient Use of Benefits in an Unintended Manner. The EBT systems reduce benefit diversion from about 1.10 percent of coupon benefits to about 0.37 percent of EBT benefits in each site. The major source of reduction comes from the EBT systems' near elimination of cash change.

Exhibit 3-8

SUMMARY OF PARTICIPANT LOSS RATES[a]

	New Mexico		Ramsey County	
	Coupon	EBT	Coupon	EBS
Excessive Recipient Authorizations	0.00%	0.03%	0.00%	0.09%
Excessive Redemption Credits	<0.01%	<0.01%	0.01%	<0.01%
Production and Handling Losses	<0.01%	0.00%	<0.01%	0.00%
Benefits Lost or Stolen from Recipients	0.50%	0.15%	1.30%	0.10%
Recipient Use of Benefits in an Unintended Manner	0.00%	0.00%	0.00%	0.00%
Total Percentage of Benefits Issued[a]	0.51%	0.19%	1.32%	0.19%
Total Monthly Cost[b]	$19,425	$7,237	$39,356	$5,665
Cost Per Case Month[b]	$0.93	$0.35	$2.20	$0.32

Notes: [a] Excludes amount recovered or recouped from retailers or recipients.

[b] Based on March 1992 Food Stamp Program participation and issuance statistics.

Comparison of Program Loss, Participant Loss, and Diversion

As shown in Exhibit 3-9, benefit diversion in the coupon system comprises about one-half of total New Mexico coupon loss and diversion and about one-third of the total in Ramsey County. Program losses in New Mexico are the next largest, and then participant losses. In Ramsey County, participant losses are the second largest category, and program losses make up only about one-fourth of the Ramsey County total.

The EBT systems effectively reduce the rates in all three categories, but the largest proportional reduction concerns program costs. Estimates of EBT program losses are about 7 percent of the coupon rates in Ramsey County and 5 percent of the comparable New Mexico level. The EBT system reduces benefit diversions to about one-third of the coupon level. The smallest proportionate effect is seen for participant losses, where the EBT rate falls between one-third (New Mexico) and one-seventh (Ramsey County) of the coupon loss rate.

Exhibit 3-9

SUMMARY OF COMPONENT MEASURES OF OVERALL BENEFIT LOSS AND DIVERSION[a]

	New Mexico	Ramsey County
Coupon System		
Program Loss	0.79%	0.76%
Participant Loss	0.51%	1.32%
Benefit Diversions	1.10%	1.10%
Total Percentage of Benefits Issued[a]	2.40%	3.18%
Total Monthly Cost[b]	$91,411	$94,813
Cost Per Case Month[b]	$4.37	$5.29
EBT System		
Program Loss	0.04%	0.05%
Participant Loss	0.19%	0.19%
Benefit Diversions	0.37%	0.37%
Total Percentage of Benefits Issued[a]	0.60%	0.61%
Total Monthly Cost[b]	$22,853	$18,187
Cost Per Case Month[b]	$1.09	$1.01

Notes: [a] Excludes amount recovered or recouped from retailers or recipients.

[b] Based on March 1992 Food Stamp Program participation and issuance statistics.

Chapter 4

EBT SYSTEM IMPACTS ON PARTICIPATING RETAILERS

Food retailers play an important role in the Food Stamp Program. Without food retailer participation, the Food Stamp Program would fail to accomplish its objective of increasing the food purchasing power of needy households. Food retailers benefit from this participation, however, because food stamp benefits can be used only to purchase food.

An EBT system significantly changes the role of food retailers in the Food Stamp Program. Under an EBT system, food retailers process food stamp transactions electronically rather than handling paper coupons. EBT processing represents an important departure from other payment methods, and the changes in food retailer store operations can have many important consequences for food retailers.

4.1 INTRODUCTION

Both the New Mexico HSD and the Ramsey County CHSD experienced significant delays in implementing an EBT food stamp system. Perhaps the biggest obstacle to implementing the EBT systems was persuading food retailers to participate in the electronic program. Retailers in both sites understood the potential benefits of EBT, and they clearly wanted EBT. Nevertheless, they negotiated for several conditions to their participation, the most important of which was the availability without cost of EBT terminals at every checkout lane. After over a year of unsuccessful negotiations in New Mexico, retailers effectively imposed a boycott that deadlocked the project for another six months. Formal negotiations with Ramsey County retailers lasted nearly three years and at several points seriously threatened the viability of the entire project.[1]

Given the seriousness with which retailers in both sites viewed the potential impacts of an EBT system on store operations, this chapter examines the question of how the EBT systems in New Mexico and Ramsey County affect participating food retailers. The question is

[1] Retailer negotiations and other issues that delayed the Ramsey County and New Mexico EBT demonstrations are described in more detail in Ciurea et al., op. cit.

addressed in both qualitative and quantitative terms: how retailers perceive the EBT systems, and the costs retailers incur to participate in the Food Stamp Program under each system.

Research Questions and Research Design

The primary focus of the analysis is to measure the impacts of the EBT systems relative to the food stamp coupon system. The analysis of retailer perceptions and opinions about the EBT systems examines two questions:

- Do retailers prefer the coupon or the EBT system, and why?
- What impacts on major areas of store operations do retailers perceive since implementation of the EBT systems?

The analysis of retailer participation costs focuses on the comparison of EBT and coupon costs across the following eight components:

- the increment in checkout time for food stamp purchases relative to cash transactions;
- handling, depositing, and reconciling of food stamp sales;
- training new checkout clerks on completing food stamp transactions;
- reshelving items not bought by food stamp customers because an insufficient balance or system problem prevented the purchase;
- the interest foregone during the time between a food stamp purchase and the availability of retailer cash funds;
- permanent losses due to accounting errors;
- space used by EBT store equipment; and
- other fees paid by retailers for coupon and EBT participation.

Research Design

The analysis of effects on participating retailers employs a pre/post longitudinal design. Data on retailer perceptions and seven of the cost elements (all cost components except

incremental checkout time) come from in-store interviews with a sample of retailers in each site. Information on time completing purchases at checkout counters comes from observation data.

Baseline information on retailers' perceptions of and costs incurred under the food stamp coupon system were collected prior to EBT system implementation. Between October and December, 1989, we contacted 78 New Mexico retailers who were eligible for the study and completed interviews with 72 of them (a 92.3 percent response rate). During the same time period we interviewed 67 of the 74 eligible Ramsey County retailers contacted (a 90.5 percent response rate). These completed baseline samples represent 28 percent of the food retailer population in Bernalillo County, New Mexico, and 25 percent of the Ramsey County, Minnesota, food retailer population.

The timing of the retailer baseline data collection activities and the sizes of the baseline samples were based on the anticipated startup dates of both systems. We collected baseline information during the late fall and early winter of 1989 because, at that time, both systems were scheduled to start up in early 1990. Had that schedule been met, we would have conducted post-implementation data collection during the summer of 1990. Our baseline sample size assumed that some portion of the sample would drop out between data collection periods, but as system startup was delayed in each site, our assumed drop-out rates were soon surpassed and more stores dropped out of the sample than had been anticipated.

Post-implementation interviews were conducted in the late spring and early summer of 1992 (March-June). Store attrition during the nearly three-year time interval between data collection periods reduced by one-third (from 139 to 87 stores) the size of our final longitudinal sample. Post-implementation interviews were completed with representatives from 44 of the 50 baseline stores in New Mexico participating in EBT (an 88.0 percent response rate) and with 43 of the 46 baseline stores in Ramsey County participating in the EBS demonstration (a 93.5 percent response rate). Of the 52 stores that dropped out of the sample, 43 (82.6 percent) had either gone out of business or were not participating in the EBT demonstration. The longitudinal design of the retailer sample prevented the replacement of these stores. The final retailer sample represents 19 percent of the Bernalillo County retailer population and 16 percent of the Ramsey County retailer population.

Estimated impacts on checkout productivity are not based on retailer interviews. The EBT systems' impact on checkout productivity is estimated using data collected during baseline and post-implementation observations at 20 stores in each site (each store was observed for one day during baseline observations and three days during post-implementation observations). Observers with stopwatches recorded the duration and characteristics of transactions of all payment types (e.g., cash, personal check, etc.). Observation data collection roughly coincided with retailer interviews; retailer attrition between the two observation periods required the replacement of two Ramsey County stores and seven New Mexico stores in the sample.

Appendix E provides a more detailed discussion of the data sources used in the retailer analyses.

Research Approach

Unlike other analysis topics in this report, retailer cost elements (except checkout productivity) are analyzed for the combined sample of all retailers as well as for those within each demonstration site. These two analyses are possible because the retailer interview sample was designed to detect EBT-coupon cost differences at both the site and all-store levels. Owing to the size and design of the observation sample, the checkout counter analysis goes somewhat further by analyzing costs within the same site and store type.

An analysis of costs for retailers within particular store types is summarized at the end of this chapter. The store type analysis is based on FNS' standard categories of retailer classification. Store types with similar characteristics were combined into four general categories: supermarkets; grocery stores (including specialty food stores); convenience stores (including convenience/gas stores); and all other stores.

To allow cost comparisons between different-sized stores, retailers' estimated participation costs are standardized, or presented in terms of the cost incurred per $1,000 of food stamp benefits redeemed. These standardized estimates are then weighted by the product of two variables: a sampling adjustment factor and a redemption weight. The sampling adjustment factor accounts for the fact that the baseline and post-implementation retailer samples are stratified by store type. That is, while individual stores within a given store type were randomly sampled, stores in different store types were not sampled with equal probability. The

sampling adjustment factor, the ratio of the number of stores of a given type in a site to the number of that same type in our sample, weights the cost data so that our estimates of stores' participation costs are generalizable to the entire population of food retailer stores in a site.

If the retailer participation cost data were weighted only by the sampling adjustment factor, then the standardized costs of a store conducting $1,000 in food stamp business each month would receive the same weight as a store redeeming $50,000 in food stamp benefits each month. Given that the data suggest the presence of scale economies in stores' costs of processing food stamp benefits (i.e., standardized costs for larger stores tend to be lower than standardized costs in smaller stores), this approach would overestimate the true participation cost per $1,000 of benefits redeemed. Accordingly, we apply a redemption weight, the store's monthly level of food stamp redemptions, to the retailer's estimated participation costs. With the second weight, cost data from larger stores contribute more to the final estimate of standardized costs than cost data from smaller stores.

All non-standardized measurements presented in this chapter are weighted as well, but by the sampling adjustment factor only. The non-stardardized measures, such as average monthly cost per store, are presented to provide a perspective on a typical store in each site, independent of the level of food stamp redemptions processed by each store.

The effect of the EBT system on stores' participation costs is computed, for each cost component, as the store-level difference between standardized coupon and EBT costs. The effect of the EBT system on handling costs for a store, for example, is computed as the difference between the store's coupon and EBT handling costs, standardized per $1,000 in benefits. The eight component effects are summed for each store to generate an overall EBT effect at the store level, which is then averaged among stores in the analysis subgroup (i.e., all stores, stores in the same site, or stores of the same type). Cost per case month, the main measure used in other chapters, is not a natural measure of retailer activity, because recipients do not typically spend all their benefits in a single store.

It should be noted that the cost estimates presented in this chapter are part of retailers' total operating costs. Because stores participate in the Food Stamp Program on a voluntary basis, these participation costs are presumably more than offset by increased store revenues. The coupon- or EBT-based participation cost estimates presented below do not, by themselves,

reflect any particular impact on store profits; the relationship between operating costs and revenues is not addressed in this study. Any changes in average operating costs that result from the EBT demonstrations, however, are likely to be similarly reflected in average store profits, because the demonstrations had little effect on aggregate program redemptions within the demonstration sites.

Finally, the analysis does not consider monthly telephone charges incurred by retailers to process EBT transactions. We based this decision on the expected difficulty of developing an accurate estimate of telephone costs. Furthermore, telephone costs are an issue among only some retailers in New Mexico. The Ramsey County CHSD reimburses participating retailers for monthly telephone charges, and some New Mexico retailers have chosen to incorporate EBT telecommunications needs into their existing store telephone lines, at no additional marginal cost. Although some New Mexico retailers have opted to install microwave telecommunications to serve the EBT system, we consider this a one-time fixed expense and did not estimate a monthly cost.

Appendix F presents a more detailed discussion of the analytic methods that underlie the cost estimates presented in this chapter.

Highlights

Across the two sites, the EBT systems reduce retailers' estimated costs of program participation by $5.46 per $1,000 of benefits redeemed, relative to food stamp coupons. The EBT effect is greater among Ramsey County retailers, reducing costs in that site by $9.09 per $1,000 of benefits redeemed. Participation costs for New Mexico retailers decrease by $3.98 per $1,000 of benefits under EBT, relative to food stamp coupon participation. The overall result is statistically significant at the one-percent level, and the Ramsey County and New Mexico results are significant at the ten-percent and one-percent levels, respectively.

The main source of the savings in retailers' participation costs is the cost to handle and reconcile food stamp benefits. These costs fell substantially. Differences across sites in the effect of EBT on handling and reconcilation costs explain, in large part, the overall difference in EBT impacts on retailers' costs. For instance, estimated handling and reconciliation costs under the EBS system in Ramsey County decreased by $17.66 per $1,000 of benefits, compared

to coupon handling and reconciliation costs. Estimated handling costs for retailers participating in the New Mexico EBT system decreased as well, but by a lesser amount ($9.44 per $1,000 of benefits). The effect of the EBT system on handling costs appears greatest among retailers, such as those more commonly found in the Ramsey County sample, with high handling costs under the coupon system.

The costs of foregone interest on food stamp deposits (float) and other fees (such as account maintenance fees) are the only other cost categories that decreased under the two demonstration EBT system. The combined effect of these two components is an average cost decrease of $0.59 per $1,000 of benefits redeemed. As with handling and reconciliation costs, the EBT systems' reduction in float and other fee costs is greater among Ramsey County retailers. Other fee and float costs decreased for Ramsey County retailers by a combined total of $1.45 per $1,000 of benefits. In contrast, New Mexico retailer float and other fee costs decreased by a combined total of only $0.31 per $1,000 of benefits redeemed.

The cost to train new store employees on how to complete food stamp transactions increases under an EBT system. Estimated overall EBT training costs are $0.77 higher per $1,000 of benefits than training costs under the coupon system. The effect of EBT on training costs is greater in New Mexico. Retailers there incur a training cost increase under EBT of $0.85 per $1,000 of benefits. Training costs for Ramsey County retailers increase by $0.54 per $1,000 of benefits.

Other major cost elements also increase for the combined sample under an EBT system. Checkout costs increased by $1.34 per $1,000 of benefits, on average. The cost to reshelve items not purchased by food stamp customers increased as well under EBT, by $2.52 per $1,000 of benefits redeemed. Permanent losses from accounting errors and the cost of the space occupied by EBT equipment increased retailer costs under EBT by a combined total of $2.05 per $1,000 of benefits redeemed.

The overall reduction in participation costs across both sites is slightly smaller than the effects estimated during the extended EBT demonstration in Reading, Pennsylvania. Retailer participation costs decreased during that demonstration by $7.83 per $1,000 of benefits

redeemed.[1] The Reading results are probably more comparable to the Ramsey County estimates, however, given that average food stamp redemptions by Reading retailers (about $4,000 per month) are closer to the Ramsey County average of $5,619 per month.[2] The overall effect of the EBT system on retailer costs is quite similar between Reading and Ramsey County retailers, as is the distribution of effects across the eight cost components. As is the case in Ramsey County, Reading retailers experienced a sizable reduction in handling costs under EBT, a smaller EBT savings in float costs, and increases in all other categories. Other fee costs, which decreased for New Mexico and Ramsey County retailers, were not measured in Reading.

The overall impacts of the EBT systems vary by store type. Estimated participation costs under an EBT system decreased for all store types except "other" stores. Estimated grocery store and supermarket costs are $21.90 and $2.37 lower per $1,000 of benefits, respectively, per $1,000 of benefits, and other stores' costs increased by $0.97 per $1,000 of benefits. Only the supermarket and grocery store results are statistically significant.

Exhibit 4-1

RETAILER SYSTEM PREFERENCE

	New Mexico		Ramsey County		Total	
	Number	Percent[a]	Number	Percent[a]	Number	Percent[a]
Prefer EBT	37	89.5	25	57.3	62	71.5
Prefer Food Stamp Coupons	5	8.3	18	42.7	23	27.6
Don't Know	1	2.2	0	0.0	1	1.0

Note: [a] Percentages are weighted to reflect sampling rates across store types in each site. Percentages are not weighted by food stamp redemption volume, which would have the effect of weighting more heavily the opinions of respondents from larger stores.

Source: Post-implementation surveys with 44 New Mexico retailers and 43 Ramsey County retailers. One New Mexico response is missing and not included in the above percentages.

EBT system preference is unevenly distributed across the two sites, however, with retailers in New Mexico more strongly preferring the EBT system than those in Ramsey County. Nearly 90 percent of New Mexico retailers preferred EBT to food stamp coupons, as opposed to only 57 percent of retailers in Ramsey County. Over 42 percent of Ramsey County retailers and about 8 percent of New Mexico retailers preferred food stamp coupons to EBT. One New Mexico retailer had no preference between the two systems. The difference between retailer preference in New Mexico and Ramsey County is statistically significant at the one-percent level.

We have no clear explanation as to why relatively fewer Ramsey County retailers than New Mexico retailers prefer their EBT system. Because participation costs decreased more under EBT for Ramsey County retailers than for New Mexico retailers, one might expect a stronger EBT preference by Ramsey County retailers.

The size rather than the location of a store might be the primary factor in understanding system preference. Smaller stores (which are more common in the Ramsey County sample) may find reconciliation more difficult under EBT when the amount of food stamp sales to reconcile is relatively small. Larger stores, such as those found more often in the New Mexico sample, might vary their preferences with the performance of the EBT system. During periods that the EBT system was performing properly, as it was during post-implementation data collection, retailer preference for the system was high.

This hypothesis is only partly supported by the data. As shown in Exhibit 4-2, preference for the EBT system is strongest among retailers that process less than $500 (75.8 percent), between $500 and $1,500 (81.1 percent), or more than $15,000 (83.0 percent) per month in food stamp redemptions. EBT system preference is lower among retailers that process between $1,500 and $5,000 (68.0 percent) per month in food stamp sales, and nearly split evenly with preference for food stamp coupons among retailers that process between $5,000 and $15,000 per month in food stamp sales (52.7 percent prefer EBT).

Exhibit 4-2 also presents retailer system preference according to the type of store represented by the respondent. This view shows that retailer preference for EBT is broadly based, meaning that roughly the same percentages of retailers from supermarkets (65.5 percent),

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Exhibit 4-2

RETAILER SYSTEM PREFERENCE BY FOOD STAMP VOLUME AND STORE TYPE

Monthly Food Stamp Sales	Less than $500		$500 - $1,500		$1,500 - $5,000		$5,000 -$15,000		More than $15,000	
	Number	Percent*	Number	Percent*	Number	Percent*	Number	Percent*	Number	Percent*
Prefer EBT	11	75.8	17	81.1	9	68.0	10	52.7	15	83.0
Prefer Coupons	4	24.2	3	15.6	4	32.0	9	47.3	3	17.0
Don't Know	0	0.0	1	3.2	0	0.0	0	0.0	0	0.0

Store Type	Supermarkets		Grocery Stores		Convenience Stores		Other Stores	
	Number	Percent*	Number	Percent*	Number	Percent*	Number	Percent*
Prefer EBT	16	65.5	20	79.0	13	71.0	13	68.2
Prefer Coupons	7	34.5	4	17.5	6	29.0	6	31.8
Don't Know	0	0.0	1	3.5	0	0.0	0	0.0

Note: * Percentages are weighted to reflect sampling rates across store types in each site. Percentages are not weighted by food stamp redemption volume, which would have the effect of weighting more heavily the opinions of respondents from larger stores.

Source: Post-implementation surveys with 44 New Mexico retailers and 43 Ramsey County retailers. One New Mexico response is missing and not included in the above percentages.

convenience stores (71.0 percent) and other stores (68.2 percent) prefer the EBT system. A somewhat higher percentage of grocery store respondents (79.0 percent) prefer EBT.

System preference can be interpreted in part by examining the reasons retailers gave to explain why they preferred one system to the other. As shown in Exhibit 4-3, 15 of the 18 retailers in Ramsey County who preferred coupons cited faster coupon transaction times; 17 of the 25 retailers preferring EBT believed that electronic transactions were faster. In contrast, only two New Mexico retailers said coupon transactions were faster, while 22 cited faster EBT transactions as a reason for preferring that system. The Ramsey County perception is more consistent with our analysis of checkout counter transaction times (Section 4.3). The checkout analysis estimates that EBT transactions take longer to complete than coupon ones, by about 20 seconds in New Mexico and 19 seconds in Ramsey County.

Other reported reasons for preferring the coupon system stem more from apparent difficulties retailers had with the EBT systems than from actual coupon system advantages. Seven retailers in Ramsey County and two in New Mexico based their coupon preference on deposit and handling factors. These reasons include delays and errors with EBT deposits, and greater ease and simplicity to reconcile coupon sales. Six retailers in Ramsey County and one in New Mexico mentioned store equipment problems or system downtime as a reason for preferring the coupon system.

When asked why they preferred an EBT system, retailers most frequently cited the systems' easier handling and deposit procedures (mentioned by 69.1 percent of all retailers that preferred EBT). These retailers noted that the elimination of paper food stamp coupons reduced reconciliation effort and that an EBT system provided easier and faster deposits of food stamp revenues to store bank accounts. Included in these responses is one retailer who mentioned that the EBT system reduced the fees that the store paid on coupon deposits.

Over one-half (57.4 percent) of retailers who preferred EBT believed that their EBT system processed transactions more quickly than paper food stamp coupons, in contrast to the results of the analysis of transaction times at the checkout counter. Retailers also perceived that an EBT system reduced Food Stamp Program fraud (44.6 percent), liked an EBT system's elimination of cash change (31.9 percent), and noted benefits to food stamp participants (18.0

Exhibit 4-3

RETAILER REASONS FOR SYSTEM PREFERENCE

	New Mexico		Ramsey County		All Stores	
	Number[a]	Percent[b]	Number[a]	Percent[b]	Number[a]	Percent[b]
Prefer EBT						
Easier handling and deposits	24	68.5	17	69.7	41	69.1
Faster transactions	22	54.9	15	60.6	37	57.4
Less fraud	19	55.5	8	31.1	27	44.6
No cash change	8	24.7	9	40.8	17	31.9
Customer benefits	7	19.0	4	16.8	11	18.0
Other	9	22.4	4	15.9	13	19.5
Prefer Coupons						
Faster transaction time	2	25.3	15	83.7	17	76.0
Easier/more accurate deposits and handling	2	25.3	7	41.0	9	41.4
Equipment problems and downtime	1	12.6	6	29.2	7	27.0
Customer knows balance	1	12.6	2	7.9	3	8.5
Other	1	31.0	9	48.5	10	46.2

Notes: [a] Retailers were allowed to cite more than one reason for preferring a system.

[b] Percentages are weighted to reflect sampling variation across store types in each site.

Source: Post-implementation surveys.

percent) such as that an EBT system offered more protection against lost or stolen benefits or was less embarrassing to participants.

Some factors not captured in the data may provide a partial, albeit speculative, explanation as to why a greater percentage of New Mexico retailers prefer the EBT system. Some New Mexico retailers pay monetary fees to accept commercial transactions through the EBT system, either to third-party providers or to the primary system vendor. The out-of-pocket expense of EBT may bias the opinions of these retailers toward a more favorable view of EBT, because these retailers feel they have to justify the monetary cost of EBT by presenting a positive opinion about it. Ramsey County retailers, conversely, pay no out-of-pocket expenses for EBT participation and, if the bias relationship holds, would be less biased in their opinions about EBT.

Several other factors might contribute to the Ramsey County result. There were telecommunications problems with the Ramsey County system between March and June 1992. Ramsey County retailers may be venting bitterness over the nearly three-year and sometime acrimonious negotiating process to implement EBT. Ramsey County retailers had been using EBT for only about six months when we conducted post-implementation interviews; the New Mexico system had been operating for about 18 months.

Retailers were also asked to assess the impact of an EBT system on three areas of store operations and on Food Stamp Program fraud. Most retailers perceived no effect on store operating costs, total sales, and store profits, but nearly three-quarters of the total sample believed that the EBT systems reduced program fraud. These results are shown in Exhibit 4-4.

One-half of retailers believed that an EBT system caused no changes in store operating costs (50.2 percent); more retailers perceived an increase in costs (23.4 percent) than a decrease (18.5 percent). This margin is closer among New Mexico respondents; 13 retailers believed that the EBT system decreased costs (31.2 percent), while 12 retailers said that costs increased (23.5 percent). In Ramsey County, more than twice as many retailers perceived an increase in costs than a decrease. Ten Ramsey County retailers perceived higher operating costs (23.2 percent) under EBS, while only four retailers believed the opposite (8.3 percent).

The Ramsey County result is interesting for several reasons. First, the tendency to perceive a cost increase under the EBS system among Ramsey County retailers is consistent with

Exhibit 4-4

PERCEIVED EBT EFFECTS ON STORE OPERATIONS

	New Mexico		Ramsey County		Total	
	Number	Percent[a]	Number	Percent[a]	Number	Percent[a]
Store Operating Costs						
Lower	13	31.2	4	8.3	17	18.5
Higher	12	23.5	10	23.2	22	23.4
No Change	17	43.2	24	55.9	41	50.2
Don't Know	2	2.0	5	12.6	7	7.9
Total Sales						
Lower	1	1.0	1	2.1	2	1.6
Higher	19	45.0	11	25.7	30	34.3
No Change	23	51.9	27	61.1	50	57.0
Don't Know	1	2.1	4	11.0	5	7.1
Store Profits						
Higher	7	19.6	7	15.3	14	17.2
Lower	1	1.0	5	10.6	6	6.3
No Change	32	71.3	26	60.0	58	65.0
Don't Know	4	8.1	5	14.2	9	11.5
Food Stamp Fraud						
Increase	1	1.0	1	3.1	2	2.2
Decrease	35	80.7	29	69.5	64	74.5
No Change	7	15.8	13	27.4	20	22.2
Don't Know	1	2.5	0	0.0	1	1.1

Notes: [a] Percentages are weighted to reflect sampling variation across store types in each site.

Source: Post-implementation surveys.

the system preference results presented earlier. That is, relative to New Mexico retailers, Ramsey County retailers were more likely to prefer food stamp coupons over the EBS system and to perceive that store operating costs increased under EBS. The perception that EBS participation increases store operating costs, however, is inconsistent with other results. As is shown later in this chapter, not only do participation costs decrease under the EBS system for Ramsey County retailers, but the magnitude of the reduction is greater than that estimated for New Mexico retailers. Moreover, these relative results are consistent with the manner in which costs were shared between retailers and the government in the two sites. As explained in Chapter 2, the Ramsey County CHSD assumed more costs for retailers than the New Mexico HSD.

Among retailers who perceived a change in total sales under EBT systems, many more said that total sales increased rather than decreased. Only two retailers (one in each site) believed total sales decreased under an EBT system, while a total of 30 retailers (34.3 percent) perceived an increase. It is impossible to determine whether the perceived increase in total sales is due to the elimination of cash change and perceived reductions in program fraud (whose effects are described in Chapter 3), to the use of the EBT systems by recipients of AFDC and other programs issuing cost benefits, to a general increase in food stamp caseloads during the period, or to changes in recipient shopping patterns.[1] Evidence presented in Chapter 5, however, suggests that relatively few recipients changed the stores in which they do most of their shopping as a result of EBT.

Less than one-quarter of all retailers believed that EBT affected store profits; among those who did, over twice as many believed that the EBT system increased profits rather than decreased them. Ramsey County retailers were more inclined to perceive a decrease in profits (10.6 percent) than were retailers in New Mexico (1.0 percent). This relative result, that more Ramsey County retailers perceive decreased profits under EBS, is consistent with the preference result presented earlier, that a smaller percentage of Ramsey County retailers prefer the EBS system.

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[1] Food stamp caseloads increased dramatically in both sites during the economic recession of the late 1980s and early 1990s. In Bernalillo County, New Mexico, the food stamp caseload increased from 12,500 cases (1989) to 21,000 cases (1992). The Ramsey County caseload increased from 14,000 to 18,000 over the same time period.

Food stamp fraud is lower under an EBT system, according to 74.5 percent of all retailers. Only two retailers (2.2 percent) believed that program fraud increases under EBT, and twenty retailers perceived no change (22.2 percent). Retailers in both sites were consistent in this view.

4.3 CHECKOUT PRODUCTIVITY COSTS

One important source of a store's operating costs is time spent at the checkout counter. Cashiers spend time ringing up grocery items, accepting payment for the groceries and making change, and sometimes bagging the groceries. Store owners and managers are very sensitive to any delays that occur at checkout lanes. Delays increase labor costs; more importantly, customers get upset if they have to wait too long in checkout lines.

Previous research has documented that the time to complete a purchase transaction using food stamp coupons is greater than the time to complete a similar purchase using cash.[1] The increased time is a cost the store incurs to participate in the Food Stamp Program. The focus of this section of the analysis is whether, compared to using food stamp coupons, using an EBT system to pay for food stamp purchases increases or decreases transaction times and a store's checkout costs.

Purchasing Food with Food Stamp Benefits

An EBT system dramatically changes the procedures that food stamp customers and store cashiers must follow to complete a purchase transaction, and these changes are described below. First, however, we note three important similarities in food stamp purchases using coupons or an EBT system.

First, the introduction of an EBT system does not change program regulations regarding which items can be purchased with program benefits. With few exceptions, benefits cannot be used to purchase non-food items or food items that have been prepared in the store. The exceptions include use of benefits for food prepared by organizations like Meals-on-Wheels, purchase of meals in participating restaurants by elderly or homeless food stamp recipients; and

[1] Kirlin et al., op. cit., Exhibit 5-8, p. 172.

use of program benefits by native Americans in Alaska to buy items needed to grow or catch food (e.g., fishing supplies).

Second, because of the restriction on which items can be bought with food stamp benefits, customers wishing to purchase both program-eligible and ineligible items must tender two forms of payment to the store cashier. For a similar purchase, non-food stamp customers would need to tender only one payment. By itself, the need for two payment methods for some food stamp purchases will tend to make food stamp transaction times longer than transaction times for otherwise similar purchases.

Third, regardless of whether coupons or an EBT system are being used, store cashiers may ask the customer for verification that he or she is authorized to use the benefits. Program recipients can use a program identification card to verify their authorization. Although no direct evidence exists, cashiers may be less likely to request verification from a customer using an EBT system because the customer must enter a personal identification number, or PIN, to initiate the EBT transaction. Recipients are supposed to keep their PIN values secret to prevent unauthorized use of their EBT card.

Food Stamp Coupon Purchases

Food stamp coupons are printed in $1, $5, and $10 denominations and issued in booklets having value of $2, $7, $10, $40, $50 and $65. Recipients are supposed to tear the appropriate coupon denominations from their booklets at the time of the purchase. That is, cashiers are not supposed to accept $5 or $10 coupons that have already been separated from a booklet (unless the recipient can produce the booklet whose serial number matches the numbers on the coupons). Loose $1 coupons are acceptable because recipients may have received loose $1 coupons as change from a previous food stamp purchase.

Finally, recipients may receive up to 99 cents in cash change from a coupon purchase, but they are not supposed to transact repeated small purchases in order to generate additional cash change.

EBT Purchases

Procedures for using an EBT system to pay for food stamp items are similar in the New Mexico and Ramsey County EBT demonstrations. The recipient must first indicate to the cashier that he or she will be using the EBT system to pay for the groceries. If the POS terminal at the checkout counter has not been signed onto the system, the cashier must initiate the sign-on process. Because the New Mexico and Ramsey County EBT systems also serve cash assistance clients, the recipient needs to inform the cashier that this EBT purchase will be applied against his or her food stamp EBT account. The cashier then presses the "food stamp" function key on the terminal.

The recipient must then swipe his or her EBT card through a card reader attached to the POS terminal. The card reader reads encoded information about the client's account number and PIN from the magnetic stripe on the back of the card.

The cashier then enters the exact dollar amount of the intended food stamp purchase on the POS terminal's keyboard. After verifying that the proper dollar amount has been entered, the recipient enters his or her four-digit PIN on a PIN-pad attached to the terminal.[1] The cashier then presses a "send" or "enter" key on the terminal, and the terminal constructs an authorization request message containing the recipient's account number, encrypted PIN, purchase amount, and an indicator for a food stamp purchase (as opposed to a cash assistance purchase or withdrawal).

The terminal then sends the request message to the EBT system's central computer. In stores with multiple POS terminals, the message first goes to an in-store computer (called a controller) that manages all communications traffic between the store's terminals and the EBT system's central computer. Once the transaction authorization request is received, the EBT computer verifies that the entered PIN is correct and, if it is, checks the recipient's remaining food stamp balance. If the balance is greater than or equal to the dollar amount of the requested purchase, the system will send an authorization message back to the POS terminal while, at the

[1] Some recipients may enter their PIN before the purchase amount is entered into the terminal, but they are encouraged to wait so they can first verify the purchase amount.

same time, the recipient's account is debited by the purchase amount and the store's EBT account is credited.

In those stores using third-party processors, the transaction request message is sent from the terminal to the third-party processor's computer rather than directly to the EBT system's central computer. The third-party processor captures information about the transaction authorization request and sends the message on to the EBT system processor. The EBT system's authorization message is then routed back to the third-party processor. The third-party processor captures information from the authorization message and re-routes the message to the terminal.

If the recipient's account does not have sufficient benefits to cover the intended purchase, the transaction will not be authorized and an insufficient funds message will be sent back to the terminal. The recipient then has several options to pursue. He or she may initiate a second food stamp EBT transaction for a smaller amount, removing some groceries from the purchase or paying for them with cash. If the recipient also receives cash assistance benefits through the EBT system, he or she could instruct the cashier to initiate a new EBT transaction against the cash assistance EBT account. Any new EBT transaction, whether against the recipient's food stamp or cash assistance account, would require a new card swipe, PIN entry, and terminal submission of a transaction authorization request.

If a food stamp EBT transaction cannot be processed electronically because the system is down, the cashier can process a manual backup transaction. In New Mexico, the cashier must first obtain an authorization number for the backup transaction through telephone access to an audio response unit (ARU). The authorization number is then keyed into the terminal, and all transaction information (except the PIN) is stored in the terminal. (Once the system begins processing again, the stored transaction information is transmitted and processed. This procedure is called "store and forward.") The recipient signs the store's copy of the transaction receipt to confirm the transaction. If an ARU authorization cannot be obtained (because phone lines are down or the ARU is not working) and the recipient's account does not have sufficient

benefits to cover the purchase, benefits can be deducted from the client's future allotments using a re-presentation process.[1]

Unlike terminals in New Mexico, POS terminals in the Ramsey County EBS system do not use a store and forward capability. If a transaction cannot be processed electronically because a POS terminal is not working, the cashier prepares a paper voucher with the client's name, EBS card number and purchase amount. The cashier then telephones the Ramsey County CHSD to obtain an authorization number, and this number is written on the paper voucher. If the system is down and authorization cannot be obtained, the same paper voucher process is followed, but the cashier calls in later (when the system is operating) to obtain the authorization number. If the client's food stamp EBT account does not have sufficient benefits to cover the purchase, the re-presentation process can be used to deduct benefits from the client's future food stamp allotments.

Some retailers do not have POS terminals. Route vendors and farm stands, for example, may not have access to telephone lines and thus must complete EBT transactions by another

client funds. Route vendors, such as milk delivery services, are more likely to bear this risk because their deliveries can be at hours when clients (and their telephones) are unavailable.

Methodology

The analysis of the two EBT systems' impacts on checkout costs is based on recorded observations of transactions at retail food stores. Two waves of observations -- baseline and post-implementation -- were conducted in each site. Baseline data were collected in October 1989.[1] Post-implementation data were collected in March-May 1992. The baseline sample includes a total of 20 person-days of observations covering 10 stores in each of the two sites. The post-implementation data were gathered during 60 person-days of observations at approximately the same sample of stores.[2]

For each wave of data collection, trained observers with stopwatches stood at checkout counters and recorded a number of characteristics about each purchase transaction. Characteristics included the start and end time of each transaction, the number of items purchased, the dollar amount of the purchase, how the purchase was paid for, who bagged the groceries, and any unusual circumstances associated with the purchase that might prolong transaction times (e.g., produce weighing and price checks). During the post-implementation observations, unusual circumstances peculiar to an EBT purchase also were recorded. Examples of unusual EBT circumstances include customer balance checks, re-swiped EBT cards, and system downtime.

Realizing that checkout procedures might vary systematically by store type, the baseline and post-implementation samples of observation days were spread roughly equally across three store types: supermarkets, grocery stores and convenience stores. "Other stores" were excluded from the analysis for two reasons. First, purchases at these stores often follow very unusual patterns. For example, purchases at specialty stores like butcher shops include time spent

[1] Although the cash portion of the Ramsey County EBS system was operating in October 1989, no POS terminals had been placed in food stores at that time.

[2] As much as possible, post-implementation observations were made in the same stores as the baseline observations. When baseline sample stores could not be revisited, replacement stores were sampled.

selecting, cutting and trimming meat. Estimating the isolated impact of a payment method on total transaction times in such an environment could be very misleading unless a very large sample of coupon and EBT transactions was observed. Second, although "other stores" represent 18.4 percent of all stores in the two demonstration sites, these stores handle only about 6.6 percent of all EBT and coupon redemptions. Thus, a very large data collection effort would have been needed to observe enough EBT and coupon transactions to support analysis of coupon and EBT impacts on transaction times.

In total, nearly 14,500 transactions from New Mexico stores (4,100 baseline and 10,100 post-implementation) and 11,000 transactions from Ramsey County stores (3,200 baseline and 7,800 post-implementation) were observed and included in the analysis sample. The numbers of observed food stamp coupon transactions are 517 in New Mexico and 468 in Ramsey County. In New Mexico, 1,283 EBT transactions involving food stamp benefits were observed and analyzed; the corresponding number in Ramsey County is 702 EBT transactions.[1]

The basic approach used to estimate the impacts of an EBT system on checkout productivity and costs is to use regression analysis to estimate how much longer food stamp coupon and EBT transactions take, compared to similar cash transactions. Regression analysis is necessary because we are interested in isolating from other factors the time increment that each payment method contributes to total transaction time. These incremental times are used to estimate retailers' costs to participate in the Food Stamp Program under the coupon and EBT systems. The incremental time for an EBT purchase is then compared to the incremental time for a coupon transaction to estimate the impacts of an EBT system on checkout productivity. The regression methods and model specifications that were used to estimate payment time increments are described in Appendix F.

All the analyses in this section of the chapter are performed separately for supermarkets, grocery stores and convenience stores in each demonstration site. To obtain average food stamp coupon and food stamp EBT impacts across all three store types within a given site, the store type-specific results are weighted and averaged. Weights are needed because food stamp

[1] Appendix E presents further information on the checkout observation data and sampling procedures.

transactions across the three store types were not observed with equal probability. The weighting procedure is described in Appendix F.

Estimated Checkout Costs

Food stamp coupon and food stamp EBT transactions require more time at the checkout counter than similar transactions paid for with cash, and this extra time imposes costs on retailers. To quantify the magnitude of these extra costs, the analysis begins by estimating the average time required to conduct a "typical" food stamp EBT transaction and compares this time to the predicted duration of the same transaction if paid for with cash or food stamp coupons.

Average Time for a Typical Purchase

The procedure for estimating the duration of a typical food stamp EBT transaction using the EBT system, food stamp coupons or cash is described in Appendix F. The resulting time estimates are displayed in Exhibit 4-5. Across all stores in New Mexico, the duration of a typical food stamp EBT transaction using the EBT system is about 94 seconds. The predicted duration of that same transaction using cash is about 62 seconds. If food stamp coupons were used instead, the predicted time is about 74 seconds. Compared to cash, then, the New Mexico EBT system adds an average of about 33 seconds to total transaction time. A food stamp coupon purchase adds about 13 seconds. Thus, a typical food stamp EBT transactions lasts about 20 seconds longer than a similar food stamp coupon purchase.

The typical food stamp EBS purchase in Ramsey County lasts just over two minutes (121 seconds) in total transaction time. This time is about 28 percent longer than the comparable time in New Mexico, but this difference in total transaction time can be explained by differences in the average size of the purchase.[1] If cash were used instead, the predicted time of the transaction averages about 80 seconds. Using food stamp coupons would increase total predicted time to about 102 seconds. Thus, compared to cash, the Ramsey County EBS system adds an average of 41 seconds to total transaction time. A food stamp coupon purchase adds about 22 seconds. The EBS system, therefore, adds about 18 seconds more to total transaction time than

[1] The average number of items purchased in a food stamp EBT purchase in New Mexico is 11.9. In Ramsey County the average number is 15.9, about 28 percent greater.

Exhibit 4-5

TOTAL PREDICTED TIME FOR TYPICAL FOOD STAMP EBT TRANSACTIONS WHEN TREATED AS EBT, COUPON, OR CASH TRANSACTIONS
(Seconds per Transaction)

New Mexico	Supermarkets	Grocery Stores	Convenience Stores	All Stores[a]
EBT Transaction	130.41	79.56	65.63	94.35
Cash Transaction	97.37	58.18	30.02	61.74
Difference	33.04**	21.37**	35.60**	32.61**
FS Coupon Transaction	112.49	71.33	40.46	74.49
Cash Transaction	97.37	58.18	30.02	61.74
Difference	15.12**	13.15**	10.44**	12.75**
EBT Transaction	130.41	79.56	65.63	94.35
FS Coupon Transaction	112.49	71.33	40.46	74.49
Difference	17.93**	8.22*	25.17**	19.86**

Ramsey County	Supermarkets	Grocery Stores	Convenience Stores	All Stores[a]
EBT Transaction	136.88	109.99	94.95	120.73
Cash Transaction	102.16	63.29	45.44	79.94
Difference	34.72**	46.70**	49.51**	40.79**
FS Coupon Transaction	133.20	78.21	54.67	102.26
Cash Transaction	102.16	63.29	45.44	79.94
Difference	31.04**	14.92**	9.23**	22.32**
EBT Transaction	136.88	109.99	94.95	120.73
FS Coupon Transaction	133.20	78.21	54.67	102.26
Difference	3.68	31.78**	40.28**	18.47**

Notes: ** statistically significant at the 1-percent level
* statistically significant at the 5-percent level
\+ statistically significant at the 10-percent level
[a] predicted times based on weighted average of times for supermarkets, grocery stores and convenience stores

Source: Baseline and post-implementation checkout observation surveys

a food stamp coupon transaction, which is nearly identical to the 20-second effect found in New Mexico.

These EBT effects represent averages across all three store types within a site. Impacts within specific store types vary, as shown in the exhibit. In New Mexico, the EBT-coupon difference in total predicted time for a typical EBT purchase ranges from 8 seconds in grocery stores to 25 seconds in convenience stores. All differences are statistically significant. The range in Ramsey County is from 4 seconds in supermarkets to 40 seconds in convenience stores. The 4-second effect is not statistically different from zero.

Average Cost per Transaction

Because food stamp EBT transactions and food stamp coupon transactions take longer, on average, than similar cash transactions, retailers' checkout costs for food stamp transactions are higher. On a per transaction basis, the extra cost of a food stamp transaction is simply the incremental time for the food stamp purchase times the cashier's hourly wage.

Exhibit 4-6 presents the average incremental costs for EBT and coupon transactions, compared to cash transactions. The time differences in the exhibit are taken from Exhibit 4-5. Cashiers' average hourly wages are based on retailers' responses to the post-implementation survey. The hourly wages include fringe benefit rates.

The average incremental cost of a typical food stamp EBT transaction in New Mexico, relative to a cash transaction, is 5.3 cents in supermarkets, 2.8 cents in grocery stores, and 4.9 cents in convenience stores. The weighted average across the three store types is 4.8 cents. In Ramsey County, the average incremental cost of a typical food stamp EBT transaction is 5.7 cents in supermarkets, 6.9 cents in grocery stores, and 7.5 cents in convenience stores. The weighted average is 6.4 cents.

Incremental costs associated with food stamp coupon purchases are lower. In New Mexico, the weighted average across the three store types is 1.9 cents per transaction. The range across store types is 1.5 cents to 2.4 cents. In Ramsey County the range is 1.4 cents to 5.1 cents per transaction, and the weighted average is 3.5 cents.

Exhibit 4-6

AVERAGE COST PER TRANSACTION

New Mexico	Supermarkets	Grocery Stores	Convenience Stores	All Stores[a]
Food Stamp EBT Transactions				
EBT-cash time difference	33.04	21.37	35.60	32.61
Average hourly wage	$5.77	$4.76	$5.00	$5.29
Average cost per transaction[b]	$0.053	$0.028	$0.049	$0.048
Food Stamp Coupon Transactions				
Coupon-cash time difference	15.12	13.15	10.44	12.75
Average hourly wage	$5.77	$4.76	$5.00	$5.29
Average cost per transaction[b]	$0.024	$0.017	$0.015	$0.019

Ramsey County	Supermarkets	Grocery Stores	Convenience Stores	All Stores[a]
Food Stamp EBT Transactions				
EBT-cash time difference	34.72	46.70	49.51	40.79
Average hourly wage	$5.86	$5.35	$5.44	$5.66
Average cost per transaction[b]	$0.057	$0.069	$0.075	$0.064
Food Stamp Coupon Transactions				
Coupon-cash time difference	31.04	14.92	9.23	22.32
Average hourly wage	$5.86	$5.35	$5.44	$5.66
Average cost per transaction[b]	$0.051	$0.022	$0.014	$0.036

Notes: [a] Weighted average across all three store types.

[b] Average cost per transaction equals the time difference (in seconds) multiplied by the cashier's hourly wage, divided by 3600 (the number of seconds in an hour).

Costs per $1,000 of Food Stamp Benefits Redeemed

To determine the EBT systems' impacts on checkout costs in terms of per $1,000 of benefits redeemed, the number of food stamp transactions required to reach $1,000 must be determined for each store type in each site. Retailers' incremental costs per $1,000 of redeemed benefits are then the product of the number of transaction required and the average incremental cost per transaction.

The number of transactions required to reach $1,000 and the impacts of coupon and EBT transactions on retailers' checkout costs are presented in Exhibit 4-7. Across all three store types, the New Mexico EBT system adds an average of $1.67 in store costs per $1,000 of benefits redeemed. In Ramsey County, the average impact across all three store types is $1.94.

As shown in the exhibit, EBT has the greatest impact on costs in convenience stores. Compared to coupon transactions, the New Mexico EBT system adds $6.93 in costs per $1,0000 of redeemed food stamp benefits. The Ramsey County impact is even greater at $10.93. Two factors lead to the large impacts in convenience stores. First, as was indicated in Exhibit 4-5, the EBT systems in both sites added more to total transaction time in convenience stores than in other store types.[1] More important, however, is the fact that food stamp purchases in convenience stores are relatively small. The average food stamp EBT purchase in convenience stores in New Mexico and Ramsey County is $5.04 and $5.57, respectively. Thus, to redeem $1,000 of food stamp benefits, many more purchases are required in convenience stores than in supermarkets or grocery stores. In contrast, in supermarkets where average food stamp purchases are relatively large, the EBT cost impact in New Mexico is $0.95 per $1,000 of redeemed benefits; in Ramsey County the cost impact is quite small (and statistically insignificant), only $0.17 per $1,000 of benefits redeemed.

All the EBT and coupon cost impacts presented above are due solely to the extra cashier time required to process food stamp coupon and food stamp EBT transactions. It can be argued

[1] The greater impact in convenience stores may be due to the fact that convenience store transactions tend to be smaller and take less time than transactions in supermarkets or grocery stores. If only a few items are being purchased and bagged, nearly all the time required to use the EBT system adds directly to total transaction time. When larger purchases are made, some of the time required to use the EBT system may be used to bag groceries as well, thereby reducing the impact of the EBT system on total transaction time.

Exhibit 4-7

ESTIMATED COSTS PER $1,000 OF FOOD STAMP BENEFITS REDEEMED

New Mexico	Supermarkets	Grocery Stores	Convenience Stores	All Stores*
Average food stamp purchase amount	$30.23	$18.86	$5.04	$17.35
Transactions per $1,000 of benefits redeemed	33.08	53.02	198.41	57.64
Average cost per food stamp EBT transaction	$0.053	$0.028	$0.049	$0.048
Average cost per food stamp coupon transaction	$0.024	$0.017	$0.015	$0.019
Incremental cost per $1,000 of EBT benefits redeemed	$1.75	$1.50	$9.81	$2.77
Incremental cost per $1,000 of food stamp coupon benefits redeemed	$0.80	$0.92	$2.88	$1.10
EBT costs minus coupon costs	$0.95**	$0.58*	$6.93**	$1.67**

Ramsey County	Supermarkets	Grocery Stores	Convenience Stores	All Stores*
Average food stamp purchase amount	$34.17	$18.03	$5.57	$23.49
Transactions per $1,000 of benefits redeemed	29.26	55.46	179.53	42.58
Average cost per food stamp EBT transaction	$0.057	$0.069	$0.075	$0.064
Average cost per food stamp coupon transaction	$0.051	$0.022	$0.014	$0.036
Incremental cost per $1,000 of EBT benefits redeemed	$1.65	$3.85	$13.43	$2.71
Incremental cost per $1,000 of food stamp coupon benefits redeemed	$1.48	$1.23	$2.50	$1.52
EBT costs minus coupon costs	$0.17	$2.62**	$10.93**	$1.19**

Note: * Average food stamp purchase amount and average cost per food stamp transaction are weighted averages of the store type figures. The number of transactions required to redeem $1,000 in benefits and the costs associated with these transactions are calculated directly.

that at least some of this time does not add directly to store costs. For instance, if a store is not particularly busy when a food stamp purchase is made, the extra time required to handle the transaction may only reduce cashier time waiting for the next customer. This wait time could be unproductive time and, if so, would not increase store costs. Cashiers may, however, remain busy during this wait time. They may clean up their work area, help another cashier by bagging groceries in another lane, or perform other maintenance duties.

In general, we tend to discount the view that "wait" time is unproductive time. Nevertheless, recognizing that there may be some merit to the argument that the estimated cost impacts presented in this section fail to account for at least some slack time, we present in Exhibit 4-8 reduced estimates of the incremental costs of food stamp coupon and EBT transactions. These estimates are the product of the cost estimates presented in Exhibit 4-7 and the percentage of food stamp transactions that are followed by less than a 20-second wait before the cashier begins ringing up the next customer's groceries.[1] There is less reduction in costs for supermarkets than for grocery stores or convenience stores because supermarkets tend to be busier.[2]

Finally, as explained in the beginning of this chapter, estimates for all cost components (i.e., handling, reshelving, etc.) except checkout costs are being presented by site or by store type, but not by store type within site. Survey sample sizes for specific store types within a demonstration site are not large enough to present reliable store- and site-specific cost estimates. Therefore, in order to present checkout cost impacts that can be compared and added to other retailer cost components, the estimates of checkout cost impacts in Exhibits 4-7 and 4-8 need to be combined across the two demonstration sites. This is done in Exhibit 4-9. In combining site-specific estimates, the analysis uses the same weighting procedure as has been used in developing estimates of impacts across all three store types within a site. This weighting procedure is described in Appendix F.

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[1] Though somewhat arbitrary, the use of 20 seconds as the cut-off for reduced estimates of checkout costs is consistent with previous analyses of EBT system impacts on checkout productivity. It reflects the belief that there can be little slack time if the next customer is taken within 20 seconds.

[2] Exhibit F-9 in Appendix F presents, by store type and site, the percentage of food stamp coupon and food stamp EBT transactions in which the following wait time is less than 20 seconds.

Exhibit 4-8

REDUCED ESTIMATES OF CHECKOUT COSTS*

New Mexico	Supermarkets	Grocery Stores	Convenience Stores	All Stores
Incremental cost per $1,000 of EBT benefits redeemed	$1.42	$0.67	$4.12	$1.62
Incremental cost per $1,000 of food stamp coupon benefits redeemed	$0.64	$0.47	$1.60	$0.71
EBT costs minus coupon costs	$0.78	$0.20	$2.52	$0.91

Ramsey County	Supermarkets	Grocery Stores	Convenience Stores	All Stores
Incremental cost per $1,000 of EBT benefits redeemed	$1.26	$2.16	$6.12	$1.74
Incremental cost per $1,000 of food stamp coupon benefits redeemed	$1.02	$0.50	$1.24	$0.90
EBT costs minus coupon costs	$0.24	$1.66	$4.88	$0.84

Note: * Reduced cost estimates are based on percentages of food stamp transactions followed by another transaction within 20 seconds (see Exhibit F-9 in Appendix F) and incremental cost estimates presented in Exhibit 4-7.

Exhibit 4-9

ESTIMATED CHECKOUT COST IMPACTS BY STORE TYPE

	Supermarkets	Grocery Stores	Convenience Stores	All Stores[a]
Incremental cost per $1,000 of EBT benefits redeemed	$1.68 ($1.30)	$2.98 ($1.54)	$11.74 ($5.14)	$2.73 ($1.69)
Incremental cost per $1,000 of coupon benefits redeemed	$1.28 ($0.92)	$1.12 ($0.50)	$2.68 ($1.41)	$1.39 ($0.85)
EBT costs minus coupon costs	$0.40 ($0.38)	$1.86 ($1.04)	$9.06 ($3.73)	$1.34 ($0.84)

Note: Cost estimates in parentheses indicate reduced impact when potential cashier unproductive time is removed.

[a] Weighted average of data pooled across all three store types.

The bottom row of Exhibit 4-9 presents the full and reduced (in parentheses) impacts of the EBT systems on retailers' checkout costs per $1,000 of benefit redeemed, compared to purchases using food stamp coupons. As mentioned, reduced impacts adjust total impacts to reflect unproductive use of cashier time. Across all supermarkets in the two sites, the EBT systems added from $0.38 to $0.40 in checkout costs per $1,000 of benefits redeemed. Impacts in grocery stores varied from $1.04 to $1.86 per $1,000 of redeemed benefits, depending upon whether reduced or full cost impacts are considered. For convenience stores, the estimated impacts vary from $3.73 to $9.06 per $1,000, again depending on one's view of whether reductions in wait time (due to increased EBT transaction times) increase retailers' checkout costs. Finally, for all three store types across both demonstrations, the EBT systems added an average of $1.67 to $1.84 in checkout costs per $1,000 of benefits redeemed.

4.4 HANDLING AND RECONCILIATION COSTS

Handling and reconciliation activities consist of the procedures retailers conduct to receive monetary credit for food stamp sales. These activities also include bookkeeping or accounting efforts to reconcile food stamp sales with bank credits for food stamp deposits. This section presents the estimated costs of retailer handling and reconciliation activities under the EBT and food stamp coupon systems.

Handling and Reconciliation Activities

Food Stamp Coupon Activities

Paper food stamp coupons represent a unique payment form with restricted deposit procedures. To redeem food stamp coupons for credit, food retailers must first endorse the coupons with a stamp that identifies the store. Retailers must also count the coupons and complete a Redemption Certificate for each deposit. The Redemption Certificate proves that the store is authorized to accept coupons and is provided by FNS to all authorized stores.

Some banks place additional restrictions on food stamp coupon deposits. For example, banks may require retailers to separate coupons by denomination and to strap the coupons in bundles of like denominations. Restrictions on food stamp coupon deposits are matters of individual bank policy and are not subject to federal regulation (other than regulations that

prevent banks from charging retailers for food stamp coupon deposits that are properly strapped and bundled).

EBT Activities

The EBT and EBS systems initiate an overnight crediting process at the end of the processing day (or "system cutover") which occurs at 2:00 p.m. local time in New Mexico and at 4:00 p.m. in Ramsey County. Only those EBT transactions that have not been previously "settled" are processed and New Mexico EBT retailers can initiate a settlement function at any time of the day by pressing a settlement function key on the terminal. Ramsey County retailers do not have the option to settle at any time, but can change the default time that their terminals settle by requesting the change from the EBS project staff.

At system cutover, the EBT and EBS systems total each retailer's EBT activity since the previous settlement and initiate a process by which credits are transferred electronically to a bank account specified by each retailer. Store terminals at both sites print out an EBT activity report at system cutover or retailers can request the report at any time by pressing a special terminal function key. This report summarizes total EBT activity since the last settlement by type of EBT payment[1] for the terminal and for the entire store.

Retailers in both sites can access information about individual EBT transactions by retaining the merchant copy of EBT transaction receipts. Retailers in either site also can call project staff to learn more detailed information about EBT activity at their store.

New Mexico retailers who use FNBIA as their terminal provider receive a monthly report that summarizes EBT store activity for each settlement by EBT payment type. This report is provided to all FNBIA merchants regardless of whether they maintain FNBIA bank accounts and is separate from monthly bank account statements.

EBT reconciliation activities consist of reconciling the various sources of EBT activity information with the store's internal accounting system. If a store processed any backup

[1] These payment types include food stamp or cash programs for retailers in both sites and credit card or debit card for all New Mexico retailers except those that are customers of Computer Cheque, one of the New Mexico third-party processors.

transactions, these transaction must be reconciled as well and the backup transaction receipt must be submitted to the system processor to validate the transaction.

Methodology

Handling and reconciliation costs are estimated as the labor expense associated with the various activities described above. Respondents were asked to describe the handling and reconciliation process used in their store, as well as the amount of time and type of employee associated with each task. Respondents also provided wage information for employees involved in the handling process, and this information was used to compute a total monthly store cost.

Handling costs are thus defined as the product of amount of time (in hours) that employees spend performing handling activities and employees' hourly wages. The impact of the EBT system on handling activities, therefore, is the increase or decrease in handling costs under the EBT system, relative to the coupon system. In order to eliminate the contribution of wage inflation to the measured EBT effect, the analysis attempts to hold wage levels constant at the levels reported during post-implementation interviews. That is, wage levels reported by respondents during baseline interviews were factored upward to increase the comparability of estimates from the two periods. The factor used is the average rate of wage inflation for store clerks within a given store type and site.

Estimated Handling and Reconciliation Costs

When asked what they considered to be the primary benefit of an EBT system, retailers responded most frequently that an EBT system eliminates the need to handle and deposit food stamp coupons. This perceived benefit suggests that retailer handling effort decreases under an EBT system, which is affirmed by our estimates of handling costs under the coupon and EBT systems. As shown in Exhibit 4-10, handling costs for the combined retailer sample are lower under an EBT system by $11.55 per $1,000 of benefits redeemed. The direction of the effect is consistent for retailers in both sites, although the magnitude of the effect is greater among Ramsey County retailers. EBT effects on handling and reconciliation costs are statistically significant at the one-percent level for both sites and at the all-store level.

Exhibit 4-10

HANDLING AND RECONCILIATION COSTS OF COUPON AND EBT SYSTEMS

	New Mexico	Ramsey County	All Stores
Average Handling Time (hours per month)			
EBT	11.0	9.4	10.1
Coupon	14.8	8.1	11.1
Average Wage (dollars per hour)	$9.01	$9.77	$9.40
Average Store Cost (dollars per month)			
EBT	$108.00	$85.55	$95.62
Coupon	$129.33	$80.60	$102.45
Average Standardized Cost (dollars per $1,000 of benefits redeemed)			
EBT	$6.14	$20.08	$9.74
Coupon	$15.80	$37.74	$21.29
EBT-Coupon Difference	($9.44)**	($17.66)**	($11.55)**
Percent Difference	(60.6)	(46.8)	(54.3)
Number of Stores	44	43	87
Average Food Stamp Redemptions (dollars per month)			
EBT	$34,497	$5,619	$20,224
Coupon	$16,328	$2,707	$9,596

Statistical Significance: +, P<0.10; *, P<0.05; **, P<0.01

Source: Pre-implementation and post-implementation interview data.

Average monthly retailer handling effort decreases in New Mexico under the EBT system but increases in Ramsey County. In New Mexico, the EBT system reduces average monthly handling time from 14.8 to 11.0 hours. Retailers in Ramsey County spend 9.4 hours per month handling EBS sales, up from 8.1 hours under the coupon system. Over the same period, however, food stamp sales grew dramatically, reflecting a nationwide growth in the food stamp caseload. Thus, when costs are standardized per $1,000 of benefits redeemed, handling and reconciliation costs with EBT decrease from coupon levels in both sites. Standardized costs decrease under EBT by $17.66 per $1,000 of benefits in Ramsey County and by $9.44 per $1,000 of New Mexico benefits.

Comparing the two demonstration sites, New Mexico retailers reconcile EBT sales with roughly one-fifth the effort of Ramsey County retailers (0.3 hours versus 1.6 hours per $1,000 of benefits). This pattern holds for food stamp coupon reconciliation as well, with New Mexico retailers requiring 0.9 hours versus 3.0 hours by Ramsey County retailers to reconcile the same redemption amount. This result suggests that reconciliation efficiency under both issuance systems improves as the volume of food stamp redemptions increases. New Mexico merchants in the evaluation sample process roughly six times the average food stamp volume of their counterparts in Ramsey County, and require proportionately less reconciliation time under both coupon and EBT systems. One possible explanation for this result is that reconciliation under either system requires a base level of effort, regardless of the volume of redemptions that is reconciled. As redemption volume increases, reconciliation activity increases above the base, but at a slower rate than the rise in redemptions.

This explanation of differences in handling effort is supported by the presence of reconciliation activities that are independent of the volume of benefits redeemed. Under a coupon system, for example, each retailer must complete a Redemption Certificate for each coupon deposit, regardless of the size of the deposit. In an EBT environment, the systems provide retailers with reconciliation information at the terminal level, regardless of the level of EBT activity processed.

If the argument of economies of scale for both systems holds, then the analysis probably overstates the effect of the EBT systems on handling and reconciliation costs. Estimates of EBT handling costs are based on over twice the average food stamp redemption volume that was

redeemed during collection of coupon cost data. Were coupon handling estimates based on the larger average redemption volume, the estimates probably would be smaller than those in Exhibit 4-10 because of economies of scale in coupon handling activities.

Other factors may contribute to the difference in EBT handling effort between the two sites. The New Mexico EBT system provides retailers with more reconciliation information, particularly retailers that use FNBIA equipment, and New Mexico retailers also are provided the ability to settle at will. These two factors may enable New Mexico retailers to reconcile their EBT accounts more efficiently. It is also possible that unknown factors may account for the substantial cross-site difference in coupon handling and reconciliation effort, and these factors may carry over to EBT reconciliation.

4.5 STORE TRAINING COSTS

Food retailers must train checkout clerks (or other employees who transact sales) on procedures for completing a food stamp sale. Part of this training involves program regulations on the use of food stamp benefits, such as which items can be purchased, or how to establish the identity of a food stamp customer. Training must also cover how to complete food stamp transactions, which can include EBT and paper coupons in both sites. This section presents the estimated costs of training new store employees to accept food stamp payment.

Training Store Personnel

Food Stamp Coupon Activities

Merchants must train newly hired checkout clerks on the special rules and procedures that apply to food stamp transactions. Many stores provide clerks with a pamphlet prepared by FNS that outlines relevant Food Stamp Program regulations, particularly those that describe items that are eligible for food stamp purchase. Handling food stamp coupon transactions involves many other special procedures, however, because food stamp coupons represent a unique payment form. Merchants must instruct clerks not to accept loose coupons denominated larger than one dollar (without a coupon booklet with matching serial numbers), to give loose one dollar coupons for even dollar portions of change, and not to discriminate against food stamp customers.

The Compliance Branch of FNS monitors store conformance with program regulations. The consequences of inadequately training store checkout clerks can be severe; penalties for non-compliance with program regulations range from monetary fines to permanent disqualification from program participation.

EBT Activities

Some of the topics relevant to food stamp coupons apply to EBT system training as well. Regardless of which system delivers food stamp benefits, checkout cashiers must know which items are allowable for food stamp purchase, how to verify client identity, and to treat food stamp customers equally with others. Stores must additionally train cashiers on how to complete specific EBT functions, however, including purchase, refund, and backup transactions and client balance requests.

As described in Section 4.3, processing EBT purchase transactions is essentially identical in the two sites from the perspective of the checkout clerk. Refund transactions and providing client balance information also entail similar procedures. Backup transactions, however, can differ slightly across the two sites.

Some stores allow checkout clerks to process backup transactions without assistance by a store manager. Other stores allow only managers to complete these transactions because of the extra effort and complexity of backup transactions. To complete a backup transaction, a clerk or manager must:

- telephone for transaction authorization (in New Mexico, an audio response unit provides authorization);
- complete and have the customer sign a backup transaction form; and
- give one copy of the form to the customer and retain the other for the store.

Neither of the sites requires stores to telephone for authorization of backup transactions, but only retailers in Ramsey County are guaranteed some reimbursement for unauthorized transactions against accounts with insufficient funds (reimbursement for all authorized backup transactions is guaranteed in both sites). Ramsey County retailers are guaranteed up to $40 per

unauthorized transaction; amounts exceeding that level are assumed by the retailer if client balances do not cover the backup transaction amount. No amount is guaranteed in New Mexico for unauthorized backup transactions.

Methodology

Training cost is defined as the labor expense of training a newly hired checkout clerk. Labor expense includes wages plus fringe benefits paid both to the trainer(s) and to the new hire[1] for the time spent training on EBT and food stamp coupon transactions, and on program regulations. Average monthly store training cost is computed as training cost per hire multiplied by the average number of monthly hires.

The rate of employee turnover is an important factor in overall retailer training costs. Retailer training costs increase with increases in employee turnover because retailers must train every new employee that they hire. Although the rate of employee turnover is a function of many things, most notably local economic conditions, it is likely that employee turnover is independent of both the volume of food stamp redemptions and which system -- EBT or coupons -- is used to deliver food stamp benefits. This independence is suggested by a 50-percent decrease in the average number of newly hired employees between the two data collection periods, despite a two-fold increase in average monthly redemptions over the same period.

Differences in estimated retailer training costs would be misleading if they were caused by changes in employee turnover that happened to coincide with changes in food stamp redemptions or the introduction of an EBT system. In order to remove these two effects from training cost estimates, the analysis holds constant both the rate of employee turnover and average monthly food stamp redemptions. Thus, EBT training costs are estimated using the same number of monthly hires as was used to estimate coupon training costs, and are then

[1] As with handing costs, employee wages were factored in an attempt to eliminate the contribution of wage inflation to training costs.

standardized by coupon redemption volume to eliminate the effect of changes in redemption volume.[1]

Using the measures of monthly hires and redemptions from the baseline period is not intended to suggest that these levels are any more "typical" than the same measures from the post-system implementation period. Nor is it intended to mean that EBT training costs would be understated if post-implementation hires and redemptions were used in the computation. We hold these measures constant merely to improve the comparability of the estimates, and use measures from the coupon period because that is the period we have defined as baseline.

Data collected after the EBT systems were implemented serve as the basis for EBT training costs. At that time, however, retailers trained new employees to handle both EBT and coupon transactions because both payment forms were still accepted. To generate estimates of EBT training costs only, data were collected in a manner that distinguished three training components: EBT training, coupon training, and program training common to both payment methods, such as items that are allowable for food stamp purchase.

The analysis only considers ongoing training and does not include the expense of start-up training for new retailers joining the demonstration. Although retailers' costs for startup EBT training adds to stores' overall participation costs, this amount becomes very small when averaged over a store's lifetime of participation in the Food Stamp Program.[2]

Training cost estimates presented in this section include stores that report having zero training costs. A store can have zero training costs if it never or rarely hires a new employee. This situation is more common in small family-run grocery stores, although some larger

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[1] The use of baseline redemption volume as the standardizing factor for both EBT and coupon training cost estimates represents a departure from our treatment of checkout and handling costs. This departure is only for training costs, however, as subsequent cost elements are standardized by the redemption volume that is time-relevant to the EBT or coupon cost element. We make an exception in the case of training costs only because of the independence between redemption volume and training costs, as discussed above.

[2] Some food retailers may consider the one-time training costs as a capital expense, and amortize the expense over a shorter period of time for tax purposes. For this analysis, we consider a store's lifetime of participation in the Food Stamp Program as the appropriate time period because stores will not incur the one-time training expense again unless they leave and re-apply for program participation.

supermarkets reported not hiring any cashiers in the six months prior to baseline data collection. Stores also can have zero training costs because they choose not to train employees on EBT or coupon processing, either because they process so few food stamp sales or because the owner or store manager handles all EBT or coupon sales.

Estimated Training Costs

The estimated costs of training new checkout clerks on processing EBT and food stamp coupon transactions are presented in Exhibit 4-11. Among all stores, training costs under an EBT system are roughly $0.77 higher than coupon training costs, in terms of $1,000 of benefits redeemed. The effect is smaller among Ramsey County stores, where estimated training costs increase by only $0.54 per $1,000 of benefits under an EBT system. In New Mexico, standardized training costs are $0.85 higher under the EBT system. None of these effects are statistically significant.

As shown in Exhibit 4-11, the average amount of time spent training varies greatly across the two sites. Estimates of training time increase two-fold under the EBT system in New Mexico, a statistically significant result. Among Ramsey County retailers, however, average training time actually decreases slightly under EBT, although this difference is not statistically significant.

One possible explanation of the difference between New Mexico and Ramsey County training time estimates comes from the number of different payment methods accepted by the New Mexico EBT system. Ramsey County retailers train their new employees to distinguish only food stamp from cash assistance EBT transactions, because these are the only two sources of EBT payment. In addition to these two payment sources, the EBT system in New Mexico accepts commercial credit and debit card transactions. Despite interviewer efforts to capture food stamp EBT training time only, it is possible that New Mexico respondents included training time associated with these additional payment forms in their estimates of overall EBT training time, which would account for higher average EBT training times in New Mexico.

Exhibit 4-11

TRAINING COSTS FOR COUPON AND EBT SYSTEMS

	New Mexico	Ramsey County	All Stores
Average new Hires (hires per month)	1.2	1.7	1.4
Average Training Time (hours per hire)			
EBT	2.3	1.1	1.6
Coupon	1.1	1.2	1.2
Average New Cashier Wage (dollars per hour)	$4.21	$4.99	$4.59
Average Store Cost (dollars per month)			
EBT	$15.60	$12.90	$14.11
Coupon	$8.44	$11.62	$10.19
Average Standardized Cost (dollars per $1,000 of benefits redeemed)			
EBT	$1.87	$5.41	$2.79
Coupon	$1.02	$4.87	$2.02
EBT-Coupon Difference	$0.85	$0.54	$0.77
Percent Difference	83.3	9.4	38.1
Number of Stores	44	43	87
Average Food Stamp Redemptions (dollars per month)	$16,329	$2,706	$9,596

Statistical Significance: +, P<0.10; *, P<0.05; **, P<0.01

Source: Pre-implementation and post-implementation interview data.

4.6 RESHELVING COSTS

Like any food store customer, food stamp clients experience situations in which they cannot complete a purchase transaction. These situations may arise because food stamp clients overestimate their EBT balance or the value of coupons they are carrying (or underestimate the size of their purchase) or because some component or part of the EBT system is unavailable and the store chooses not to process a backup transaction. In situations like this, food stamp clients can use a separate payment form, such as cash, or reduce the purchase amount by not buying some of the items.

Methodology

Store reshelving costs are estimated as the labor cost of reshelving items brought to the checkout counter but not purchased by food stamp clients. Retailers were asked the estimate the amount of time spent each month on reshelving unbought food stamp purchases and to provide the wage information for the relevant employees.[1] Average monthly store cost equals the product of these two variables.

Estimated Coupon and EBT Reshelving Costs

Estimates of average standardized reshelving costs increase substantially under an EBT system. Retailer reshelving costs among all stores increased from $0.94 (coupon) to $3.46 (EBT) per $1,000 of benefits, as shown in Exhibit 4-12. New Mexico estimated reshelving costs increased by $2.31 per $1,000 of EBT benefits. In Ramsey County, the EBS system increased estimated reshelving costs by $3.10 per $1,000 of benefits. These results are all statistically significant at the one-percent level.

The EBT effect is explained by the increased amount of time retailers spend reshelving under the EBT system. Average monthly reshelving time among New Mexico retailers increased nearly seven-fold under the EBT system (from 1.0 hours to 6.7 hours) while food stamp

[1] As with handling and training costs, baseline reshelving wage levels were factored upward to eliminate wage inflation from the system effect.

Exhibit 4-12

RESHELVING COSTS FOR COUPON AND EBT SYSTEMS

	New Mexico	Ramsey County	All Stores
Average Reshelving Time (hours per month)			
EBT	6.7	4.1	5.3
Coupon	1.0	0.7	0.8
Average Wage (dollars per hour)	$5.67	$6.00	$5.83
Average Store Cost (dollars per month)			
EBT	$51.13	$22.25	$35.20
Coupon	$5.27	$4.57	$4.88
Average Standardized Cost (dollars per $1,000 of benefits redeemed)			
EBT	$2.98	$4.82	$3.46
Coupon	$0.67	$1.72	$0.94
EBT-Coupon Difference	$2.31**	$3.10**	$2.52**
Percent Difference	344.7	221.4	268.1
Number of Stores	44	43	87
Average Food Stamp Redemptions (dollars per month)			
EBT	$34,498	$5,619	$20,225
Coupon	$16,329	$2,706	$9,596

Statistical Significance: +, P<0.10; *, P<0.05; **, P<0.01

Source: Pre-implementation and post-implementation interview data.

redemptions only doubled. The increase in reshelving time was less dramatic in Ramsey County (from 0.7 hours to 4.1 hours) but still outpaced the two-fold rise in food stamp redemptions.

It would be expected that reshelving time would be somewhat proportional to the volume of food stamp business. This hypothesis is not supported, however, by estimates of reported reshelving time by New Mexico and Ramsey County retailers. New Mexico retailers spend only one-half more time reshelving than Ramsey County retailers (6.7 hours versus 4.1 hours), despite processing over six times the EBT redemption volume. Thus, New Mexico retailers spend 0.2 hours of reshelving per $1,000 of EBT benefits redeemed, versus 0.7 hours in Ramsey County (not shown in Exhibit 4-12). Moreover, coupon reshelving time shows roughly the same pattern across sites. This result may provide another reason why fewer Ramsey County retailers prefer the EBT system than in New Mexico.

We know of no operational differences between the two EBT systems (or the two coupon systems) which would explain why reshelving time in terms of redemption volume is lower among New Mexico than Ramsey County retailers, nor can we provide an explanation for the proportionately large increases in EBT reshelving time in both sites. For example, both EBT systems provide recipients with telephone access to account balance information,[1] and neither site experienced periods of excessive downtime during the collection of EBT retailer interview data. As discussed in Chapter 5, however, a larger percentage of food stamp recipients in Ramsey County (11.3 percent) reported having problems keeping track of their remaining benefit amount than recipients in New Mexico (6.8 percent). In addition, some Ramsey County recipients reportedly had problems during early system operations understanding when their benefits would become available. This problem recurred later when the MAXIS system was integrated into EBS.

4.7 FLOAT COSTS

Float costs measure the foregone revenue from funds that are not earning a rate of return. In the case of food stamp coupons, float costs are incurred during the period between a food stamp sale and when the coupon revenues from the sale begin earning interest in the store's bank

[1] New Mexico provides ARU access and Ramsey County has a customer service line.

account. The concept of float is the same under an EBT system; float costs are incurred during the time between an EBT purchase transaction and credit for the EBT transaction in the store's bank account.

Under the coupon system, float time is a function of store deposit frequency -- float cost decreases with increases in the frequency of store deposits. Deposit frequency may be a matter of bank requirements as well as stores' cash management preferences. If a store's bank restricts coupon deposits by, for example, requiring a minimum coupon deposit, then stores with relatively small monthly redemptions may have to make fewer monthly coupon deposits while accumulating the minimum number of coupons. Fewer coupon deposits lead to higher coupon float costs.

Under the EBT systems, all electronic food stamp sales are credited to retailer bank accounts through the overnight ACH process, regardless of the volume of EBT sales.[1] Credit for backup EBT transactions can take longer, however, and can vary by site. In Ramsey County, retailers receive credit for backup transactions when the transaction receipt is received and reconciled at the Ramsey County CHSD office. New Mexico retailers deposit the paper receipts in their bank accounts, and the depository bank in turn forwards the receipt to the EBT system processor for credit.

Methodology

Float costs, unlike the other retailer cost components considered thus far, contain no labor element. Float cost is entirely a function of time and interest rate. Float time is measured from the time of a purchase transaction until the transaction amount is credited to the store's bank account. For both EBT and coupon float costs, we assume an annual interest rate of 4.84 percent.[2]

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[1] Only the ACH process is overnight; the entire retail credit process can be longer and involves several additional steps such as totalling retailer credits and preparing the ACH file. In some cases, particulary those involving third party processors, the entire retailer credit process can take two days or more between EBT sale and electronic credit to a retailer's account. See Chapter 6 for a more detailed discussion of the retailer credit process.

[2] All float calculations use an annual interest rate of 4.84 percent, the average rate for corporate demand deposits during the baseline data collection period.

Estimated Float Costs

Float costs under the EBT and coupon systems are presented in Exhibit 4-13. Overall float cost decreases by $0.11 per $1,000 of redemptions for all stores, and by $0.36 and $0.04 per $1,000 of redemptions in Ramsey County and New Mexico, respectively. The all-store and Ramsey County differences are statistically significant at the one-percent level. The New Mexico result is significant at the ten-percent level.

In general, the impact of EBT on float costs is greatest on stores that have small average monthly food stamp volumes. These stores deposit coupons less regularly and, as a consequence, have the highest standardized coupon float costs. This interpretation explains the larger float impact among Ramsey County retailers ($0.36 per $1,000 of benefits), where average redemptions are relatively small. The float impact is much smaller in New Mexico (only $0.04 per $1,000 of benefits) because, in part, average monthly redemptions are greater in New Mexico.

The EBT systems decrease the time between food stamp purchase and credit (float time), relative to coupon purchases. Estimated float times for the combined sample decreased from 4.5 to 1.9 days under an EBT system. In Ramsey County, average float time decreases from 5.0 to 1.4 days under the EBS system. The decrease is smaller in New Mexico, from 3.9 to 2.4 days. The cross-site difference in EBT float time may be due to the presence of third-party providers in New Mexico. The additional step of passing retailer credit information from the third party to the EBT system clearinghouse bank adds extra time to the retailer credit process, as described in more detail in Chapter 6.

These patterns in float time do not carry through to average monthly cost. In New Mexico, monthly float cost is greater under EBT than coupons despite a forty-percent decrease (from 3.9 to 2.4 days) of float time. Similarly, average monthly float cost among Ramsey County retailers decreases by only about one-third under EBT (from $1.33 to $0.89) even though average float time is nearly four times greater under the coupon system (5.0 days vs. 1.4 days).

The explanation for this inconsistency is that food stamp redemptions increased substantially between the data collection periods. Thus, average float cost in New Mexico increases under EBT because much greater sums of benefits are being redeemed, even though

Exhibit 4-13

FLOAT COSTS FOR COUPON AND EBT SYSTEMS

	New Mexico	Ramsey County	All Stores
Average Total Days from Sale to Store Credit			
EBT	2.4	1.4	1.9
Coupon	3.9	5.0	4.5
Average Store Cost (dollars per month)			
EBT	$3.93	$0.89	$2.26
Coupon	$2.13	$1.33	$1.69
Average Standardized Cost (dollars per $1,000 of benefits redeemed)			
EBT	$0.22	$0.18	$0.22
Coupon	$0.26	$0.54	$0.33
EBT-Coupon Difference	($0.04)+	($0.36)**	($0.11)**
Percent Difference	(11.1)	(66.6)	(33.0)
Number of Stores	44	43	87
Average Food Stamp Redemptions (dollars per month)			
EBT	$34,498	$5,619	$20,225
Coupon	$16,329	$2,706	$9,596

Statistical Significance: +, $P<0.10$; *, $P<0.05$; **, $P<0.01$

Source: Pre-implementation and post-implementation interview data.

EBT float time is forty-percent less than under coupons. Likewise, in Ramsey County the relationship between average float time and cost is inconsistent because greater amounts of benefits are involved.

4.8 ACCOUNTING ERROR LOSSES

Accounting error losses are defined as the value of any permanently unreconciled discrepancies between an amount credited to a retailer's bank account and the actual value of the food stamp sale. These errors do not include discrepancies that are ultimately resolved, although retailer labor to resolve these discrepancies was included in Section 4.4.

Coupon System Accounting Errors

The labor-intensiveness of the coupon redemption process leaves open many vulnerabilities to retailer accounting errors. Food stamp coupons can be miscounted by the checkout clerk during the transaction, by the store manager while preparing the deposit, or by the bank teller who accepts the deposit. Automated counting machines do not completely solve the problem either. Retailers and bank officials note that because food stamp coupons circulate only once, the crispness of the coupon paper makes them difficult even for machines to count accurately. Given that food stamp coupons are a physical product, however, coupon accounting errors are often resolved by physically re-counting the coupons.

EBT Systems Accounting Errors

The near fully-automated processes by which the EBT systems in both sites process redemption credits greatly reduces the opportunity for errors that result in permanent retailer losses. The EBT systems introduce potential new sources of retailer credit error, however, as discussed in Chapter 3.

Chapter 3 discussed EBT systems' vulnerability to a wide range of losses, including losses incurred by participating retailers. For that analysis, respondents who are familiar with EBT system security concluded that most sources of retailer vulnerabilities are unlikely to occur often and would result in only marginal losses when they did occur. Two additional sources of

EBT system vulnerabilities -- transaction reversals and unauthorized backup transactions -- have greater potential for creating retailer losses.

Transactions reversals can arise in several situations. Most commonly, a transaction is reversed when the telecommunications link between the store terminal and system host is interrupted, or when the system exceeds a preset amount of time ("times out") before processing the transaction. If a transaction reversal occurs, the EBT system cancels the transaction, sends a message to the originating terminal, and offsets all debits and credits made to client and retailer accounts.

A permanent retailer loss can result from a transaction reversal in two ways. First, if the retailer does not notice that the transaction was reversed, a permanent accounting error would occur for the amount of the sale. Second, if the reversal is identified only after the client has left the store, the retailer would lose the amount of the sale if the recipient fails to make good on the transaction. Project staff in both sites monitor daily reports of transaction reversals and notify retailers when a transaction reversal is not followed by a completed transaction. If the recipient cannot be located or has spent all of his or her benefits, however, the retailer would likely lose the amount of the sale.[1]

Permanent retailer losses can also result from unauthorized backup transactions that are not covered by client balances. As mentioned in Section 4.5, both sites guarantee backup transactions that are authorized, but only the Ramsey County CHSD guarantees $40 for unauthorized backup transactions. Thus, if a client does not have sufficient funds available in his or her account to cover an unauthorized backup transaction, New Mexico retailers incur losses equal to the total amount of the transaction. Ramsey County retailers incur losses for amounts that exceed $40.

Methodology

Neither site systematically reports on the frequency and magnitude of retailer losses that result from transaction reversals or unauthorized backup transactions. Estimates reported in this

[1] In both sites, an on-line re-presentation process currently recoups benefits from future client allotments and credits retailers for lost sales such as those caused by transaction reversals.

section are therefore based on retailer perceptions rather than documented events. Retailer perceptions of accounting losses, however, may be somewhat distorted. Some actual accounting losses may go undetected if, for example, a clerk does not notice that a transaction is not authorized because the client does not have a sufficient account balance. Conversely, retailers who experience difficulty reconciling their EBT activity may perceive an accounting error when none actually exists. These two types of distortion, if they occur, could be partially offsetting.

The estimates of accounting losses in this section measure only the value of perceived losses and exclude the possible labor cost of resolving the error and the interest foregone by the unavailability of the funds. The labor cost of resolving the error may have been included in the analysis of handling and reconciliation costs (Section 4.4), although respondents were not told explicitly to include such effort. The foregone interest on accounting errors is considered too small in any given store to be measurable.

Estimated Accounting Error Costs

Incidents of accounting losses under the EBT systems are markedly higher than with food stamp coupons, according to respondents. As shown in Exhibit 4-14, 24 retailers, or roughly one in four, reported an accounting loss under the EBT systems, as compared with only four stores reporting losses in the coupon system. The frequency of reported EBT accounting losses is roughly consistent across the two sites; 14 New Mexico retailers and 10 Ramsey County retailers report incidents of permanent EBT accounting losses.

The average value of reported EBT accounting errors among all stores is about eight times higher than average coupon losses. In Ramsey County, EBS accounting losses averaged about $33.00 per incident. New Mexico EBT losses were slightly lower, averaging about $28.00 per loss. Coupon losses were much lower in both sites, however, averaging only $2.00 in New Mexico and slightly over $9.00 in Ramsey County.

The increased frequency and higher average dollar value of EBT accounting losses translates into increased retailer costs of $0.62 per $1,000 of benefits redeemed. The effect of the EBT system on accounting losses is greater for Ramsey County retailers, raising costs about $1.29 per $1,000 of benefits redeemed. In New Mexico, standardized retailer accounting losses

Exhibit 4-14

ACCOUNTING ERROR LOSSES FOR COUPON AND EBT SYSTEMS

	New Mexico	Ramsey County	All Stores
Number of Stores Reporting Losses			
EBT	14	10	24
Coupon	3	1	4
Average Value of Reported Losses (dollars per loss)			
EBT	$27.78	$33.29	$31.00
Coupon	$2.00	$9.17	$3.79
Average Standardized Cost (dollars per $1,000 of benefits redeemed)			
EBT	$0.40	$1.38	$0.66
Coupon	$0.03	$0.09	$0.04
EBT-Coupon Difference	$0.37**	$1.29**	$0.62**
Percent Difference	1,233.0	1,433.0	1,550.0
Number of Stores	44	43	87
Average Food Stamp Redemptions (dollars per month)			
EBT	$34,498	$5,619	$20,225
Coupon	$16,329	$2,706	$9,596
Standard Error			
EBT			
Coupon			

Statistical Significance: +, P<0.10; *, P<0.05; **, P<0.01

Source: Pre-implementation and post-implementation interview data.

Note: The data presented in this exhibit reflect respondent perceptions of losses under both systems and do not report actual known losses.

under the EBT system average about $0.37 higher than under a coupon system. All EBT effects are statistically significant at the one-percent level.

Despite these estimates, the exact nature of accounting losses is uncertain. As mentioned earlier, there exists no routine reporting system to document these events, and retailer perceptions of losses may be inexact (two retailers reported EBT accounting losses exceeding $200). Although EBT accounting losses undoubtedly occur and create serious potential consequences, the extent to which actual losses occur remains uncertain.

4.9 SPACE COSTS

Retailers devote much attention to the organization of "front-end" space at the checkout counter. Retailers realize the importance of front-end space in shaping customer perceptions of the store and in developing customer loyalty. Retailers generally display high volume items in checkout lines, and purchases of these items can generate valuable revenues in the extremely competitive and low profit margin industry of retail food sales. EBT store equipment occupies space at the checkout counter, space that might otherwise be used differently. This section estimates the cost of front-end space utilized by EBT store equipment.

Food stamp coupons also occupy a special kind of space at the checkout counter. Given that food stamp coupons are unique as a payment form, food retailers must reserve space for coupons in cash register drawers. We assume a zero cost in the analysis for this space, however, because retailers do not value cash drawer space as they do the space occupied by EBT equipment.

Methodology

EBT equipment space costs are estimated as the product of the total amount of occupied space and the unit cost of the space. Retailers provided their own estimates of the amount of space occupied by EBT store equipment. When retailers were unable or unwilling to estimate the EBT space, a value was imputed based on the number of terminals in the store and the average size of each terminal, as estimated by other retailers.

We considered but rejected basing estimates of space value on retailers' perceptions of the dollar value of front-end space. Retailers' perceived space value varied widely and not very

credibly across respondents, and did not represent actual out-of-pocket expenses to the retailers. Moreover, many retailers were unable to estimate the value of front-end space, and the wide variation of responses discouraged the use of a mean space value for imputation.

The unit cost of the space is therefore based on data collected in the fall of 1992 from commercial realtors and business organizations in Albuquerque, New Mexico. In New Mexico, we estimate that the rental value per square foot of food retail space averages $5.75 for supermarkets, $4.25 for grocery stores and other stores, and $10.50 for convenience stores.

None of the organizations contacted in St. Paul were able to estimate commercial real estate value for food retailer space. To approximate Ramsey County space value, the analysis assumes that unit space cost is 19 percent higher in Ramsey County than in New Mexico, based on average residential rental levels in the two sites reported in the U.S. Census. Thus, we estimate Ramsey County rental value per square foot of food retail space at $6.84 for supermarkets, $5.06 for grocery stores and other stores, and $12.50 for convenience stores.

Estimated EBT Systems Space Cost

The space occupied by EBT store equipment in all checkout lanes adds about $13.18 per month to the costs of the average store, or about $1.43 per $1,000 of benefits redeemed, as shown in Exhibit 4-15. Standardized cost is much higher for Ramsey County retailers than for retailers in New Mexico ($3.90 vs. $0.57 per $1,000 of benefits redeemed), although the estimated average monthly EBT space cost in Ramsey County is only 75 percent higher than in New Mexico ($16.32 versus $9.30 per store per month). Differences in average monthly redemptions between the two sites account for the variation in standardized costs. Only the Ramsey County and all-store results are statistically significant.

Retailers estimated, however, that 56.3 percent of the EBT equipment space would be used for alternative purposes, such as product displays or advertisements, as shown in Exhibit 4-16. This result varies somewhat by site; over 40 percent of space used by EBT terminals in Ramsey County would have alternative use. In New Mexico, nearly three-quarters of EBT space has an alternative use.

By considering only EBT space that has an alternative use, retailer costs drop about 40 percent to $0.81 per $1,000 of benefits redeemed. In Ramsey County, where respondents had

Exhibit 4-15

SPACE COSTS FOR THE EBT SYSTEMS

	New Mexico	Ramsey County	All Stores
Average Cost per Square Foot (dollars per month)	$6.82	$8.17	$7.56
Average EBT Space (feet per store)	2.0	2.2	2.1
Average Store Cost (dollars per month)	$9.30	$16.32	$13.18
Average Standardized Cost (dollars per $1,000 of benefits redeemed)	$0.57	$3.90	$1.43
Number of Stores	44	43	87
Average Food Stamp Redemptions (dollars per month)	$34,498	$5,619	$20,225

Source: Pre-implementation and post-implementation interview data.

Exhibit 4-16

ALTERNATIVE EBT SPACE COST ESTIMATES

	New Mexico	Ramsey County	All Stores
Percentage of EBT Space with Alternative Purposes	74.4%	41.6%	56.3%
Average Store Cost (dollars per month)	$6.02	$7.68	$6.94
Average Standardized Cost (dollars per $1,000 of benefits redeemed)	$0.37	$2.08	$0.81

Source: Pre-implementation and post-implementation interview data.

fewer alternative uses for EBT space, standardized costs decrease from $3.90 to $2.08 per $1,000 of benefits. EBT space costs in New Mexico decrease as well, from $0.57 to $0.37 per $1,000 of benefits, when considering only alternative space uses.

4.10 OTHER FEE COSTS

The final cost element considered in this chapter accounts for other fees or expenses paid by retailers to participate in the food stamp coupon and EBT systems. Under the coupon system, some retailers reported having to pay fees to banks for coupon deposits.[1] Under an EBT system, retailers may be asked to pay some part of the cost of EBT store equipment, communications, or start-up modifications to the checkout lane.

Methodology

Estimates of other fees paid under the food stamp coupon system are based on data provided by retailers. Retailers were asked if their store paid any fees to the bank for handling and processing food stamp coupon deposits and, if so, the amount of the fees.

Other fees under an EBT system would consist of either one-time or ongoing costs for EBT store terminals, communications, and start-up modifications. Retailers in Ramsey County incur no such costs to participate in the EBS system and, consequently, their other fee costs are estimated to be zero.

As mentioned in Chapter 2, part of the reason that the New Mexico EBT system is cost-effective is that the State has been able to share some terminal expenses with retailers. New Mexico retailers, however, have the option of participating either in an EBT-only system or a system that combines EBT and commercial POS capability. Retailers that choose the EBT-only system are provided at no cost with EBT-only terminals, as well as any modifications to checkout lanes or telecommunications that are required. Retailers that choose to participate in

[1] Program regulations state, however, that "no financial institution may impose on or collect from a retail food store a fee or other charge for redemption of coupons that are submitted to the financial institution in a manner consistent with the requirements, except for coupon cancellation, for the presentation of coupons by the financial institution to the Federal Reserve banks." Food Stamp Program Regulations, Section 278.5.

a commercial POS network in addition to EBT might purchase their own terminals, pay a fee for each commercial transaction, or incur other one-time or ongoing expenses. New Mexico retailers that incur transaction fees do so for commercial POS transactions only; commercial POS network operators are not allowed to charge retailers fees for EBT transactions.

Given that New Mexico retailers are offered a zero cost option for processing EBT transactions (through EBT-only terminals), the analysis assumes that New Mexico retailers pay no fees to participate in the EBT system. The only New Mexico retailers that pay fees are retailers that participate in a commercial POS network. Although these retailers incur costs that arguably could be attributed in part to processing EBT transactions (such as the cost to purchase store terminals), the EBT-only option provides retailers the opportunity to participate in the EBT system without any fee costs. Thus, the fees paid to commercial POS networks are tied to commercial transactions and not to EBT ones.

Estimated Other Fee Costs

Across both sites, retailers' other fee costs drop by about $0.48 per $1,000 of benefits redeemed under the EBT system. As shown in Exhibit 4-17, other fees paid by retailers in New Mexico under the coupon system averaged about $0.27 per $1,000 redeemed. In Ramsey County, coupon fees amounted to about $1.09 per $1,000 of benefits redeemed. As mentioned, EBT fees are assumed to equal zero in both sites.

Some local financial institutions may charge retailers a fee to receive and post EBT credits to retailer bank accounts, although retailers were not explicitly asked about this type of EBT fee. According to respondents from local financial institutions that were interviewed for the bank analysis (Chapter 6), when charged, the amount of the fee ranges from $0.02 to $0.04 per item received. If the average of these fees were charged to all retailers, EBT fees would equal $0.12 per $1,000 of redemptions in Ramsey County and $0.02 per $1,000 of benefits in Bernalillo County.

The analysis excludes these estimates, however, for two reasons. First, we have no evidence showing that all retailers pay fees on EBT credits, as is assumed in the above cost estimates. Some banks do not impose a fee on retailers and some retailers, particularly large

Exhibit 4-17

OTHER FEES FOR EBT AND COUPON SYSTEMS

	New Mexico	Ramsey County	All Stores
Average Monthly EBT Fees (dollars per month)	$0.00	$0.00	$0.00
Average Standardized EBT Cost (dollars per $1,000 of benefits redeemed)	$0.00	$0.00	$0.00
Average Monthly Coupon Fees (dollars per month)	$2.64	$1.79	$2.17
Average Standardized Coupon Cost (dollars per $1,000 of benefits redeemed)	$0.27	$1.09	$0.48
EBT-Coupon Difference	($0.27)*	($1.09)**	($0.48)**
Percent Difference	(100.0)	(100.0)	(100.0)
Number of Stores	44	43	87
Average Food Stamp Redemptions (dollars per month)			
EBT	$34,498	$5,619	$20,225
Coupon	$16,329	$2,706	$9,596

Statistical Significance: +, P<0.10; *, P<0.05; **, P<0.01

Source: Pre-implementation and post-implementation interview data.

ones, may negotiate to have the fee waived. Second, the standardized bank fee estimates assume daily EBT activity (and subsequently a daily fee), which cannot be said of all retailers.

4.11 TOTAL COSTS

Combining the costs of the eight major components of food stamp participation, EBT system costs to participating retailers in the combined sample of all stores are lower by $5.46 per $1,000 of benefits redeemed. The effect of the EBT system is negative in both sites, and leads to cost decreases of $3.98 per $1,000 of benefits for New Mexico retailers and $9.09 per $1,000 of Ramsey County benefits. EBT cost effects are statistically significant for both sites and at the all-store level. These estimates are presented in Exhibit 4-18.

The EBT systems reduce total costs to the average store by about $110 per month. In New Mexico, the EBT system reduces monthly participation cost by about $137. Average monthly retailer cost is roughly $51 lower in Ramsey County under EBS.

Of the eight major cost elements analyzed in this chapter, three decrease under the EBT systems. The biggest source of EBT cost savings in both sites is in the cost to handle and reconcile food stamp sales. This element alone offsets EBT cost increases for New Mexico retailers in other categories. In Ramsey County, costs savings from the handling and reconciliation component are almost double the combined cost increase from other categories.

The difference between handling costs across the two sites also accounts for a majority of the overall difference in EBT impacts between the two sites. As mentioned in Section 4.4, however, the more efficient handling of coupons by New Mexico retailers, relative to estimates for Ramsey County, created a much smaller EBT effect.

Float costs and other fee costs also decrease under an EBT system, although by much smaller magnitudes than handling costs. The EBS system's effect on float costs among Ramsey County retailers is much greater than under the New Mexico EBT system (savings of $0.36 versus $0.04 per $1,000 of benefits). As explained in Section 4.7, EBT effects on float costs in New Mexico are smaller because coupon float costs there were low relative to Ramsey County. Other fees decrease by $0.27 per $1,000 of benefits in New Mexico and by $1.09 per $1,000 of benefits in Ramsey County.

Exhibit 4-18

TOTAL COST DIFFERENCE BY STORE TYPE

	New Mexico	Ramsey County	All Stores
Checkout	$1.67	$1.19	$1.34
Handling	($9.44)	($17.66)	($11.55)
Training	$0.85	$0.54	$0.77
Reshelving	$2.31	$3.10	$2.52
Float	($0.04)	($0.36)	($0.11)
Accounting Errors	$0.37	$1.29	$0.62
Space	$0.57	$3.90	$1.43
Other Fees	($0.27)	($1.09)	($0.48)
Total	($3.98)**	($9.09)+	($5.46)**
Total Cost per $1,000			
EBT	$13.85	$36.96	$19.64
Coupon	$17.83	$46.05	$25.10

Statistical Significance: +, P<0.10; *, P<0.05; **, P<0.01

Source: Pre-implementation and post-implementation interview data.

Five cost categories -- checkout productivity, training, reshelving, space, and accounting errors -- increase under the EBT systems. EBT reshelving activities increase costs relative to the coupon system by about $2.52 per $1,000 of benefits -- the largest increase of any cost component. Next, checkout productivity cost increases under the EBT system add about $1.34 per $1,000 of benefits to food stamp participation costs. The space used by EBT store equipment adds $1.43 to standardized participation costs, and food stamp training increases by $0.77 per $1,000 of benefits under an EBT system. Finally, EBT accounting errors increase costs relative to the coupons system by $0.62 per $1,000 of benefits.

It should be noted that estimates of checkout productivity and space costs may actually overstate EBT costs. As mentioned in Section 4.3, the opportunity cost of longer EBT transactions is lower than the estimated costs. Similarly, as described in Section 4.9, only about 50 percent of the space occupied by EBT store equipment would be used for another purpose. Thus, space cost estimates may overstate the true cost value.

These overall results are slightly lower than estimates of retailer participation costs during the extended EBT demonstration in Reading, Pennsylvania. Retailer participation costs decreased under that EBT system by $6.60 per $1,000 of benefits redeemed.[1] As mentioned previously, the Reading estimates may be more comparable to cost estimates for Ramsey County retailers, who process about the same average monthly value of food stamp redemptions.

4.12 EBT IMPACTS BY STORE TYPE

The EBT systems have an uneven effect on stores in different store types, as shown in Exhibit 4-19. Grocery stores experience a large cost savings under an EBT system, followed by convenience stores and supermarkets. In contrast, other stores experience an increase in costs under EBT participation. These results are statistically significant for only the grocery store and supermarket store types.

Handling costs account for the greatest source of EBT cost reductions among all four store types. Handling costs decrease most for convenience stores and grocery stores under the EBT system, and reduce costs by about $29 per $1,000 of benefits for each store type.

[1] Kirlin et al., op. cit., p. 212.

Exhibit 4-19

EBT-COUPON RETAILER COST OF PARTICIPATION EFFECTS BY STORE TYPE
(in dollars per $1,000 of food stamp redemptions)

	Supermarkets	Grocery Stores	Convenience Stores	Other Stores
Checkout Productivity	$0.40	$1.86	$9.06	NA
Handling	($6.59)	($29.19)	($29.86)	($9.40)
Ongoing Training	$0.03	$1.63	($1.03)	$5.61
Reshelving	$2.16	$4.13	$4.79	$0.97
Float	($0.05)	($0.35)	($0.17)	($0.24)
Accounting Errors	$0.20	$0.12	$4.05	$1.83
Space	$0.61	$1.10	$9.14	$2.21
Other Fees	($0.13)	($1.20)	($3.13)	($0.01)
Total	($2.37)+	($21.90)**	($7.15)	$0.97
Total cost per $1,000 of benefits redeemed				
EBT	$9.95	$26.60	$90.51	$34.07
Coupon	$12.32	$48.50	$95.60	$33.10
Number of Stores	24	25	19	19
Average Monthly Redemptions				
EBT	$63,178	$4,980	$1,945	$4,305
Coupon	$29,377	$2,944	$1,190	$1,769

Statistical Significance: +, $P<0.10$; *, $P<0.05$; **, $P<0.01$

Source: Pre-implementation and post-implementation interview data.

Handling cost savings under EBT are also sizable for the other two store types, decreasing standardized participation costs for other stores by $9.40, and for supermarkets by $6.59.

Estimates for grocery stores are $21.90 lower per $1,000 of benefits under an EBT system than under food stamp coupons. As mentioned, the main source of decreased costs for grocery stores is handling and reconciliation activities ($24.52 per $1,000 of benefits redeemed). The EBT systems also decrease costs to grocery stores in float and other fee components.

The EBT systems reduce supermarket costs by $2.37 per $1,000 of benefits redeemed. As for the other store types, lower standardized handling costs ($6.59) under the EBT system account for the majority of the overall cost decrease. This and other cost savings from the float and other fee components are partially offset by increases in checkout productivity, reshelving, accounting errors, and space cost elements.

The sizable handling cost reduction drives down overall costs to convenience stores under an EBT system by $7.15 per $1,000 of benefits. The handling cost decrease for convenience stores is partially offset by increases in all but two of the remaining cost categories (costs decrease in the float and other fee categories). The cost of EBT equipment space increases convenience store costs by $9.14 per $1,000 of benefits redeemed, mostly because convenience store space is valued more highly than for the other three store types. Checkout productivity costs at convenience stores increase by $9.06 per $1,000 of benefits under an EBT system. As explained in Section 4.3, the high number of small value transactions in convenience stores leads to the large EBT effect on checkout productivity.

Participating costs of other stores are estimated to increase under an EBT system by $0.97 per $1,000 of benefits, although checkout productivity costs are not estimated for other store types. It is likely that overall participation costs would increase further for other store types, were an estimate of EBT checkout costs added into the analysis. A sizable increase in standardized training costs ($5.61) for other stores -- together with increased reshelving, float, accounting errors and space costs -- more than offsets the $9.40 decrease in standardized handling costs.

Chapter 5

EBT SYSTEM IMPACTS ON FOOD STAMP RECIPIENTS

When EBT systems were first being considered as a means of issuing food stamp benefits, FNS was concerned about possible adverse effects of the new system on recipients. The evaluation of the Reading EBT demonstration found that few recipients had difficulty using that EBT system, and recipients' costs to participate in the program were lower than under the coupon system it replaced.[1] However, FNS could not assume in advance that the State-initiated EBT demonstrations would serve recipients as well as the Reading system. Differences in system design and implementation could result in differing impacts on recipients. In addition, the impact of an EBT system on recipients might differ depending on the type of coupon issuance system being replaced: New Mexico and Ramsey County both used mail issuance of coupons prior to implementing their EBT systems, while Reading used an ATP system. Thus, system impacts on recipients in the State-initiated EBT demonstrations remained an evaluation concern.

This chapter is organized as follows. In Section 5.1 we describe the research objectives and strategy for investigating the impact of the State-initiated EBT demonstrations on recipients. Section 5.2 discusses recipients' experiences with the EBT systems and their opinions about EBT and coupons. Section 5.3 presents the estimates of recipients' costs of participation under each system. Section 5.4 discusses the issue of unused benefits. Section 5.5 concludes by comparing the results with previous findings, and considers the generalizability of the findings to other locations.

5.1 RESEARCH QUESTIONS AND RESEARCH DESIGN

The analysis of the impacts of the State-initiated EBT demonstrations on recipients addresses the following research questions:

- How easy is it for recipients to use the EBT systems?

[1] Hamilton et al., op. cit., pp. 177-220.

- What types of issuance-related problems do recipients encounter under the coupon and EBT systems, and with what frequency?
- Do recipients prefer the EBT system or the coupon system, and why?
- What are recipients' time and money costs of participating under the EBT systems compared to the coupon systems which were replaced?
- Do the impacts of the EBT systems on recipients vary across sites?

Because EBT systems affect benefit issuance and redemption activities but not program certification activities, "participation costs" in this evaluation refer only to costs incurred in receiving or using benefits. Time and money costs associated with certification or recertification activities are not included. It is also important to note that, by law, recipients cannot be charged for applying for or using food stamp benefits.

To address these research questions, we employed a pre/post research design based on independent samples of recipients. The pre-implementation, or baseline, sample was drawn from the universe of all food stamp recipients in each demonstration site prior to the implementation of its EBT system. The post-implementation sample was drawn from the universe of recipients in each site who received food stamp benefits under the EBT system.

The target sample size was 75 recipients each for the baseline and post-implementation surveys in New Mexico and Ramsey County. The target sample size was based on a power calculation that showed that independent, random samples of 75 baseline and post-implementation interviews would permit detection of a difference in monthly participation costs of $0.60 with a power of nearly 0.80. The power to detect the $1.95 difference in direct costs found in the Reading evaluation would be greater than 0.99 with 75 in each independent sample.[1]

The actual sample sizes differed somewhat from 75: in each site, more than 75 interviews were completed with coupon participants and slightly fewer than 75 interviews were completed with EBT participants. The effective sample size is actually slightly more than 75, given the larger number of completes with the coupon participants. Thus, the power of the

[1] The power calculation assumes the direct costs in the EBT system are $0.26 (standard deviation = $1.16) and $2.21 in the coupon system (standard deviation = $0.48).

sample is at least as great as computed above. Details on the final disposition of all sample cases are provided in Appendix G.

Characteristics of the Sample

Exhibit 5-1 shows the demographic characteristics of the baseline and post-implementation samples of recipients in New Mexico and Ramsey County. Most of the respondents in both sites were female, and most spoke English as their primary language at home. In New Mexico, about 60 percent of the respondents in each sample were Hispanic, and about 25 percent were non-Hispanic white. We interviewed two Native Americans for the baseline survey in New Mexico and six for the post-implementation survey. In Ramsey County, the majority of the respondents (60 percent or more in each wave) were white. About 13 percent of those interviewed in both the baseline and post-implementation surveys in Ramsey County were Asian.

The respondents in the two sites were similar in age and education. The majority of respondents were under 40 years of age, and between 10 and 15 percent in each wave were 60 years old or older. Between 53 and 66 percent of the respondents had received some high school education. Most of the respondents were not employed: between 71 and 75 percent in New Mexico and between 86 and 90 percent of respondents in Ramsey County were not employed at the time of the interviews.

In both sites about one-quarter of the respondents in each survey wave reported having a handicap or physical limitation that makes it difficult to get around town. This percentage seems high, but reflects the recipient's own assessment of their abilities. For example, recipients reported arthritis, tendinitis, and back troubles as limiting their mobility (in addition to recipients confined to a wheelchair or unable to walk).

Highlights

In both New Mexico and Ramsey County, a large majority of recipients preferred EBT over coupons, and most found it easier to shop with the EBT card than with coupons. In New Mexico, 89 percent of recipients preferred EBT while only 3 percent preferred coupons. In Ramsey County, 76 percent of recipients preferred EBS and 19 percent preferred coupons. In

Exhibit 5-1

DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

	New Mexico		Ramsey County	
	Coupon	EBT	Coupon	EBS
Sex				
Female	78.8%	71.2%	86.2%	78.9%
Male	21.2	28.8	13.8	21.1
Language				
English	82.4%	79.5%	82.8%	87.3%
Other	17.6	20.5	17.2	12.7
Race/ethnic group				
White	28.2%	24.7%	59.8%	69.0%
Black	4.7	6.8	18.4	14.1
Hispanic	62.4	58.9	6.9	1.4
Asian/Pacific Islander	1.2	1.4	12.6	12.7
Native American/ Alaskan native	2.4	8.2	1.1	1.4
Other	1.2	0.0	1.1	1.4
Age				
Less than 40	68.2%	61.7%	72.4%	62.0%
40-59	18.8	23.3	17.2	25.4
60 or older	12.9	15.0	10.3	12.7
Education				
Less than 9th grade	22.4%	24.7%	16.1%	18.2%
9-12th grade	65.9	53.4	58.6	64.8
Beyond 12th grade	10.6	21.9	24.1	16.9

Exhibit 5-1
(continued)

	New Mexico		Ramsey County	
	Coupon	EBT	Coupon	EBS
Household Size				
1-2	36.5%	45.2%	49.4%	46.5%
3-4	44.7	41.1	33.3	35.2
5+	18.8	13.7	17.2	18.3
Handicapped				
Yes	24.7%	23.3%	24.1%	21.1%
No	75.3	76.7	75.9	78.9
Participation in other government assistance programs				
Receive AFDC	34.1%	34.2%	62.1%	52.1%
Receive Refugee Assistance	n.a	n.a	2.3	0.0
Receive MSA	n.a	n.a	14.9	8.5
Employment Status				
Employed	29.4	24.6	13.8	9.8
Not employed	70.6	75.3	86.2	90.1
Sample size	85	73	87	71

Note: n.a = not applicable.

Source: Baseline and post-implementation surveys of recipients.

both sites, recipients who preferred EBT believed that it was easier, safer and more convenient to use than coupons. Few recipients had difficulty remembering their PIN or keeping track of their food stamp balances.

Recipients encountered a number of problems with the EBT systems. In both sites, recipients reported an average of about 0.8 problem incidents per month. The most common type of problem reported related to the system or equipment not working: 44 percent of recipients in New Mexico and 31 percent in Ramsey County reported at least one incident of system or equipment failure in the six months prior to the interview. During these incidents, recipients were often able to use their card in a terminal in another checkout lane or sign for a backup transaction. However, ten percent of recipients in each site had to complete a shopping trip in another store because of problems with the EBT systems.

In New Mexico, recipients' total costs of participation were 63 percent lower under EBT than under the coupon system. The difference in participation costs between the EBS and coupon systems in Ramsey County was not statistically significant. The results suggest, however, that Ramsey County recipients' participation costs decreased somewhat under EBS, but not as much as in New Mexico. In both sites, one component of total participation costs, recipients' costs due to lost and delayed benefits, decreased substantially. The 86-percent reduction in these costs in both sites was primarily due to the increased security of EBT benefits relative to the coupon mail issuance systems in which recipients incurred losses due to coupons being lost and stolen (and not always replaced).

5.2 RECIPIENTS' EXPERIENCES WITH THE EBT SYSTEMS

An EBT system dramatically changes the way in which recipients receive and use their food stamp benefits. In this section we describe how recipients obtain their benefits, how they keep track of the benefits remaining, and problems they encounter with the EBT system. We also compare the shopping patterns of EBT recipients with food stamp coupon recipients in the two demonstration sites. Recipients' opinions and preferences concerning the EBT card and coupons are also discussed.

Obtaining a Card and Learning the System

Once determined to be eligible for benefits, a recipient must receive an EBT card in order to be able to access benefits on the EBT system. In both sites, recipients are given appointments for training on how to use the EBT system, and they receive their cards at the training session. Training sessions are held in the local welfare offices. Recipients also select their PIN at the training session, at which time the PIN is encoded on the card's magnetic stripe.

Recipients in New Mexico report spending just under an hour and a half (84 minutes) to obtain their EBT card and training.[1] Most recipients made only one trip to get the card, though a few reported making between 2 and 4 trips. The mean number of trips reported by recipients to obtain the card was 1.5. One recipient did not go to a training session; she reported that the welfare office sent someone to her.

In Ramsey County, the EBS system operated for cash assistance recipients prior to the inclusion of food stamps, so that food stamp recipients who had been using the EBS system for cash assistance did not have to attend a training session. These recipients were mailed information on how to use their EBS cards for food stamp benefits, but they could attend a training session if they felt it was needed. Nearly half of the recipients (who reported trips) made just one trip to get their EBS cards and training. The reported number of trips ranged between 1 and 5, and the average number of trips was 1.6.[2] Recipients reported spending an average of about one hour and forty minutes (103 minutes) at the office to obtain the card and training.

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[1] This estimate includes waiting time as well as time actually in the training session and getting the card and PIN. In New Mexico, training sessions themselves usually last less than 30 minutes.

[2] For some recipients, the number of trips refers to the number of trips to obtain the EBS card for the cash EBS system, prior to the inclusion of food stamps. In the absence of a pre-existing cash system, all food stamp recipients would have had to make a trip to the office to obtain the EBS card. In the next section, we present cost estimates both including and excluding trips made to get an EBS card prior to the implementation of food stamps.

Keeping Track of Account Balances

A recipient can determine the amount of food stamp coupons he or she has simply by counting them. Determining the amount of benefits left in one's food stamp EBT account is quite different. Recipients using the New Mexico and Ramsey County systems can track their food stamp balances by a number of methods. First, their remaining balance is printed on the receipt of each POS transaction. In addition, recipients can use POS terminals to make balance inquiries without making a purchase. In both sites, recipients can call an Audio Response Unit (ARU) from a touch-tone phone to receive balance information. Ramsey County recipients can also call a customer service number to ask for their balance. In New Mexico, recipients can find out their food stamp balances at ATMs and elderly recipients at one office can call their EBT specialists once a month to obtain balance information.

Exhibit 5-2 shows the ways in which recipients track their balances in the EBT systems. In both sites, nearly all recipients use their receipts to keep track of their food stamp account balances: 90 percent in New Mexico and 93 percent in Ramsey County. Recipients also frequently use the ARU to determine their balances: 38 percent of recipients in New Mexico call from their home phone and 25 percent call from another phone. In Ramsey County, 55 percent of recipients call the ARU from their home phone or another phone to determine their food stamp balance. Recipients also use POS terminals in stores for balance inquiries without making a purchase. In New Mexico, 45 percent of recipients report making balance inquires at POS terminals, compared to 24 percent in Ramsey County.[1] Recipients in New Mexico also use ATM balance information; 34 percent report this as a way of tracking food stamp balances. The ATMs in Ramsey County were not programmed to provide food stamp balance information.

A majority of recipients in both sites report using receipts as the main way of tracking their balances: 73 percent in New Mexico and 86 percent in Ramsey County. Over 8 percent of recipients in both sites call the ARU from their home telephone as their main mechanism for

[1] At first glance, the percentages seem at odds with the results presented in Chapter 4, which showed that less than 3 percent of observed EBT transactions included a balance inquiry. The checkout observation sample analyzed in Chapter 4, however, excluded transactions in which nothing was purchased, so there is no inconsistency in the reported findings.

Exhibit 5-2

WAYS OF TRACKING FOOD STAMP EBT BALANCE[a]

	New Mexico		Ramsey County	
	Number	Percentage	Number	Percentage
Keep receipts showing food stamp balance	66	90.4%	66	93.0%
Call from home telephone	28	38.4	32	45.1
Call from another phone	18	24.7	7	9.9
Use ATM to determine food stamp balance	25	34.2	n.a.	n.a.
Use store equipment without making a purchase	33	45.2	17	23.9
Call the welfare office	5	6.8	6	8.5
Other	4	5.5	2	2.8

Note: [a] Percentages sum to more than 100 because respondents may use more than one means of tracking their food stamp balance.

n.a. = not available.

Source: Post-implementation surveys of recipients.

[redacted]

the main way they track their food stamp balances.

Most recipients do not report having any difficulty tracking their food stamp balances. In fact, a majority of recipients in both sites agreed with the statement," It is easier to know how much is left with the EBT card than with coupons." (See Appendix H for details.) A small number of recipients, however, do have some trouble keeping track of their food stamp balances in the EBT system. Nearly 7 percent of recipients in New Mexico and 11 percent in Ramsey County report having some difficulty keeping track of their food stamp balance. Although one elderly recipient in New Mexico reported a problem, the evidence does not suggest that the elderly, those with less education, or those who do not speak English at home have any greater difficulty keeping track of their food stamp balances than other recipients.

Recipients also report that occasionally they have been unable to determine what their balance is: 11 percent of recipients in New Mexico and 9 percent in Ramsey County report this problem. In both sites, recipients who reported this problem mostly had difficulty obtaining their balances by telephone. In New Mexico, none of the recipients reported that being unable to determine their balance was a "big" problem. In contrast, two of the six Ramsey County recipients who reported difficulty finding out their balance felt it was a big problem.

Shopping Patterns

As shown in Exhibit 5-3, recipients' shopping patterns were similar under the coupon and EBT systems. Recipients reported using EBT and coupons in between two and three stores per month, and spent most of their benefits in supermarkets. Recipients in New Mexico, however, reported making significantly more food shopping trips under the EBT system than with coupons. Recipients said they made 5 trips per month to shop with EBT compared to just under 4 trips with coupons. In Ramsey County, recipients reported 5.5 food shopping trips per month under both systems.[1]

In both sites, about one-quarter of recipients have other people do some of their food shopping in each system (the differences in proportions are not statistically significant). Households in which other people shop differ in two ways from households in which only the respondent shops with coupons or EBT. First, households in which others shop have more household members, on average, than households in which only the respondent shops.[2] Second, the racial/ethnic background of the household heads differs between the two groups. In New Mexico, three of six Native American households interviewed let other household members shop with EBT. In Ramsey County, households in which others shop with coupons or EBT were more likely to be Asian and to speak a language other than English at home. While the number interviewed in each group was small, the evidence suggests that households in which other people shop differ from households in which only the recipient shops with food stamp coupons or EBT.

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[1] It is possible that recipients underestimate the number of times they shop, regardless of whether they are using EBT or coupons, because they may forget to count trips to purchase just a few items. EBT system transaction data from March 1992 show New Mexico recipients averaged 8.4 transactions that month while Ramsey County recipients averaged 7.4 transactions (recipients may make more than one transaction in a single shopping trip, however). Actual transaction data are not available for the coupon systems.

[2] In the post-implementation survey in New Mexico, mean household size was 3.8 members for households in which others shop compared to 2.5 for households in which only the recipient shops with EBT. In Ramsey County, mean household size was 3.9 for households in which others shop with EBS and 2.5 members for other households. These differences are statistically significant at the 5-percent level. Similar differences in household size between the two groups in each site are seen in the baseline sample.

Exhibit 5-3

COMPARISON OF SHOPPING PATTERNS WITH COUPONS AND EBT CARDS

	New Mexico		Ramsey County	
	Coupon	EBT	Coupon	EBS
Mean number of shopping trips per month using food stamp benefits	3.9	5.0*	5.5	5.5
Mean number of stores in which food stamp benefits are used per month	2.2	2.6	2.4	2.3
Percent of recipients using most of their benefits in:				
Supermarkets	92.9%	98.6%	96.6%	94.4%
Smaller grocery stores	4.7	1.4	2.3	1.4
Convenience stores	0.0	0.0	0.0	1.4
Other stores	2.4	0.0	1.4	1.4
Percent of recipients who let someone else shop with their food stamp benefits	23.5%	28.8%	26.4%	25.4%

Note: * EBT-coupon difference is statistically significant at the 5-percent level.

Source: Baseline and post-implementation surveys.

Changes in Stores

Three recipients (about 4 percent) in each site reported having to change where they do most of their food shopping because their old store did not accept the EBT card. In New Mexico, one respondent felt that changing stores had been a big problem because she had to travel further to shop; she noted, however, that all stores now accept EBT. Another respondent felt that changing stores was somewhat less convenient because she has to walk three blocks further to shop. The third respondent said that switching stores was not a problem because there are other stores in the area. In Ramsey County, one of the three recipients believed that changing stores was a big problem because of the initial adjustment -- she could not find anything in the new store. Another felt that traveling further to shop was a small problem. The third respondent did not feel it was a problem because there were other stores nearby.

Changes in Shopper

Two recipients (3 percent) in Ramsey County reported that a different person in the household does the food shopping with EBS. In one household, the recipient used to shop with food stamp coupons and now an Authorized Representative shops with EBS. In the other household, the recipient's children used to shop with coupons and now only the recipient shops with EBS. Neither of these recipients considered changing shoppers to be a problem with the EBS system. None of the households in New Mexico changed who does the food shopping.

While most households did not change their primary food shopper, half of all recipients feel that it easier to let someone else shop with coupons than with EBT. When asked if they agree or disagree, 52 percent in New Mexico and 51 percent in Ramsey County agreed with the statement, "It is easier to have someone else shop for you with coupons than with the EBT card." Thus, while the main shopper did not change in most households, recipients may send other household members on small shopping trips less often with the EBT card than they would have with coupons.

Remembering the PIN

The EBT systems in New Mexico and Ramsey County require a PIN to be entered in order to complete a transaction; the purpose of the PIN is to prevent unauthorized persons from

accessing the benefits using the card. The coupon system has no comparable requirement, and some were concerned that recipients would have trouble remembering their PIN.

Few recipients in New Mexico and Ramsey County reported having difficulty remembering the PIN: four recipients (5 percent) in New Mexico and five recipients (7 percent) in Ramsey County report forgetting their PIN in the previous six months. In Ramsey County, two of the five were elderly recipients, none of those who forgot their PIN in New Mexico were elderly. Given the small sample size it is difficult to draw definite conclusions about subgroups; nonetheless, the elderly may be more likely to have difficulty remembering the PIN than non-elderly recipients.

In New Mexico, two of the four recipients forgot their PIN twice; one needed to get a new PIN once, the other two times. In Ramsey County, only one of the recipients had to get a new PIN after forgetting it. None of the recipients reported that forgetting their PIN is a "big" problem.

Determining Which Checkout Lanes Accept EBT

If not all the checkout lanes in a store are equipped with POS terminals, a recipient has to determine which lanes are equipped or may have to change lanes to use the EBT card. In New Mexico, nearly all stores have a POS terminal in every checkout lane. However, some of the large supermarkets do not let recipients use the EBT card in "express" checkout lanes. In Ramsey County, all stores within the county have a terminal in every lane, although about 20 to 30 border stores outside the county have only some of their checkout lanes equipped with POS terminals.

Despite the fact that most stores in both sites are fully equipped, recipients did report some problems determining which lanes take EBT or having to change lanes in order to use the card. In New Mexico, four recipients (5 percent) reported that they have had difficulty (at least once) determining which checkout lanes accept the EBT card. Nine recipients (12 percent) had to move to another checkout lane (at least once) because the lane they were in was not equipped

with a POS terminal.[1] While stores display signs on the checkout lanes that accept EBT (along with commercial credit and debit cards), some recipients had difficulty finding the right lanes.

In Ramsey County, nine recipients (13 percent) reported difficulty in knowing which lanes are equipped with a terminal. Eight recipients (11 percent) also reported having to change lanes because the lane did not have a terminal. The stores in border areas that do not have terminals in each lane post signs with the red-and-white EBS logo at the checkout counters which are equipped; nonetheless, some recipients went to the wrong lanes.

Treatment by Store Employees

Most recipients feel that they are treated no differently than other food store customers. In both New Mexico and Ramsey County, close to 80 percent or more in both the coupon and EBT systems feel they are treated the same as other customers (see Exhibit 5-4). In New Mexico, 13 percent feel they were treated worse than other customers in the coupon system compared to 10 percent under the EBT system. In Ramsey County, about 20 percent of recipients under both systems feel they are treated worse than other customers.

Summary

Overall, the EBT systems in New Mexico and Ramsey County are easy for recipients to use. Most recipients track their food stamp balances, remember their PINs, and use their benefits to buy food without difficulty. Nearly all recipients use their receipts to keep track of their food stamp balances. Very few recipients report having to change their shopping patterns (e.g., go to a different store or change who does most of the food shopping) because of EBT. Most recipients feel they are treated no differently than other food store customers whether they use coupons or the EBT card.

[1] Recipients were asked separately about incidents when they had to move to another checkout lane because the equipment in the first lane was not working. These problems are included in the count of incidents of system or equipment failure in the next section.

Exhibit 5-4

RECIPIENTS' PERCEPTIONS OF TREATMENT BY FOOD STORE EMPLOYEES[a]

	New Mexico		Ramsey County	
	Coupon (N=85)	EBT (N=73)	Coupon (N=87)	EBS (N=71)
Treatment of food stamp recipients compared to non-food stamp customers:				
Better	1.2%	6.8%	1.1%	1.4%
About the same	85.9	82.2	79.3	78.9
Worse	12.9	9.6	19.5	19.7

Note: [a] Respondents were asked whether they think food store employees treat EBT card/coupon users better, about the same, or worse than other customers who don't use an EBT card/food stamp coupons to make food purchases.

Source: Baseline and post-implementation recipient surveys.

Problems with the EBT System

Recipients may encounter a number of problems with the EBT system. Some problems affect their ability to use their benefits; for example, forgetting the PIN or losing the card. Other problems are an inconvenience, such as having trouble determining which checkout lanes in a store are equipped with EBT terminals. The system itself may be down, or slow, affecting recipients who are shopping. Other problems may affect the amount of benefits recipients receive. For example, if a card is stolen, someone may use the benefits (if they know the PIN). A cashier may inadvertently charge a recipient twice for the same groceries if he or she thinks the transaction was not completed and sends the transaction a second time.

We asked recipients whether they had encountered any of a number of problems during the six months preceding the interview (or during the time they had an EBT card, if less than six months). Exhibit 5-5 presents the frequency of problems reported by recipients in New Mexico and Ramsey County. Some of these problems were discussed in the previous section on shopping with EBT; we include them in the exhibit to obtain the total number of problems encountered by recipients.

Many recipients reported that at least one type of problem occurred in the previous six months. In New Mexico, 77 percent of recipients reported at least one type of problem. The mean number of problem incidents reported over the time period was 3.5, or about 0.8 problems per month in New Mexico. In Ramsey County, 69 percent of recipients reported at least one problem. Recipients reported an average of 3.3 problems over the time period, or about 0.8 problems per month. In both sites, on average, recipients reported encountering a problem nearly once a month.

In both sites the most frequently reported problems relate to system and equipment failure: 44 percent of recipients in New Mexico and 31 percent in Ramsey County reported an incident in which the system or equipment was not working in the previous six months. In addition, 25 percent of recipients in New Mexico and 17 percent in Ramsey County reported having done a backup transaction.[1] Most of these backup transactions were done, according to

[1] Recipients who reported that when the system or equipment was not working the store did a backup transaction are counted as reporting a backup transaction rather than an incident of system or equipment failure, to avoid double-counting.

Exhibit 5-5

PROBLEMS ENCOUNTERED BY RECIPIENTS USING THE EBT SYSTEMS[a]

	New Mexico (N=73)		Ramsey County (N=71)	
	Number Reporting Problem	Percent Reporting Problem	Number Reporting Problem	Percent Reporting Problem
Problems with EBT system or card				
System or equipment not working	32	43.8%	22	31.0%
Backup transaction	18	24.7	12	16.9
System slow	9	12.3	14	19.7
Benefits credited late	12	16.4	9	12.7
Wrong amount credited	10	13.7	4	5.6
Less in account than expected	1	1.4	2	2.8
EBT card damaged	7	9.6	3	4.2
EBT card lost	6	8.2	3	4.2
EBT card stolen	1	1.4	2	2.8
Problems shopping with EBT				
Difficulty tracking balance	5	6.8	8	11.3
Unable to find out balance	8	11.0	6	8.5
Had to change stores because store not EBT-equipped	5	6.8	3	4.2
Changed who does food shopping	0	0.0	2	2.8
Forgot PIN	4	5.5	5	7.0
Difficulty knowing which checkout lanes are EBT-equipped	4	5.5	9	12.7
Had to change lanes because lane not EBT-equipped	9	12.3	8	11.3
Retailers' errors				
Charged for groceries not bought	0	0.0	2	2.8
Store deducted more than should have	3	4.1	1	1.4
Other problems	1	1.4	3	4.2
Those reporting no problems	17	23.3	22	31.0
Mean problem incidents reported per respondent	3.5		3.3	
Mean per respondent per month	0.8		0.8	

Note: [a] Problems reported during six months prior to interview (or during the number of months the respondent had an EBT card, if less than six months).

Source: Post-implementation surveys of recipients.

recipients, because of system or equipment failure. In New Mexico, recipients reported an average just under one incident of system or equipment failure over the time period, or an average of about 0.20 incidents per month. In Ramsey County recipients reported an average of 0.15 incidents of system or equipment failure per respondent per month.

When the system or equipment is not working, the store can process a backup transaction, try to fix the equipment, use a terminal in another lane, or tell the recipient to pay cash or come back later. Recipients have encountered all of these solutions. The most common solution appears to be using a terminal in another lane. In New Mexico, 37 percent of recipients reported using the terminal in another lane because the one in the lane they were in was not working. Ten percent of recipients in New Mexico reported having to go to another store to complete their shopping trip because the equipment was not working in the first store. In Ramsey County, 21 percent switched checkout lanes because of equipment failure, and 10 percent reported going to another store.

Although most recipients believe that the EBT system is faster to use in the checkout lane than coupons,[1] recipients have also experienced incidents in which the EBT system was working more slowly than usual. In New Mexico, 12 percent of recipients reported experiencing slow transactions, compared to 20 percent in Ramsey County. In both sites recipients reported that cashiers keep trying the transaction when the system is slow. In New Mexico, one-third of the recipients who experienced slowdowns report that slowdowns are a "big problem," but most of the rest report that such slowdowns are not a problem. In Ramsey County, while 20 percent experienced system slowdowns, none of these recipients felt it to be a "big" problem.

Recipients also reported incidents wherein benefits had been credited to their accounts later than they expected. Some of these incidents may be due to changes in the issuance schedule (or reflect misunderstanding of the schedule by recipients), but occasionally benefits are posted late because of difficulties within the system. In New Mexico, 16 percent of recipients reported receiving benefits later than expected, compared to 13 percent in Ramsey

[1] In New Mexico, 78 percent of recipients disagreed with the statement, "It is quicker to pay for groceries with coupons than the card." In Ramsey County, 65 percent disagreed. (See Appendix H.)

County. In both sites the number of incidents of late benefits ranged from one to three. The mean number of days late in New Mexico was 6.7 days, and 5.0 days in Ramsey County.

It is possible for the wrong amount to be posted to a recipient's EBT account due to human or system error. Such errors occur fairly infrequently in New Mexico and Ramsey County. Ten recipients (14 percent) in New Mexico reported having had the wrong amount of benefits credited to their account at least once in the prior six months: eight had less credited than they thought they were supposed to receive, and two had more credited than they expected.[1] Most of these errors were corrected: only two cases where the recipient received too few benefits were not fixed. Recipients reported that correcting the problem took about five days on average. In Ramsey County, four recipients (6 percent) reported a lower benefit amount than they thought they were supposed to receive, none received more than expected. Two of these cases were corrected in an average of 1.5 days.

A few recipients also reported other problems with having fewer benefits in their food stamp EBT accounts than they expected. In New Mexico, one recipient reported that at one store her balance was $20 less than it should have been, but that when she went to another store the balance was correct. In Ramsey County, two recipients reported problems with their EBS accounts: they felt that the computer had "messed up," resulting in fewer benefits than they were entitled to. Despite these unexplained occurrences, problems with incorrect balances are relatively infrequent in New Mexico and Ramsey County, and are usually corrected quickly when they occur.

Recipients may also encounter difficulties with the card itself. If recipients' EBT cards are lost, stolen or damaged, they must get a replacement card in order to access their benefits. In New Mexico, 8 percent of those surveyed reported lost cards, 1 percent reported stolen cards, and 10 percent reported damaged cards. In Ramsey County, less than 5 percent of the recipients reported problems with lost, stolen or damaged EBS cards. None of the recipients who reported a stolen card in either site lost any food stamp benefits. One recipient in Ramsey County did report losing about $700 in cash benefits when someone stole her card and used it.

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[1] A recipient may think that the benefit amount is incorrect, when in fact the amount posted is correct. The reported numbers (representing an error rate of about 2 percent per month) reflect recipients' perceptions of the accuracy of their benefit amount. In contrast, New Mexico officials report an error rate of a "tiny fraction of 1 percent" in benefit amounts posted.

Very few recipients report problems with errors made by food retailers. We asked recipients about two possible types of retailer error: first, a cashier might enter the wrong purchase amount on the key pad (the recipient is supposed to check the amount entered). Second, a recipient may be charged for groceries not purchased. For example, there have been problems with cashiers sending the same transaction twice because, even though the first transaction is successful (and debits the recipient's account), the terminal does not print a message telling the cashier that the transaction was successful.[1] In New Mexico, three recipients (4 percent) reported a store deducting more than it was supposed to, and none reported incidents of being charged for groceries not purchased. The three recipients reported that the errors ranged from $2 to $13.50 and that, in two cases, the error was corrected in one to two days. None of the three recipients felt that the store error was a "big" problem.

In Ramsey County, two recipients (3 percent) reported being charged for groceries not purchased in the previous six months. Both reported that the error was corrected, in one day in one case but in a week in the other case. One recipient reported that a store deducted $14 more than it was supposed to from her account. The error was corrected within one day. The three recipients felt that these errors were a small annoyance.

Recipients in Ramsey County also reported a few incidents of other types of problems. One recipient claimed that the office gave her PIN number to someone else. Another felt that it was a problem that the home delivery vendor must call in for approval for each EBS purchase. Another recipient complained that she could not use the card in southern Minnesota.

Recipients' Opinions About the EBT Systems

Despite having encountered some problems with the EBT systems, recipients in both sites overwhelmingly prefer the EBT system to the coupon issuance system. A large majority in each site also find it easier to shop with EBT than with coupons.

As shown in Exhibit 5-6, 89 percent of recipients in New Mexico prefer EBT, and only 3 percent prefer coupons (the remaining 8 percent had no preference). Similarly, 83 percent of

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[1] Recipients may underreport errors in which the same transaction is sent twice by a cashier, causing their accounts to be debited twice. A recipient would be unaware of the double debit unless he or she is closely tracking the food stamp balance.

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Exhibit 5-6

RECIPIENTS' OPINIONS ABOUT EBT AND COUPONS

	New Mexico		Ramsey County	
	Number	Percentage	Number	Percentage
Prefer EBT	57	89.1%	48	76.2%
Prefer coupons	2	3.1	12	19.0
No preference	5	7.8	3	4.8
Shopping with EBT is:				
Easier	53	82.8%	42	66.7%
About the same	9	14.1	12	19.0
Harder	2	3.1	9	14.3

Source: Respondents in the post-implementation surveys who have used both the coupon and EBT systems.

recipients in New Mexico felt shopping was easier with EBT, and only 3 percent felt it was harder.

A large majority (76 percent) of recipients in Ramsey County prefer EBS. Nearly 20 percent, however, prefer coupons. Two-thirds of recipients in Ramsey County felt shopping is easier with EBS while 14 percent said it is harder than shopping with coupons.

Recipients in both sites gave similar reasons for their preferences. Among recipients who prefer EBT, 89 percent in New Mexico and 69 percent in Ramsey County felt that it was easier and more convenient than coupons (see Exhibit 5-7). They also thought that EBT benefits are safer, quicker to use, and less embarrassing. Those few recipients who prefer coupons do so because coupons are accepted at more stores (e.g., outside the demonstration area), and because they found it easier to know how much of their benefit they had left with coupons.

There has been some concern that certain subgroups of the recipient population might have difficulty using the EBT system, for example, the elderly, those with handicaps, or those whose primary language is not English. In New Mexico, only two recipients (3 percent) preferred coupons to EBT, and neither of these were elderly or handicapped. One of the recipients who preferred coupons spoke a language other than English at home, and found shopping more difficult with EBT. None of the eight elderly recipients surveyed in New Mexico found shopping more difficult with EBT. There is little evidence, therefore, that elderly, handicapped, or non-English speaking recipients had greater difficulty using the EBT system in New Mexico; in fact, they overwhelmingly preferred the EBT system to coupons.

In Ramsey County a large majority of recipients prefer EBS to coupons, but there is somewhat more concern about the ability of certain subgroups to use the EBS system. Among the 12 recipients (19 percent) who preferred coupons, one was elderly, two did not speak English, and four were handicapped. Nonetheless, 64 percent of the handicapped recipients surveyed and 89 percent of the elderly interviewed preferred EBS over coupons. Only three recipients did not speak English at home, and of these, two preferred coupons and one had no preference. While the number interviewed in each subgroup is small, these findings suggest that for a small number of recipients, particularly non-English speaking or handicapped persons, the EBS system is more difficult or less convenient to use. The average number of EBS-related

Exhibit 5-7

PERCENTAGE OF RESPONDENTS CITING SPECIFIC REASONS FOR SYSTEM PREFERENCE

Reason for preference	New Mexico	Ramsey County
Prefer EBT (Number of respondents)	(57)	(48)
Easier/more convenient	80.7%	68.7%
Safer/easier to replace card	22.8	31.3
Quicker	24.6	12.5
Less embarrassing	1.8	8.3
No trip to post office/welfare office	7.0	6.2
Easier to know balance	5.3	0.0
No change given	5.3	0.0
Don't have to cash check	1.8	0.0
Other	0.0	4.2
Prefer coupons (Number of respondents)	(2)	(12)
Coupons accepted at more stores	50.0%	33.3%
Easier to know balance	50.0	33.3
Easier/more convenient	0.0	8.3
Other	0.0	25.0

Source: Respondents in the post-implementation surveys who have used both the coupon and EBT systems.

problems reported by recipients in these subgroups, however, was no higher than for other recipients.

A number of organizations involved in social services in Ramsey County have expressed concern over the EBS system. We interviewed social workers at several private, non-profit organizations that provide services to low-income elderly and disabled clients. They were particularly concerned about the ability of mentally disabled and elderly clients to attend and understand training sessions, remember their PINs, and use the EBS system. They cited cases of recipients who receive small benefit amounts who did not think it worth the effort to get the EBS card and training. These organizations were particularly concerned about the mandatory nature of the system and thought that a small percentage of the caseload should be exempted if they were unable to cope with the system. In particular, they noted that not all clients know someone they trust who can be an Authorized Representative and that an alternative mechanism is needed for these cases.

Ramsey County CHSD has taken a number of steps to improve access to the EBS system for clients who may have difficulty with the system. They conducted several EBS training sessions on-site at high-rise apartment buildings where many elderly and disabled clients live. Some training sessions were specially interpreted for deaf clients. Ramsey County's earlier experiences with the cash EBS system, in which many elderly, handicapped, and non-English speaking clients successfully learned to use the system, helped to inform the training sessions for food stamps. Finally, the County monitors cases that have had no withdrawals for 45 days, and the caseworker investigates why the client is not using the benefits. While there are legitimate concerns about certain subgroups of the population, the Ramsey County CHSD has tried to be responsive to special needs of clients on the EBS system.

While similar concerns about the ability of some recipients to handle the EBT system were expressed prior to system implementation in New Mexico, the general impression of social workers and EBT staff is that elderly, homeless, and mentally handicapped recipients have adjusted well to the new system. A number of features may help these groups use the EBT system. For example, EBT trainers suggested strategies to mentally handicapped clients for remembering the PIN, such as choosing a PIN that has an easy pattern to remember. Blind recipients can use ATMs that have braille and can check their balances by telephone. Also,

authorized route vendors do paper (backup) EBT transactions for homebound elderly and other customers. Based on both the recipient survey and the impressions of EBT staff in New Mexico, recipients appear to have adjusted well to EBT, even those (such as the elderly or mentally or physically handicapped recipients) who were expected to have more difficulty with the system.

5.3 RECIPIENTS' TIME AND MONEY COSTS OF PARTICIPATION

Recipients incur some time and money costs when participating in the Food Stamp Program, and these costs may differ across issuance systems. In this section we present estimates of the costs of participation in the Food Stamp Program under the coupon and EBT systems in New Mexico and Ramsey County. We divide these issuance-related costs into three main components:

- the costs of obtaining benefits;
- the costs of dealing with problems with benefits; and,
- the costs of lost and delayed benefits.

We describe each of these cost components below, presenting first the cost estimates for the coupon system in each site, and then the estimates for the EBT systems. We then discuss the impact of EBT on each cost component. Finally, we present the total costs of participation for recipients in each system and describe the impact of EBT on recipients' participation costs in each site.

Two important assumptions are made in the calculation of recipients' participation costs. First, we calculated recipients' cost of participation in the Food Stamp Program without accounting for costs that may be shared between programs. For example, if a recipient of food stamp and AFDC benefits makes a trip to the welfare office to get a replacement EBT card, we count the cost of this trip as a food stamp cost, even though the costs are also shared by the AFDC program. This method is consistent with the baseline cost computations.[1] In Appendix

[1] Prior to the implementation of the EBT systems, issuance for the Food Stamp Program was largely separate from issuance for cash assistance programs. However, it is possible that some participation costs might have been shared across programs even in a coupon system. For

G we present alternative cost estimates based on an assumption of shared costs for recipients participating in more than one program on the EBT system.

Second, in order to compute the total cost of participation, we assign a dollar value to the time recipients spend obtaining benefits and dealing with problems with their benefits. We use $4.25 per hour, the federal minimum wage, as the value of an hour of recipients' time. While this figure undoubtedly underestimates the wages of some recipients who are employed, recipients who work may not always incur lost wages when they go to the welfare office. The alternative approach of using the average wage of all recipients (including those not employed) assumes a zero opportunity cost of time for those who are not employed. Using the minimum wage as the value of time, regardless of whether or not the recipient works, emphasizes that recipients bear a non-zero opportunity cost for the time they spend on activities related to Food Stamp Program participation.

Costs of Obtaining Benefits

The first cost component -- the cost of obtaining benefits -- includes the time and money costs incurred by recipients to obtain their monthly food stamp benefits. Under any issuance system, recipients must make an initial visit to the welfare office to apply for food stamp benefits. We therefore do not include the cost of the initial visit in the cost calculations. Once certified, recipients in a coupon mail system usually receive their monthly allotment of coupons in the mail. Under the EBT system, recipients must travel to the welfare office to obtain an EBT card and training. Once they have the EBT card, monthly benefits are posted to their accounts. Below we detail the costs of obtaining benefits under the coupon mail issuance systems and the EBT systems in New Mexico and Ramsey County.

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example, a recipient might make a trip to the welfare office to get replacement coupons and, on the same visit, deal with a problem with her AFDC benefits. No information on shared costs was collected in the baseline survey, however, because of the focus on Food Stamp Program participation costs. Thus, counting the full costs associated with the EBT system as food stamp participation costs provides a consistent comparison with baseline participation costs in the coupon system.

Coupon Mail Issuance System

In a coupon mail issuance system, recipients' costs of obtaining benefits are likely to be small. The coupons are usually delivered to the recipients' address, so that the recipient incurs no cost (although the recipient may need to be present to sign for coupons delivered by certified mail).[1] Some recipients may pay for a post office box; we included this cost only for those recipients who said that food stamps were the main reason for having the post office box. Also, some recipients may be required to pick up their coupons at the local welfare office; for example, if they have recently moved. We include the time and money costs of these trips to pick up coupons as a cost of obtaining benefits. The costs of obtaining benefits in the coupon issuance systems are shown in Exhibit 5-8.

New Mexico. Most recipients received their monthly allotment of coupons in the mail, though about 14 percent had to make at least one trip in the prior six months to pick up coupons at the office. Averaged over the entire sample, recipients spent less than 0.03 hours (2 minutes) per month to pick up coupons at the office, and about the same in travel time to and from the office. Total average time to obtain benefits was estimated to be 0.05 hours (3 minutes) per month. Using the minimum wage, the cost of this time was $0.22 per month.

Recipients in New Mexico incurred an average of $0.18 in transportation costs per month to pick up coupons instead of receiving them in the mail. They incurred another $0.16 in costs for babysitters to watch dependents when they went to pick up coupons and for post office boxes for coupons. The total direct costs of obtaining benefits in New Mexico, therefore, were estimated to be $0.33 per month. Summing the value of time and the direct costs, recipients' average total costs of obtaining benefits were $0.55 per month in New Mexico.

Ramsey County. Recipients' costs of obtaining benefits were similar in the coupon mail issuance system in Ramsey County. About 21 percent of recipients had to make at least one trip to pick up coupons in the prior six months. On a per month basis, recipients spent 0.03 hours at the office and 0.04 hours in travel time to pick up coupons. Total time averaged 0.07 hours

[1] The time recipients spend waiting for mail delivery of coupons is not included because of the difficulty of distinguishing between time spent just waiting and time spent doing other things while waiting.

Exhibit 5-8

COSTS OF OBTAINING BENEFITS UNDER THE MAIL COUPON ISSUANCE SYSTEMS[a]

	New Mexico (N=85)	Ramsey County (N=87)
Time spent obtaining benefits		
At the office (hours)	0.03 (0.12)	0.03 (0.10)
Travel time (hours)	0.03 (0.10)	0.04 (0.15)
Total time (hours)	0.05 (0.21)	0.07 (0.23)
Value of clients' time[b]	$0.22 (0.99)	$0.30 (0.98)
Direct costs		
Transportation	$0.18 (0.90)	$0.11 (0.39)
Other[c]	$0.16 (1.11)	$0 (-)
Total direct costs	$0.33 (1.85)	$0.11 (0.39)
Total costs of obtaining benefits[d]	$0.55 (2.68)	$0.41 (1.33)

Notes: [a] Costs are sample means. Standard deviations are in parentheses.

[b] Clients' time is valued at $4.25 per hour (the federal minimum wage).

[c] Other costs include babysitter payments and the cost of a post office box if mail delivery of food stamps is reported as the main reason for the box.

[d] Components may not sum to totals due to rounding.

Source: Baseline surveys of recipients.

(4.2 minutes) per month, and the time cost of obtaining benefits was estimated to be $0.30 per month.

Direct costs of obtaining benefits included an average of $0.11 in transportation costs; no babysitting or post office box costs were incurred by sample respondents in Ramsey County. The total average costs of obtaining benefits were $0.41 per month for recipients in Ramsey County.

EBT Issuance System

Obtaining benefits is a very different process in an EBT system than in a coupon system. Recipients must obtain a card and PIN in order to access their benefits. Once they have received the card, in subsequent months they "obtain" their benefits by accessing them at a POS terminal after the month's benefits have been posted to recipients' accounts. In order to calculate the costs of obtaining benefits under the EBT system, we first compute the time and money costs of obtaining the EBT card and being trained on how to use it. We then amortize these costs over the length of the average food stamp spell by dividing the cost by 22 months.[1] The costs of obtaining benefits in the EBT systems are shown in Exhibit 5-9.

New Mexico. In New Mexico, recipients made an average of 1.5 trips to obtain their EBT card and training, spending an average of 1.4 hours in doing so.[2] Amortized over the average food stamp spell, recipients spent 0.09 hours (5.4 minutes) per month, valued at $0.40, obtaining the EBT card and training.

Direct costs of obtaining benefits were primarily the travel costs incurred to attend the training session. Direct costs on a per month basis were $0.20 in transportation costs and less than $0.01 in babysitting costs. Summing time and direct costs, total costs of obtaining benefits under the EBT system were $0.60 per month in New Mexico.

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[1] The mean food stamp spell of 22 months is based on national data from Nancy R. Burstein, Dynamics of the Food Stamp Program as Reported in the Survey of Income and Program Participation, Cambridge, Massachusetts: Abt Associates Inc., June 1992.

[2] The estimate of time includes travel time and waiting time as well as time actually spent in the training session, summed over all trips the recipient made to get the EBT card.

Exhibit 5-9

COSTS OF OBTAINING BENEFITS UNDER THE EBT SYSTEMS[a]

	New Mexico (N=73)	Ramsey County (N=71)
Time spent obtaining benefits		
At the office (hours)	0.06 (0.06)	0.08 (0.06)
Travel time (hours)	0.03 (0.03)	0.03 (0.02)
Total time (hours)	0.09 (0.07)	0.11 (0.06)
Value of clients' time[b]	$0.40 (0.31)	$0.46 (0.25)
Direct costs		
Transportation	$0.20 (0.22)	$0.29 (0.32)
Other[c]	< $0.01 (0.02)	$0.03 (0.08)
Total direct costs	$0.21 (0.22)	$0.32 (0.34)
Total costs of obtaining benefits[d]	$0.60 (0.40)	$0.79 (0.48)

Notes: [a] Costs are sample means. Standard deviations are in parentheses.

[b] Clients' time is valued at $4.25 per hour (the federal minimum wage).

[c] Other costs include babysitter payments.

[d] Components may not sum to totals due to rounding.

Source: Post-implementation surveys of recipients.

Ramsey County. Because the Ramsey County EBS system operated for cash assistance recipients prior to the inclusion of food stamps, food stamp recipients who had been using the EBS system for cash assistance were mailed information on how to use their EBS cards for food stamp benefits, and they did not have to attend a training session unless they so chose. In the absence of a pre-existing cash EBS system, however, all food stamp recipients would have had to go to the office to obtain a card and training. Therefore, we count the cost of the trip to get the EBS card as a food stamp participation cost, even if the recipient obtained the card before the food stamp portion of the system was implemented.[1]

Ramsey County recipients made an average of 1.6 trips to obtain their EBS cards and training. Recipients spent an average of about 1.7 hours in training and 0.7 hours (42 minutes) travelling to and from training. Over the average food stamp spell, this works out to 0.11 hours (6.6 minutes) per month, or $0.46 when valued at $4.25 per hour. Direct costs per month include about $0.29 for transportation costs and $0.03 on babysitting costs. Total costs of obtaining benefits in the Ramsey County EBS system sum to $0.79 per respondent per month.

Note that these cost estimates do not reflect the **actual** food stamp participation costs incurred by recipients in the Ramsey County demonstration; we have assumed the cost of the trip to get the EBS card to be a food stamp participation cost even if the recipient received the card **before** food stamps were added to the EBS system. If we count the cost of obtaining the card for food stamp benefits as zero for those who already had a card for the cash EBS system, then the estimates of time and direct costs are about half the size of the estimates noted above.[2] Averaging over all recipients, including zero costs for those who already had an EBS card, recipients spent approximately 0.06 hours and $0.17 in direct costs per month obtaining benefits. Summing time costs and direct costs, the total costs of obtaining benefits were $0.44 (instead

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[1] A few respondents reported making no trips to get an EBS card and training. These respondents may have received their EBS cards one or more years earlier for cash assistance, and so do not remember the initial trip and training session. For these respondents we use the mean number of trips reported by other respondents in order to calculate the cost of obtaining the EBS card.

[2] The survey does not identify which respondents had the EBS card prior to the inclusion of food stamps in the system. For the purpose of this calculation, we assume zero (food stamp) costs of obtaining benefits for anyone who also received cash assistance benefits, except those who reported that they received their EBS card in 1992.

of $0.79). Thus, the actual costs of obtaining benefits in the demonstration were very similar to the costs of obtaining benefits in the coupon system. However, these figures do not reflect the cost of participation in an on-going system, in which new participants must travel to the office to obtain their card and training. As a result, in the total cost figures presented later in the chapter, we include the cost of the trip to get the card even for those recipients who had their EBS cards prior to the addition of food stamps to the EBS system.

EBT Impacts on the Costs of Obtaining Benefits

The EBT systems changed the way recipients obtain their monthly food stamp benefits in New Mexico and Ramsey County. Instead of receiving their food stamp coupons in the mail, recipients now travel to the welfare office to obtain a card, and then each month benefits are posted to their accounts. As seen in Exhibit 5-10, total time spent obtaining benefits under both systems was very similar. The average time spent per month obtaining benefits in the EBT systems in both sites was only 0.04 hours (2.4 minutes) more than in the coupon systems. This difference is statistically significant only at the 10-percent level in New Mexico, and is not statistically significant in Ramsey County.

In New Mexico, total costs of obtaining benefits are nearly the same in both the EBT and coupon systems. Total costs of obtaining benefits in New Mexico were $0.60 in the EBT system and $0.55 in the coupon system: this small difference of $0.05 per month is not statistically significant.

In Ramsey County, in contrast, recipients' costs of obtaining benefits were higher under the EBS system than with the coupon mail issuance system. Direct costs of obtaining benefits were $0.21 higher per month in the EBS system. Total costs of obtaining benefits in the Ramsey County EBS system were $0.79 compared to $0.41 in the coupon mail issuance system: the difference of $0.38 per month is statistically significant.

The impact of EBT on the cost of obtaining benefits differs between the two sites even though both replaced a coupon mail issuance system. The costs of obtaining benefits in the New Mexico coupon mail issuance system were higher than in Ramsey County, mainly due to higher direct costs associated with trips to pick up coupons. Also, EBT participants in New Mexico incurred lower costs and spent less time getting their EBT cards than their counterparts in

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Exhibit 5-10

IMPACTS ON RECIPIENTS' COSTS OF OBTAINING BENEFITS

	New Mexico			Ramsey County		
	EBT	Coupon	Difference	EBT	Coupon	Difference
Time spent obtaining benefits (hours)	0.09 (0.07)	0.05 (0.21)	0.04+	0.11 (0.06)	0.07 (0.23)	0.04
Direct costs of obtaining benefits	$0.21 (0.22)	$0.33 (1.85)	-$0.12	$0.32 (0.34)	$0.11 (0.39)	$0.21**
Total costs of obtaining benefits	$0.60 (0.40)	$0.55 (2.68)	$0.05	$0.79 (0.48)	$0.41 (1.33)	$0.38*

Notes: ** EBT-coupon difference is significant at the 1-percent level.
* EBT-coupon difference is significant at the 5-percent level.
+ EBT-coupon difference is significant at the 10-percent level.

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Coupon Mail Issuance System

Food stamp coupons can be lost or stolen. If the coupons are lost and stolen in the mail and are never received, the recipient can sometimes get them replaced.[1] Coupons can also be lost or stolen from a recipient after receipt, in which case the coupons usually are not replaced. Recipients may also incur costs due to late delivery of coupons or due to receipt of fewer coupons than expected. When picking up coupons, recipients may receive fewer coupons than expected or they may find that they have to return if the coupons are not ready (e.g., if they arrive prior to the day when they are allowed to pick up coupons). In addition, grocers may intentionally or inadvertently overcharge recipients using food stamp coupons. The frequency of problem incidents leading to lost and delayed benefits in the coupon systems is shown in Appendix H. The opportunity costs associated with these problems in the coupon issuance systems are shown in Exhibit 5-11 and are discussed below.

New Mexico. In New Mexico, recipients incurred average costs of $1.16 per month because of coupons lost or stolen in the mail, $0.44 due to coupons lost after receipt, and $0.13 due to coupons stolen after receipt. While coupons lost or stolen in the mail are sometimes replaced, leading to only a delay in benefits, losses due to coupons not replaced make up most of these costs. In addition, recipients' reports of grocer errors are estimated to add about $0.43 per month to participation costs in New Mexico. Recipients' total costs due to lost and delayed benefits in the coupon mail issuance system averaged $2.48 per month.

Ramsey County. The main problems leading to costs of lost and delayed benefits in Ramsey County were also coupons being lost or stolen either in the mail or after receipt. Coupons lost after receipt contributed the largest share of the costs of lost and delayed benefits, $1.51 per month. Coupons stolen after receipt added another $0.33 per month, and coupons lost in the mail (and not replaced) added $0.88 per month to recipients' costs.

In Ramsey County, the other types of problems added less to recipients' participation costs than in New Mexico. In particular, grocers' errors accounted for only $0.08 per month,

[1] The recipient usually must sign an affidavit in order to get coupons replaced. In addition, the recipients' coupons may not be replaced if the recipient has exceeded the number of replacements allowed per period. In New Mexico, three of the six recipients reporting loss of coupons in the mail got replacement coupons. In Ramsey County, five of seven recipients reported that they received replacement coupons for the ones lost or stolen in the mail.

Exhibit 5-11

OPPORTUNITY COSTS OF LOST OR DELAYED BENEFITS IN THE MAIL COUPON ISSUANCE SYSTEMS[a]

Problem	New Mexico (N=85)	Ramsey County (N=87)
Mail delivery		
Coupons late	$0.05	$0.01
	(0.15)	(0.04)
Fewer benefits than supposed to get	$0.10	$0.01
	(0.71)	(0.08)
Coupons lost or stolen in the mail	$1.16	$0.88
	(7.13)	(3.68)
Coupons damaged in the mail	$0	$0
	(-)	(-)
Coupon pickup		
Fewer coupons than supposed to get	$0.16	$0
	(1.36)	(0)
Coupons not ready	$0.01	<$0.01
	(0.05)	(<0.01)
Other problems		
Coupons stolen	$0.13	$0.33
	(1.18)	(2.15)
Coupons lost	$0.44	$1.51
	(4.09)	(7.88)
Coupons damaged	<$0.01	$0.01
	(0.01)	(0.09)
Grocers' errors	$0.43	$0.08
	(2.13)	(0.46)
Total opportunity costs	$2.48	$2.83
	(8.90)	(9.07)

Note: [a] Numbers are sample means. Standard deviations are in parentheses.

Source: Baseline surveys of recipients.

compared to $0.43 in New Mexico. Recipients' total costs due to lost and delayed benefits in the coupon mail issuance system averaged $2.83 in Ramsey County.

EBT Issuance Systems

The problems recipients encounter in an EBT system that can lead to lost or stolen benefits are somewhat different than those in the coupon system. For example, while an EBT card can be stolen, to access the benefits on the card the user must know the PIN. Also, if the recipient reports the card as lost or stolen, the account is put on hold. The costs of lost or stolen cards are computed as the opportunity cost of not being able to access one's benefits for the length of time it takes to replace a card (usually only one or two days), plus the loss of any benefits that were stolen from the account. These costs are shown in Exhibit 5-12.

New Mexico. Most of the problems of lost and delayed benefits in the EBT system added only a cent or two to recipients' monthly participation costs. The one exception is incidents in which recipients report receiving fewer benefits posted to their accounts than they were supposed to receive. In New Mexico, this problem added $0.30 per month to participation costs. It is possible, however, that recipients were not, in fact, entitled to the benefits they thought they were supposed to receive.[1] If we assume that recipients were, in fact, not eligible for the additional amount of benefits and exclude these costs, total opportunity costs would average $0.05 per month (instead of $0.35).

Ramsey County. Opportunity costs of lost and delayed benefits are quite similar in the Ramsey County EBS system to those experienced by New Mexico EBT participants. The largest component was due to receiving less in benefits than expected; this added $0.34 per month to recipients' costs in Ramsey County. Benefits credited late and problems with having less than expected in one's account each amounted to about $0.02 per month. Total opportunity costs were $0.39 in Ramsey County compared to $0.35 per month for New Mexico EBT participants.

[1] In the three cases in New Mexico in which the recipient reported receiving less than they were supposed to receive, the recipients reported receiving $10, $50 and $73 too little. Only the recipient who received $10 less did not try to get the problem fixed. None of these incidents were corrected, however.

Exhibit 5-12

OPPORTUNITY COSTS OF LOST OR DELAYED BENEFITS IN THE EBT SYSTEMS[a]

	New Mexico (N=73)	Ramsey County (N=71)
Benefits credited late	$0.02 (0.09)	$0.02 (0.06)
Benefits credited for less than supposed to get	$0.30 (1.72)	$0.34 (2.06)
EBT card stolen	<$0.01 (<0.01)	<$0.01 (0.01)
EBT card lost	<$0.01 (0.01)	<$0.01 (0.03)
EBT card damaged	<$0.01 (0.01)	<$0.01 (0.01)
Less in account than expected	<$0.01 (<0.01)	$0.02 (0.16)
Charged for groceries not purchased	$0 (-)	<$0.01 (<0.01)
Store deducted more than supposed to from account	$0.02 (0.20)	<$0.01 (<$0.01)
Total opportunity costs[b]	$0.35 (1.83)	$0.39 (2.22)

Notes: [a] Costs are sample means. Standard deviations are in parentheses.

[b] Components may not sum to total due to rounding.

Source: Post-implementation surveys of recipients.

As in New Mexico, the problem of receiving less benefits than the recipient thought he or she was supposed to get accounts for a large portion of recipients' total opportunity costs. If we assume the opportunity cost to be zero if the problem was not corrected (i.e., assume that the recipient was not entitled to the benefits), total opportunity costs would be estimated to be only about 4 cents per month. While we assume in the cost comparisons discussed later that recipients did actually lose benefits, it is important to understand the impact of this assumption on the cost estimates.

EBT Impacts on the Opportunity Costs of Lost and Delayed Benefits

In both sites, recipients' costs due to lost and delayed benefits decreased substantially under the EBT systems. In New Mexico, total opportunity costs of lost and delayed benefits were $2.48 per case month compared to $0.35 per case month in the EBT system. This difference of $2.13, an 86-percent reduction, is statistically significant. In Ramsey County, recipients' opportunity costs also decreased 86 percent in the EBS system, from $2.83 per case month in the coupon system to $0.39 in the EBS system. EBT clearly increases the security of recipients' benefits and decreases the costs to recipients of lost and delayed benefits.

In the EBT systems, the largest component of opportunity costs is due to the problem of receiving fewer benefits than the recipient thought he or she was entitled to. A larger percentage of recipients report receiving fewer benefits than they were supposed to receive under the EBT systems than under the coupon systems. The estimates for both systems probably include some cases in which the recipient inaccurately reported receiving too few benefits (i.e., the benefit amount was correct). It may be that recipients in the EBT system are less aware of what the correct benefit amount should be or what they actually receive.

Costs of Dealing with Problems

Recipients' costs to deal with problems are calculated as the time and money costs of trips and phone calls to the welfare office to try to correct problems. As discussed earlier, recipients' time is valued at the minimum wage, $4.25 per hour.

Coupon Mail Issuance System

Recipients in a coupon mail issuance system may go to the welfare office to try to remedy problems with their coupons. For example, they may go to report stolen coupons and sign an affidavit or to get damaged coupons replaced. They may also call the welfare office to ask questions, or try to resolve problems with coupons. We computed the time and money costs of these trips and phone calls on a per month basis, as shown in Exhibit 5-13.

New Mexico. Recipients in the coupon mail issuance system in New Mexico reported making an average of 0.10 trips per month to the welfare office to deal with problems with their coupons. About 19 percent of recipients made at least one trip in the prior six months. On a monthly basis, recipients averaged 0.06 hours (3.6 minutes) at the office and 0.05 hours (3 minutes) travelling to and from the office to deal with problems.

Recipients made an average of 0.20 phone calls per month to the welfare office because of problems with coupons; 34 percent of recipients made at least one such phone call in six months. On a monthly basis, recipients spent 0.02 hours (1.2 minutes) calling the office about problems. In sum, recipients spent 0.13 hours (7.8 minutes) per month to deal with problems with coupons. At $4.25 per hour, the value of this time was $0.56.

Recipients in New Mexico spent $0.31 per month on transportation costs to go to the welfare office to deal with problems with coupons. None of the recipients reported babysitting costs, so that total direct costs also were $0.31 per month. Summing direct and time costs, the total costs of dealing with problems in the New Mexico coupon mail system were $0.87 per month.

Ramsey County. Recipients in Ramsey County reported making fewer trips and phone calls to deal with problems than in New Mexico. About 14 percent of recipients made at least one trip in the prior six months, and 29 percent made at least one phone call. Recipients reported 0.03 trips per month and 0.13 phone calls per month to deal with problems. On a monthly basis, recipients spent a total of 0.06 hours -- 0.02 hours at the office, 0.03 hours travelling, and 0.02 hours on the phone -- to deal with problems with coupons. Recipients' direct costs for these trips were estimated to be $0.07 in transportation costs and $0.01 in babysitter costs. Total costs of dealing with problems were $0.35 per respondent per month in the coupon mail issuance system in Ramsey County.

Exhibit 5-13

COSTS OF DEALING WITH PROBLEMS IN THE MAIL COUPON ISSUANCE SYSTEMS[a]

	New Mexico (N=85)	Ramsey County (N=87)
Time spent obtaining benefits		
At the office (hours)	0.06 (0.26)	0.02 (0.06)
Travel time (hours)	0.05 (0.15)	0.03 (0.09)
Phone calls to office (hours)	0.02 (0.05)	0.02 (0.05)
Total time (hours)	0.13 (0.37)	0.06 (0.17)
Value of clients' time[b]	$0.56 (1.57)	$0.27 (0.71)
Direct costs		
Transportation	$0.31 (1.42)	$0.07 (0.25)
Other[c]	$0 (-)	$0.01 (0.11)
Total direct costs	$0.31 (1.42)	$0.08 (0.29)
Total costs of dealing with problems[d]	$0.87 (2.73)	$0.35 (2.73)

Notes: [a] Costs are sample means. Standard deviations are in parentheses.

[b] Clients' time is valued at $4.25 per hour (the federal minimum wage).

[c] Other costs include babysitter payments.

[d] Components may not sum to totals due to rounding.

Source: Baseline surveys of recipients.

Costs of Dealing with Problems in the EBT System

While the types of problems are different in an EBT system than in a coupon system, recipients also need to occasionally go to the welfare office or call to try to correct a problem. The time and money costs of dealing with problems in the EBT systems are shown in Exhibit 5-14.

New Mexico. Recipients in New Mexico reported making an average of 0.03 trips per month and 0.07 phone calls per month to deal with problems with the EBT card or their food stamp benefits. They spent, in total, an average of 0.09 hours (5.4 minutes) per month -- 0.05 hours at the office, 0.04 hours traveling to the office, and 0.01 hours calling the office. When valued at $4.25, the time cost for dealing with problems was estimated at $0.39 per month. Recipients incurred $0.10 in transportation costs and no babysitting costs. Total costs per month of dealing with problems in the EBT system were $0.48.

Ramsey County. In Ramsey County, recipients reported making 0.05 trips per month and 0.07 phone calls per month to deal with problems with their EBS cards or food stamp benefits. They spent 0.06 hours at the office, 0.04 hours travelling, and 0.01 hours on the phone dealing with problems. The total time of 0.10 hours (6 minutes) is valued at $0.45 per month.

Food stamp recipients in Ramsey County incurred higher direct costs than in New Mexico, however. They spent $0.28 on transportation and $0.05 on babysitting fees per month to make trips to the welfare office. Total costs were $0.78 per month to deal with problems in the Ramsey County EBS system, 30 cents higher than in New Mexico.

EBT Impacts on the Costs of Dealing with Problems

The impacts of EBT on recipients' costs of dealing with problems are shown in Exhibit 5-15. In New Mexico, while recipients appear to have spent somewhat less in time and in direct costs on dealing with problems in the EBT system, the differences are not statistically significant. Recipients spent about $0.48 per month dealing with problems in the EBT system compared to $0.87 per month dealing with problems in the coupon system, and the decrease of $0.39 is not statistically significant.

Exhibit 5-14

COSTS OF DEALING WITH PROBLEMS IN THE EBT SYSTEMS[a]

	New Mexico (N=73)	Ramsey County (N=71)
Time spent dealing with problems		
At the office (hours)	0.05 (0.30)	0.06 (0.31)
Travel time (hours)	0.04 (0.20)	0.04 (0.16)
Phone calls to office (hours)	0.01 (0.02)	0.01 (0.03)
Total time (hours)	0.09 (0.47)	0.10 (0.48)
Value of clients' time[b]	$0.39 (2.01)	$0.45 (2.04)
Direct costs		
Transportation	$0.10 (0.60)	$0.28 (1.88)
Other[c]	$0 (-)	$0.05 (0.31)
Total direct costs	$0.10 (0.60)	$0.33 (1.93)
Total costs of dealing with problems[d]	$0.48 (2.27)	$0.78 (3.93)

Notes: [a] Costs are sample means. Standard deviations are in parentheses.

[b] Clients' time is valued at $4.25 per hour (the federal minimum wage).

[c] Other costs include babysitter payments.

[d] Components may not sum to totals due to rounding.

Source: Post-implementation surveys of recipients.

Exhibit 5-15

IMPACTS ON RECIPIENTS' COSTS OF DEALING WITH PROBLEMS

	New Mexico			Ramsey County		
	EBT	Coupon	Difference	EBT	Coupon	Difference
Time spent dealing with problems (hours)	0.09 (0.47)	0.13 (0.37)	-0.04	0.10 (0.48)	0.06 (0.17)	0.04
Direct costs of dealing with problems	$0.10 (0.60)	$0.31 (1.42)	-$0.21	$0.33 (1.93)	$0.08 (0.29)	$0.25
Total costs of dealing with problems	$0.48 (2.27)	$0.87 (2.73)	-$0.39	$0.78 (3.93)	$0.35 (2.73)	$0.43

Note: None of the EBT-coupon differences in this exhibit are significant at the 10-percent level or less.

In Ramsey County, in contrast, recipients spent somewhat more time and money dealing with problems in the EBS system than in the coupon system, though again the differences are not statistically significant. Total costs to deal with problems were $0.78 in the EBS system and $0.35 in the coupon system. The increase of $0.43 is not significant.

Recipients' costs of dealing with problems appear to be similar in the EBT and coupon mail issuance systems. EBT did not significantly change this cost component for recipients in either site.

Total Costs of Participation

As discussed in the preceding sections, EBT has lowered certain components of participation costs and raised others. Below we discuss the impact of EBT on recipients' total participation costs in each site.

Exhibit 5-16 presents recipients' total [illegible]f participation in the Food Stamp Program -- summing the costs of obtaining benefits, opportunity costs of lost and delayed benefits, and the costs of dealing with problems -- under the EBT and coupon issuance systems in each site. Total costs are broken down into total direct costs and total time costs. Total time spent obtaining benefits and dealing with issuance-related problems is also shown in the exhibit.

New Mexico. Recipients in New Mexico clearly saved on direct costs in the EBT system: direct costs were only $0.66 per case month in the EBT system compared to $3.12 under coupon mail issuance. This difference of $2.46, or nearly 80 percent, is statistically significant. Nearly all of this savings was due to decreased opportunity costs of lost and delayed benefits because of the elimination of loss and theft of coupons.

The EBT system had no impact on the value of time recipients spent to participate in the Food Stamp Program in New Mexico. Recipients spent virtually the same total amount of time (0.18 hours per month) obtaining benefits and dealing with problems under both systems. Thus, summing time and direct costs, recipients' costs decreased by $2.45 in the EBT system relative to the coupon mail issuance system in New Mexico. This decrease of 63 percent is significant at the 5-percent level.

Exhibit 5-16

RECIPIENTS' TOTAL COSTS OF PARTICIPATION[a]

	New Mexico			Ramsey County		
	EBT	Coupon	Difference	EBT	Coupon	Difference
Total direct costs	$0.66 (1.93)	$3.12 (9.43)	-$2.46**	$1.04 (3.06)	$3.02 (9.17)	-$1.98+
Total time costs	$0.78 (2.22)	$0.77 (0.78)	$0.01	$0.91 (2.09)	$0.57 (1.44)	$0.34
Total costs	$1.44 (3.06)	$3.89 (10.08)	-$2.45*	$1.95 (4.88)	$3.59 (9.48)	-$1.64
Total time spent obtaining benefits and fixing problems (hours)	0.18 (0.52)	0.18 (0.42)	0.00	0.21 (0.49)	0.13 (0.34)	0.08

Notes: [a] Numbers are sample means. Standard deviations in parentheses.

** EBT-coupon difference is significant at the 1-percent level.
* EBT-coupon difference is significant at the 5-percent level.
+ EBT-coupon difference is significant at the 10-percent level.

Ramsey County. The results suggest that recipients' direct costs of participation may also have decreased under EBS in Ramsey County. Total direct costs were $1.04 in the EBS system and $3.02 in the coupon mail issuance system. The difference of $1.98 in direct costs is only significant at the 10-percent level, however. While we cannot state that direct costs decreased based on the standard 5-percent significance test, the results are suggestive that direct costs were lower under the EBS system than under the coupon system.

The EBS system did not significantly affect the amount of time spent by recipients to obtain benefits or deal with issuance-related problems in Ramsey County. Recipients spent an average of 0.21 hours per month under the EBS system compared to 0.13 hours under the coupon system. The increase of 0.08 hours (or in time costs of $0.34) under EBS is not statistically significant.

Recipients' total participation costs were $1.95 under EBS compared to $3.59 under the coupon system. The decrease of $1.64 is not statistically significant. (Recipients' costs of participation are highly variable so that the cost difference, while sizeable, is not statistically significant given the sample sizes.) The results suggest, however, that recipients' costs decreased somewhat, but not as much as in New Mexico.

5.4 UNUSED BENEFITS

One concern with EBT systems is whether these systems make it more difficult for recipients to use all of their benefits, especially after they have left the program or the area. Recipients may stop accessing their EBT benefits for a number of reasons, both while they are still eligible for the program and after they leave the Food Stamp Program. For example, a recipient may move from the area and not tell the welfare office. Recipients may choose to save their benefits, or they may be ill or hospitalized and unable to go to the store to use them. Also, some recipients who have become ineligible for the program may not realize that they are allowed to use up the benefits issued when they were eligible.

According to new Food Stamp Program regulations, EBT recipient accounts that have been inactive for three months can be removed from the system, though these benefits must be stored off-line and restored if the recipient reapplies or asks for them. After one year the benefits can be expunged and are lost to the client. Initially, New Mexico and Ramsey County

did not move any food stamp benefits off-line or expunge them. As a result, a sizeable amount of benefits accumulated in inactive, or dormant, accounts in both sites. New Mexico began expunging benefits in September 1992. In both sites, if a recipient has not made any transactions on the account for 45 days a notice is sent to the caseworker who then investigates the situation.

In New Mexico, a dormant account is defined as one with no withdrawals for 45 days. As of August 22, 1992, there were 7,520 dormant food stamp accounts containing $948,192 in unused benefits: $369,878 was in 1,604 accounts that had no activity for over one year, $556,347 was in 5,646 accounts that had no withdrawals in between 53 days and a year, and $21,967 was in 270 accounts that had no withdrawals for between 45 and 53 days. Spread over the entire caseload, the total amount of unused benefits in all dormant accounts is $3.30 per case month.[1] Thus, unused benefits on a per case month basis are larger than the direct costs of participating in the EBT system.

No comparable figure is currently available for the Ramsey County EBS system. The Ramsey County policy is to remove from the system (or "age off") recipients' accounts after the case has been closed for 60 days. Since the conversion to the Statewide MAXIS system, no aging of benefits has been done on the EBS system.[2] In April 1992, Ramsey County determined that approximately $100,000 in food stamp benefits was eligible to be aged off the system. This works out to about $1 per case month. This figure excludes active cases in which there have been no withdrawals, and so understates the size of dormant accounts relative to New Mexico.

There are unused benefits in the coupon system -- coupons that never get redeemed -- that are somewhat analogous to the dormant accounts on the EBT systems. Coupons may get lost, thrown out accidently, or destroyed in the washing machine. Unused coupons represent lost benefits to recipients, like unused EBT benefits.

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[1] The total number of food stamp case months on the EBT system between July 1990 and August 1992 was approximately 287,229.

[2] The State needs to complete development work on the MAXIS system that will allow communication between the eligibility system and the EBS system about closed cases.

To approximate the amount of coupons never used, we compare the nationwide value of total coupons issued to total coupons redeemed. Not all coupons are redeemed quickly, however. For example, retailers keep some coupons to make change for recipients, and some recipients may hold coupons for later use if their situation has recently improved. We assume that over a number of years the amount of coupons kept for these purposes balances out with those coupons redeemed that had previously been kept for similar purposes.[1] In other words, over a number of years we expect that the average difference between issuances and redemptions approximates a steady-state flow of coupons.

We use data on nationwide coupon issuances and redemptions between 1982 and 1988

[redacted]

issued and coupons redeemed for the U.S. between 1982 and 1988 is approximately $1.89 per case month. This figure is not a precise measure of unused coupons, but it suggests that unused benefits represent a loss to clients in the coupon system as well as in the EBT systems.

While unused benefits in the EBT system appear to be about $1.41 higher than in the coupon system, the two figures may not be strictly comparable. For example, under a coupon

Unused benefits can be viewed as a cost of participation (unless the recipient is ineligible or deliberately chooses to not spend the benefits). While the estimates of unused benefits in the coupon and EBT systems are not strictly comparable, they suggest the possibility that the cost of unused benefits is larger with EBT than coupons. On the other hand, the EBT system provides an accounting of unused benefits that does not exist in the coupon system.

5.5 CONCLUSIONS

A large majority of recipients in both sites prefer EBT over coupons. Most recipients find it easier to shop with EBT than with coupons, and few had difficulty remembering their PIN or keeping track of their food stamp balances.

Recipients did encounter a fairly large number of incidents of EBT system or equipment failure, however. Over 40 percent of recipients in New Mexico and 31 percent in Ramsey County reported that at least one incident related to equipment or system malfunction occurred in the six months prior to the survey. Recipients often were able to use their card in the terminal in another checkout lane or sign for a backup transaction. However, 10 percent of recipients in each site had to complete a shopping trip at another store in the prior six months.

Estimates of recipients' total costs of participation in the EBT systems were lower in both sites than for the coupon mail issuance systems. Only in New Mexico, however, was the reduction statistically significant. New Mexico recipients' monthly participation costs are 63 percent lower under EBT than under the coupon system.

The EBT systems' impacts on total participation costs arise from differing impacts on participation cost components. The opportunity costs of lost and delayed benefits were 86 percent lower in both sites under EBT than in the coupon systems. This reduction was primarily due to the increased security of benefits relative to the mail issuance system, in which recipients incurred some losses of coupons both in the mail and after receipt. The EBT impact on the costs of dealing with problems was fairly small and not statistically significant in either site. Finally, while the New Mexico system had no statistically significant effect on the cost of obtaining benefits (including the amortized cost of obtaining the EBT card and receiving training), these costs nearly doubled in Ramsey County. The cross-site difference in effects is due as much to differences in the cost of obtaining coupons (higher on New Mexico than in

Ramsey County) as to differences in the cost of obtaining EBT benefits (higher in Ramsey County than in New Mexico).

Comparison of Costs Across Sites

We next compare recipients' EBT and coupon costs across sites. Such a comparison is useful for two reasons. First, it may shed light on why costs differ (if they do) across sites based on differences in system design or implementation. Second, we can speculate about the impact of EBT on recipients in other sites, depending on the coupon issuance system to be replaced. Below we first compare participation costs in the EBT systems in New Mexico and Ramsey County with the EBT participation costs in the demonstration in Reading, Pennsylvania. We then compare participation costs in coupon issuance systems in four sites: New Mexico, Ramsey County, Reading, and Washington State.[1]

Recipients' Participation Costs in EBT Systems

Recipients' costs of participation were quite similar in the New Mexico EBT and Ramsey County EBS systems. Although recipients' average monthly costs were higher in Ramsey County, $1.95 compared to $1.44, the difference is not statistically significant. Both direct costs and time costs were fairly similar in the two sites.

In order to make the cost estimates comparable across sites, Exhibit 5-17 shows the New Mexico and Ramsey County cost estimates both with and without the cost of mileage for trips to the welfare office. The Reading evaluation did not include mileage costs. The Reading estimates have been inflated to 1992 dollars using the Consumer Price Index.

As seen in the exhibit, recipients' total costs of EBT participation ranged from $1.19 per month in Reading to $1.60 (excluding mileage costs) in Ramsey County. Direct costs of obtaining benefits and dealing with problems were fairly similar in all three sites, ranging from $0.04 to $0.17 per case month, and the differences between sites were not statistically

[1] Washington State canceled its State-initiated EBT demonstration project. However, data on recipients' costs in the coupon issuance system in the demonstration site (Olympia and Pierce South Community Service Offices) were collected and analyzed by Washington State staff and Abt Associates.

Exhibit 5-17

COMPARISON OF EBT PARTICIPATION COSTS ACROSS SITES[a]

	New Mexico		Ramsey County		Reading, PA
	Full cost[b]	Exclude mileage cost	Full cost[b]	Exclude mileage cost	Exclude mileage cost (1992 dollars)
Direct costs of obtaining benefits	$0.21 (0.22)	$0.04 (0.10)	$0.32 (0.34)	$0.17 (0.15)	$0.10 (0.22)
Direct costs of fixing problems	$0.10 (0.60)	$0.05 (0.27)	$0.33 (1.93)	$0.14 (0.61)	$0.10 (1.00)
Opportunity costs of lost or delayed benefits	$0.35 (1.83)	$0.35 (1.83)	$0.39 (2.22)	$0.39 (2.22)	$0.13 (1.00)
Total direct costs	$0.66 (1.93)	$0.45 (1.86)	$1.04 (3.06)	$0.70 (2.37)	$0.34 (1.51)
Total time spent (hours)	0.18 (0.52)	0.18 (0.52)	0.21 (0.49)	0.21 (0.49)	0.20 (0.28)
Value of time[c]	$0.78 (2.22)	$0.78 (2.22)	$0.91 (2.09)	$0.91 (2.09)	$0.85 (1.19)
Total costs	$1.44 (3.06)	$1.23 (3.00)	$1.95 (4.88)	$1.60 (3.76)	$1.19 (n.a.)

Notes: [a] Numbers are sample means. Standard deviations in parentheses.
[b] Includes costs of driving to welfare office computed at $0.25 per mile.
[c] Clients' time is valued at $4.25 per hour (the federal minimum wage).

n.a. = not available.

Sources: New Mexico and Ramsey County: Post-implementation surveys of recipients. Reading estimates are based on William L. Hamilton et al., The Impact of an Electronic Benefit Transfer Program in the Food Stamp Program, Cambridge, Massachusetts: Abt Associates Inc., May 1987. We inflated all direct costs using the Consumer Price Index and multiplied the time estimate in hours by $4.25 to update the value of time.

significant. Opportunity costs were somewhat higher in New Mexico and Ramsey County relative to Reading, though the difference again is not statistically significant. Recipients spent virtually the same amount of time per month in each site obtaining benefits and dealing with problems. Thus, the estimates of recipients' EBT participation costs are fairly consistent across sites.

The similarity of costs should perhaps not be surprising, given that the EBT systems share basic similarities, especially from the recipients' viewpoint. The basic functions of obtaining a card, using one' benefits, and tracking one's balance are similar across the three systems.

Recipients' Participation Costs in Coupon Issuance Systems

Unlike the EBT systems, the method of obtaining benefits can differ substantially across coupon issuance systems. Both New Mexico and Ramsey County employed a mail issuance system, in which recipients usually received their monthly allotment of coupons in the mail. Before the EBT system was implemented in Reading, recipients received an Authorization-to-Participate (ATP) card in the mail each month and then exchanged the ATP card for food stamp coupons at a local bank. Washington State used a similar method in its demonstration area. Recipients received a Food Coupon Authorization (FCA) card in the mail and exchanged it at a local post office or welfare office for coupons.

As one would expect, recipients' participation costs vary between mail issuance and ATP (or FCA) issuance systems. As seen in Exhibit 5-18, direct costs of obtaining benefits and fixing problems were lowest in the two mail issuance sites (New Mexico and Ramsey County). The opportunity costs of lost and delayed benefits were considerably higher in these two sites, however, relative to the ATP/FCA issuance sites in Reading and Washington. This difference was largely due to the greater vulnerability of recipients to coupon loss and theft in a mail issuance system.

The ATP/FCA issuance systems require that recipients make a monthly trip to exchange their ATP/FCA cards for coupons: the time required for this monthly trip adds considerably to recipient participation costs. While direct costs were similar across issuance systems, total costs including the value of time were much higher in the ATP/FCA issuance systems. Given the

Exhibit 5-18

SUMMARY OF DIRECT AND TIME COSTS OF PARTICIPATING IN THE DIFFERENT COUPON ISSUANCE SYSTEMS[a]

	Ramsey County, Minnesota	Bernalillo County, New Mexico	Olympia & Pierce So. CSO, Washington	Reading, Pennsylvania[c] (1992 dollars)
Direct costs of obtaining benefits	$0.11 (0.39)	$0.33 (1.85)	$1.89 (2.12)	$1.86 (2.41)
Direct costs of fixing problems	$0.08 (0.29)	$0.31 (1.42)	$0.32 (0.98)	$0.05 (0.29)
Opportunity costs of lost or delayed benefits	$2.83 (9.07)	$2.48 (8.90)	$1.31 (5.02)	$0.96 (4.76)
Total direct costs per month of participation	$3.02 (9.17)	$3.12 (9.43)	$3.53 (6.07)	$2.88 (5.24)
Total time spent obtaining benefits and fixing problems (hours)	0.13 (0.34)	0.18 (0.42)	0.93 (0.76)	0.80 (0.48)
Value of time spent obtaining benefits and fixing problems[b]	$0.57 (1.44)	$0.77 (1.78)	$3.96 (3.24)	$3.40 (2.04)
Total costs	$3.59 (9.48)	$3.89 (10.08)	$7.49 (8.04)	$6.28 (n.a.)

Notes: [a] Numbers are sample means. Standard deviations in parentheses.

[b] Value of time is calculated using $4.25 per hour in each site.

[c] Based on the late demonstration comparison group survey of ATP recipients conducted in 1985. Reading estimates do not include cost of mileage or post office boxes. Value of time is calculated using $4.25 per hour. All direct costs in Reading were inflated to 1992 dollars using the Consumer Price Index.

n.a. = not available.

higher total costs to recipients, EBT systems that replace ATP issuance systems are more likely to reduce recipients' participation costs than EBT systems that replace coupon mail issuance systems. It is also clear, however, that the frequency of problems and vulnerability of benefits to loss are important factors in determining recipients' costs to participate in the Food Stamp Program.

Chapter 6

EBT SYSTEM IMPACTS ON FINANCIAL INSTITUTIONS

The food stamp coupon system and the EBT system make use of the operational capabilities of financial institutions. Local banks accept food stamp coupon deposits from retailers, then process and forward the coupons to the Federal Reserve Bank. The Federal Reserve Bank receives the coupons, reimburses local banks for the coupons, and destroys the coupons.

In some areas, financial institutions perform additional roles in the Food Stamp Program as issuers of food stamp coupons. Financial institutions in Ramsey County and New Mexico were not involved in the food stamp coupon issuance process, however, and performed redemption activities only.

In an EBT system, financial institutions are involved in the process to redeem retailers for EBT food stamp purchases. A concentrator bank receives credit information from the EBT system processor and passes the credits through the Federal Reserve's automated clearinghouse (ACH) network to local banks, who apply the credits to retailer accounts.

6.1 INTRODUCTION

This chapter analyzes the impacts of the State-initiated EBT demonstrations on financial institutions, including local banks, EBT system concentrator banks, and Federal Reserve banks. Following the introduction, subsequent sections of the chapter describe the roles of each type of financial institution under both the coupon and EBT systems and present the impacts of the EBT systems. Total cost impacts are summarized at the end of the chapter.

Research Questions and Approach

The central objective of this analysis is to assess the impact of an EBT system on participating financial institutions. Specifically:

- What is the impact of an EBT system on bank food stamp redemption procedures?

- How does an EBT system affect the cost of redemption activities?
- Does the cost impact vary by type and size of a bank?
- What system do bank officials prefer?

Financial institutions are also impacted by the use of EBT for cash assistance programs. This analysis, however, is restricted to the Food Stamp Program.

The cost of food coupon and EBT processing is analyzed in this chapter in terms of the cost per $1,000 benefits redeemed. This methods lends itself to easy comparison between coupon and EBT costs across sites as well as bank types.

The analysis of financial institutions employs the same pre/post research design that was used to assess impacts on other participant groups. Information for this analysis was collected from a two-wave interview process. Representatives from local and Federal Reserve Banks in each site were interviewed before the EBT system was implemented to determine the costs and procedures of redeeming food stamp coupons. A second wave of interviews was then conducted with the same respondents after the EBT system was implemented in each site. In addition to local and Federal Reserve Bank respondents, employees of the EBT systems' concentrator banks were interviewed in the second wave. The aim of the second wave of interviews was to capture the costs of redeeming EBT benefits as well as to obtain the opinions of bank officials about the system change.

Highlights

The EBT systems generate a net reduction in costs for financial institutions of $3.19 per $1,000 of redemptions in New Mexico and $5.63 per $1,000 of redemptions in Ramsey County. The majority of the cost reduction is realized at the local bank level, where expensive coupon redemption activities are eliminated by an EBT system. Costs incurred by Federal Reserve Banks are also reduced under EBT, but by a smaller margin than for local banks.

The EBT systems' concentrator banks incur costs for their roles in EBT redemption, but the costs to the Ramsey County concentrator bank are more than offset by fees paid for its activities. In New Mexico, the dual role by First National Bank in Albuquerque (FNBIA) as

EBT system processor and concentrator bank leads to increased EBT costs that fall somewhat short of revenues.

These results are roughly consistent with estimates generated from an analysis of the EBT system in Reading, Pennsylvania. Comparable net costs for financial institutions in Reading were reduced by an average of $5.44 per $1,000 of benefits, or in between the Ramsey County and New Mexico estimates.

All respondents from New Mexico and Ramsey County financial institutions strongly preferred the EBT systems to food stamp coupons. Their support stems from the reduced labor-intensiveness of EBT system redemption. An EBT system allows benefit redemption to be handled through a series of electronic transactions rather than the physical handling of food stamp coupons. The shift to electronic procedures aligns benefit redemption with mainstream bank production activities.

6.2 LOCAL BANKS

The Role of Local Banks in Coupon Redemption

This section examines the process by which local banks in Bernalillo and Ramsey County receive and redeem food stamp coupons deposited by grocers. The overview presented represents the standard redemption process, but procedures do vary somewhat depending on the size of the bank, the number of branch locations, and the volume of coupons received. As Exhibit 6-1 demonstrates, there is a great deal of variation in both bank size and coupon volume among the sampled banks in the two demonstration sites.

Two banks in the Ramsey County sample have 46 and 38 branches each, and one bank has only a main headquarters location. The food stamp coupon volume increases in proportion to bank size, which is reflected in the number of branches. The New Mexico bank sample includes one large bank (55 branches), one medium-sized bank (26 branches), and one small bank (13 branches). The coupon volume in these banks does not correspond as closely with branch number. The smallest bank, Sunwest, redeems almost 40 percent more food stamp coupons than United New Mexico Bank, the largest bank sampled.

Exhibit 6-1

CHARACTERISTICS OF SAMPLED BANKS

Bank	Number of Branches	Average Monthly Coupon Redemption (February 1990)
NEW MEXICO		
United New Mexico Bank	55	$ 1,288,783
Sunwest Bank	13	$ 1,772,917
First National Bank	26	$ 2,020,387
Total Coupon Redemption		$ 5,082,087
RAMSEY COUNTY		
Norwest Bank	46	$ 3,177,817
Liberty State Bank	0	$ 159,333
First Bank	38	$ 2,233,517
Total Coupon Redemption		$ 5,570,667

As noted earlier, estimated costs for specific banks have been standardized to costs per $1,000 benefits redeemed to account for redemption volume differences. In addition, within each site, the cost estimates represent a weighted average of standardized costs, with redemption volume used as the weighting factor.

The Food Stamp Coupon Redemption Process

Food retailers deposit food stamp coupons into their bank accounts along with other store receipts. At the larger banks in both sites, retailers are required to bundle food stamp coupons by denomination into straps of 100 coupons. This is similar to restrictions on cash deposits that require coin deposits in rolls and dollars in groups. The only difference between depositing cash and coupons is that coupon deposits must include a Redemption Certificate in addition to the standard deposit slip. A teller receives the retailers' deposit documents and counts the coupons, by denomination, to verify that the amount deposited equals the amount recorded on the deposit slip and Redemption Certificate. If the retailer's count is incorrect and the totals are not equal, the teller recounts the coupons and changes the deposit slip. Both teller and grocer counts are recorded on the Redemption Certificate. The teller then gives the retailer a receipt as proof of the deposit.

After receiving a coupon deposit, the teller completes an internal ledger form which identifies the teller's name, customer's name, customer account number and the value of the deposited food stamp coupons. This slip is used for internal bank accounting purposes. One copy is filed with the retailer's deposit slip and sent to the bank's proof department, which updates the retailer accounts. The other copy is attached to the Redemption Certificate and the two documents are affixed to the coupon deposit.

A head teller collects food stamp deposits with the attached ledger forms from each teller daily. The head teller fills out a transmittal form and sends these documents, along with the food coupons and other deposits, by internal bank courier to the appropriate operations area of the bank. If this area is located at another branch of the bank, the food coupons are transported via armored car. In Ramsey County, Liberty State Bank has no branches, so all coupon counting occurs at the central office.

A vault clerk receives the documents and counts the coupons in each bundle to verify that the total equals the total shown on the internal ledger form. The clerk then organizes the coupons into straps if there are loose coupons and endorses each coupon with a bank stamp. Daily, or every few days, the clerk makes up an internal general ledger slip indicating the total amount of coupons represented by all complete and strapped batches as "Due From" the Federal Reserve. The vault clerk fills out the Food Coupon Deposit Document and the Federal Reserve Form Cash 31, which identifies the bank and the total value of the coupons. The forms and coupons are given to a courier for delivery to the Federal Reserve Bank. Partial batches (or complete batches if daily trips are not made) are stored in a vault until the next business day. The Federal Reserve Bank receives the coupons and credits the bank's Federal Reserve Bank account the following day for the deposit.

Some local banks may transfer food stamp coupon deposits to a correspondent bank, which forwards the coupons to the Federal Reserve Bank. The use of a correspondent bank is common among smaller banks that do not redeem large amounts of monthly food stamp coupons and by banks that are not a member of the Federal Reserve system. Non-Federal Reserve local banks use correspondent banks because they do not hold accounts at the Federal Reserve.

This process is represented in Exhibit 6-2.

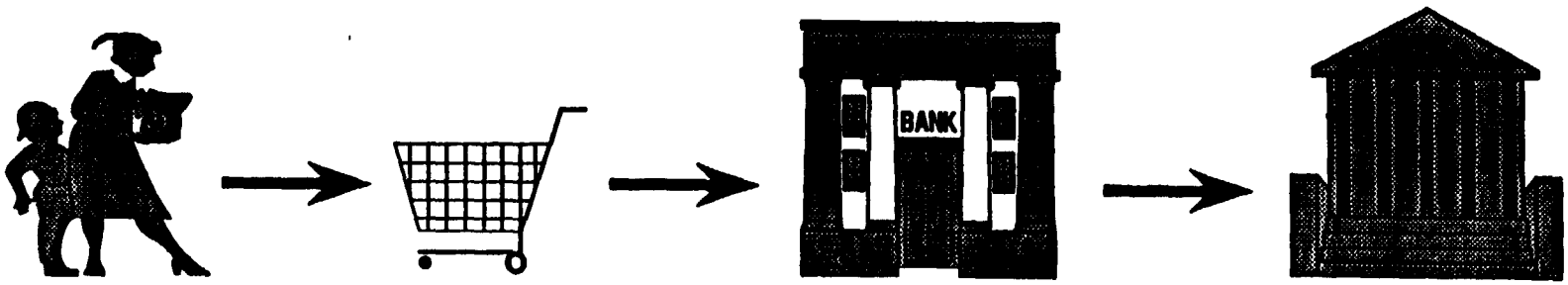
Estimated Cost of Food Stamp Coupon Redemption

Baseline interviews with bank officials focused on monthly costs associated with redeeming food stamp coupons at the local branch and central branch or vault locations. Respondents identified personnel costs (both direct and indirect) and other direct costs, such as the cost of couriers, associated with redemption tasks. This information was used to compute a monthly cost, which was then standardized in terms of $1,000 in benefits redeemed.

Local branch cost components include the personnel cost for branch employees (tellers and other personnel) and courier costs. Central vault cost include the personnel cost of vault employees and the cost of direct components, including coupon counters and courier service to the Federal Reserve Bank.

Float is included in calculating the cost of processing food stamp coupons because of the time lag between crediting a retailer's account for a food coupon deposit and reimbursement by

Exhibit 6-2
FOOD STAMP COUPON REDEMPTION PROCESS



Food Stamp Household Receives Monthly Allotment of Food Stamp Coupons

Purchases Food with Coupons at Authorized Food Retailer

Retailer Deposits Food Stamp Coupons at Local Bank

Federal Reserve Bank Checks Coupon Deposit and Credits Local Bank

the Federal Reserve Bank for the coupon deposit. The cost of each day of float was calculated assuming an annual interest rate of 4.84 percent.[1]

Accounting errors are the final component of coupon redemption cost. The primary cost associated with accounting error for local banks occurs when there is a discrepancy at the Federal Reserve Bank between the physical count of food stamp coupons and the documented amount. When a discrepancy occurs, the local bank covers any shortage and, in some cases, may debit the retailers account. Bank respondents said that this occurred from zero to five times per month and that the value of the error ranged from one to twenty dollars.

[redacted]

New Mexico is $2.91 per $1,000 of benefits. Branch and vault cost components are the same for these banks because coupon accounting procedures are divided equally between the two locations. As Exhibit 6-3 shows, the branch cost in New Mexico is $1.53 per $1,000 benefits, and the vault cost is $1.38 per $1,000 benefits.

The cost to local banks in New Mexico for float is $0.37 per $1,000 of benefits redeemed. The cost of accounting errors in New Mexico is $0.01 per $1,000 of benefits.

Exhibit 6-3

LOCAL BANKS: FOOD STAMP COUPON REDEMPTION COSTS AND REIMBURSEMENT
(per $1,000 benefits)

Cost Elements	New Mexico	Ramsey County
Direct Operating Costs		
Branch Costs	$1.53	$4.20
Vault Costs	$1.38	$0.94
TOTAL	$2.91	$5.14
Float Costs	$0.37	$0.27
Accounting Error Costs	$0.01	$0.01
TOTAL COST	$3.29	$5.52
TOTAL REIMBURSED	$0.00	$0.00
NET COST	$3.29	$5.52

Total costs for processing food stamp coupons in Ramsey County averages $5.52 per $1,000 of redemptions. As in New Mexico, local banks in Ramsey County are not reimbursed for their food coupon processing activities, so the net cost of processing coupons also equals $5.52 per $1,000 benefits.

The Role of Local Banks in EBT Redemption

The EBT Redemption Process

Local banks procedures are much less labor intensive in the redemption of EBT benefits than they were with food stamp coupons. Under the EBT system, local banks' primary involvement with redemption is limited to receiving and processing electronic credits due to retailers who hold accounts with the bank. The initiation of retailer credits is described in the next subsection.

Local banks receive credits through the ACH (automated clearinghouse) network, a system which allows banks to transfer funds electronically through the Federal Reserve system. Banks receive thousands of ACH credits and debits daily. Generally, a bank receives a daily batch of ACH items which is processed through an automated system that directs the funds into the appropriate accounts. While ACH items may be sent in a variety of ways, including magnetic tapes and hard copy printouts, all of the banks in this study receive their ACH information in the form of electronic transmissions through a telecommunications network.

During interviews with local bank officials in both New Mexico and Ramsey County, all respondents made the point that the receipt of EBT deposits for retailer accounts requires no bank action that could be separated and observed or measured. Each sampled bank processes a great deal of ACH activity, of which EBT represents only from one to five percent of the total. As a result, the small increase in ACH volume associated with the EBT system leads only to a marginal increase in bank costs. This cost varies among banks depending upon the percentage increase in ACH activity associated with EBT. If a bank processes a great deal of ACH activity, the marginal cost of an additional ACH item is small because the majority of costs associated with receiving an ACH credit is fixed.

Estimated Cost of EBT Redemption

New Mexico. Exhibit 6-4 presents estimates of local bank EBT redemption costs. As shown, the average cost to redeem EBT benefits in Bernalillo County is $0.04 per $1,000 benefits. The primary cost factor is the expense of receiving an ACH credit. One bank, FNBIA, incurs no ACH costs because, in its role as New Mexico EBT system processor, it credits its customers (approximately 60 percent of all retailers participating in the redemption) immediately for EBT activity instead of processing these credits individually and sending the funds through the ACH network. Consequently, the overall average cost possibly understates the actual cost of EBT redemption in New Mexico. The role of FNBIA as the concentrator bank is elaborated upon in Section 6.2.

The dual role of FNBIA generates an average float cost of $0.10 per $1,000 benefits across all local banks in New Mexico. Since FNBIA reimburses its account holders the same day for EBT activity and is not reimbursed by the U.S. Treasury until the next day, it incurs float costs. This cost is included under local bank costs rather than concentrator bank costs because it stems from FNBIA's obligation to its customers as a local bank.

There are no measurable local bank accounting error costs experienced with EBT. The respondents interviewed all stated that accounting errors were eliminated with EBT.

The total cost to local banks for processing EBT benefits is $0.14 per $1,000 benefits. Local banks in New Mexico may be partly reimbursed for their EBT redemption costs by charging retailers a fee for receiving an ACH item. Although retailers were not explicitly asked about paying ACH fees (see Chapter 4), the average fee charged by banks in the New Mexico sample is $.02 per item. This amount translates into an average reimbursement of about $0.02 per $1,000 benefits.[1] Therefore, the net cost to redeem EBT benefits is $0.12 per $1,000 benefits, as shown in Exhibit 6-4.

Ramsey County. As shown in Exhibit 6-4, the cost to local banks for EBT redemption is $0.12 per $1,000 benefits. As in New Mexico, EBT bank redemption cost is notably smaller than the cost to redeem food stamp coupons and reflects the more automated role of local banks in the EBT redemption process. Under EBT, the only operating cost component for local banks

[1] The average EBT credit processed through an ACH item in New Mexico is $1,302.90.

Exhibit 6-4

LOCAL BANKS: EBT REDEMPTION COSTS AND REIMBURSEMENT
(per $1,000 benefits)

Cost Elements	New Mexico	Ramsey County
Operating Costs	$0.04	$0.12
Float Costs	$0.10	$0.00
Accounting Error Costs	$0.00	$0.00
TOTAL COST	$0.14	$0.12
TOTAL REIMBURSED	$0.02	$0.08
NET COST	$0.12	$0.04

is the cost to receive and process an ACH item. The average cost for a bank to receive and process an ACH item in Ramsey County is $0.06 per item. The three local banks in Ramsey County process, on average, 6,024 EBT items per month through the ACH network, and the average EBT deposit per retailer is $538.68. This leads to a cost estimate of $0.12 per $1,000 of benefits when each bank's costs are weighted by food coupon redemption volume.

There is no float experienced by local banks in Ramsey County because they simply pass ACH credits on to retailers' accounts. As in New Mexico, there are no EBT accounting error costs reported by Ramsey County local banks.

Thus, the total average weighted cost to local banks in Ramsey County for redeeming EBT benefits is $0.12 per $1,000 benefits. Some local banks in Ramsey County are reimbursed for their EBT activity through fees charged for receiving an ACH item. The average fee in Ramsey County is $0.04 per item, which translates to $0.08 per $1,000 benefits overall when weighted by bank redemption volume. Therefore, the net cost to process EBT benefits is $0.04 per $1,000 benefits, as shown in Exhibit 6-4.

The Impact of EBT on Local Bank Costs

All of the representatives from local banks perceived the respective EBT systems as an improvement over the food stamp coupon system. They cited the decrease in administrative activities as the primary basis for their opinion. The decrease in administrative procedures reduced local branch costs such as employee wages for time spent counting, recounting and reconciling coupons. The transport of coupons by courier to the Federal Reserve bank is also eliminated under EBT.

The elimination of food stamp coupon deposits has also reduced customer volume at teller windows. Coupon deposit transactions take a relatively long time and sometimes cause customer lines to form. Because they no longer count coupons at the window and process Redemption Certificates, tellers are able to process customer transactions more quickly.

Some banks mentioned that if there was a problem with an ACH transmission, it would be difficult to attribute it to an EBT credit. When there is a problem receiving an ACH transmission, it is solved individually. Given this format, it would be difficult to detect a problem distinct to receiving EBT items unless one were to notice a trend that problem accounts

were held by food retailers. While none of the banks noticed an overall increase in the volume of problems, the potential difficulty associated with detecting an EBT problem is worth noting.

Finally, some local banks are in fact able to recover from retailers the cost of processing EBT benefits. Some local banks have a separate fee for receiving ACH items, a fee which would not have been applied to the processing of food stamp coupons. When changed, these fees ranged from $.05 - $.11 per item and occurred in both demonstration sites. They are included in this analysis as a reimbursement to local banks.

6.3 CONCENTRATOR BANKS

The Role of Concentrator Banks in Coupon Redemption

A concentrator bank is not involved in the redemption of food stamp coupons. The role of a concentrator bank in the Food Stamp Program is limited to EBT redemption, as described below.

The Role of Concentrator Banks in EBT Redemption

The EBT Redemption Process

All food stamp transactions through the EBT system are credited to retailers' EBT accounts by the EBT processor. Once each 24-hour period (except weekends and holidays when activity is handled on the next business day), the EBT processor creates a file of total individual retailer credits. This file is formatted for eventual submission to the ACH network. In Ramsey County, the file is sent to NationsBank, which initiates retailer crediting through the ACH network. In New Mexico, the system processor, FNBIA, acts as its own concentrator bank. FNBIA can act as a concentrator bank because, unlike TransFirst, the Ramsey County system processor, FNBIA is a financial institution and access to the ACH network is restricted to Federal Reserve member banks.

The concentrator bank creates an ACH-formatted file containing records of the amounts retailers are owed for the previous day's EBT business and debits the sum total of these records from an account maintained by the system processor. Each record contains the name of the local bank holding the retailer's account, a routing number for the bank, and the retailer's bank

account number. This file is combined with other non-EBT ACH entries and sent to the Federal Reserve Bank on the ACH network. The Federal Reserve Bank then uses this file to debit the concentrator bank's account at the Federal Reserve and sends credits to the retailer's account.

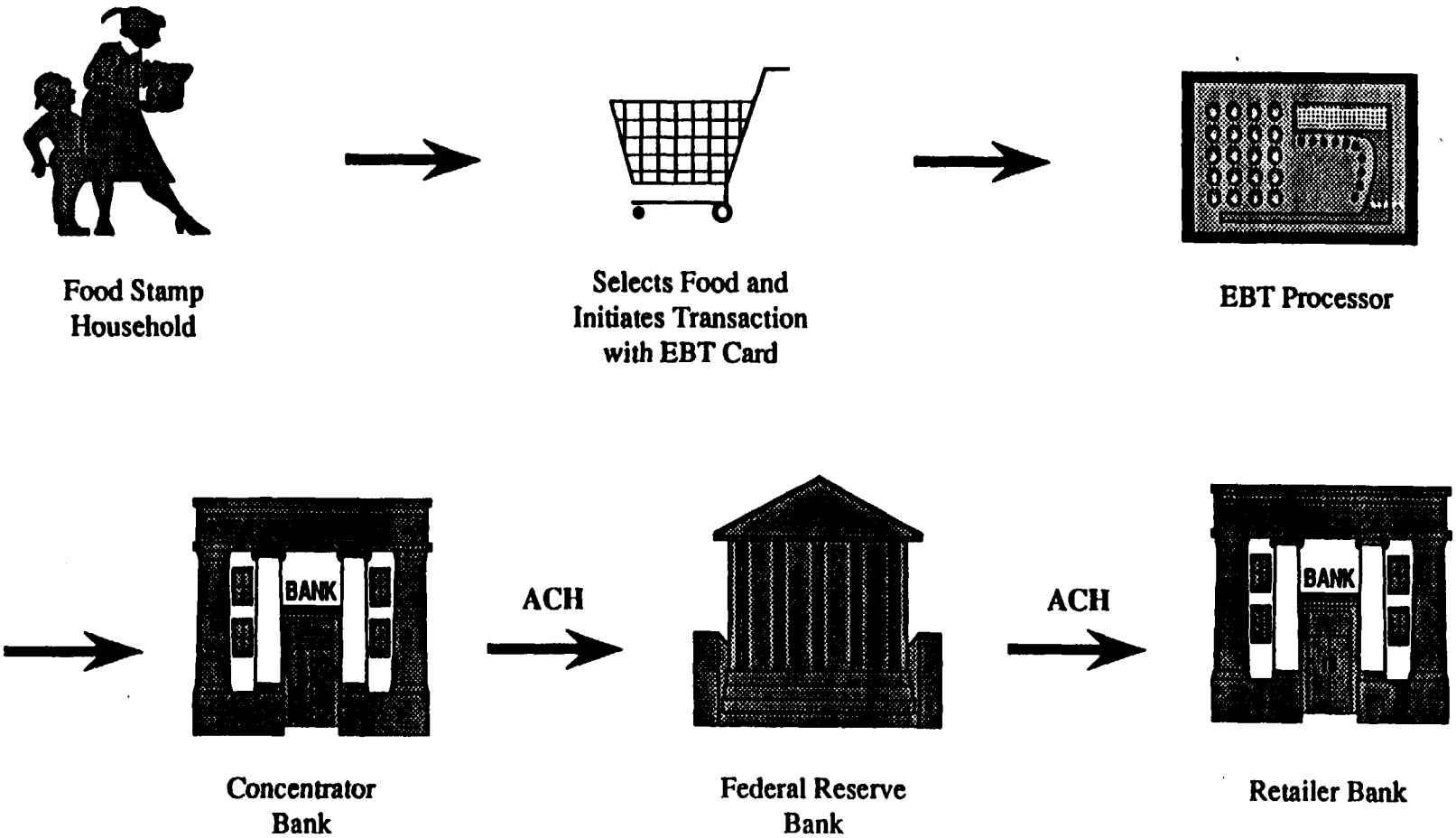
The morning after submitting the retailer credit file, the system processor requests reimbursement from the U.S. Treasury for the sum total of the retailer credits, which was debited from their account at the concentrator bank. The request is sent through the Payment Management System (PMS) of the Department of Health and Human Services (DHHS), using communications software called SMARTLINK. DHHS then telefaxes the request to the Treasury for the release of the funds. The Treasury, in turn, telefaxes an approval back to the DHHS and sends the necessary funds to the system processor's account at the concentrator bank via the Fedwire process. This process is represented in Exhibit 6-5.

The concentrator bank receives the funds from the Treasury via the Fedwire system the same day the request for reimbursement is made. The Fedwire system sends an electronic transmission for the amount requested directly into the system processor's account at the concentrator bank.

All aspects of the ACH process described above are a routine part of daily business for both FNBIA and NationsBank. In the Ramsey County system, the ACH file is sent between the processor, Transfirst, and NationsBank over computer lines that are used to carry a variety of information to and from the bank. The ACH network and the Fedwire system are both used to conduct a range of bank business. Social Security benefits, for example, are sent through the Fedwire system and deposited into recipients' accounts using the ACH network. Furthermore, EBT ACH transactions represent a small fraction of all ACH activity. When the concentrator bank sends a file to the Federal Reserve Bank it may contain a thousand ACH transactions, among which maybe 150 are EBT related. As a result, the origination of these transactions has a marginal impact on FNBIA and NationsBank work flows and operating costs.

New Mexico. Two banks in the New Mexico sample, FNBIA and Sunwest Bank, are involved in processing EBT transactions. Sunwest operates a computer switch that sends EBT transactions to the FNBIA processor. FNBIA serves as the EBT processor for the demonstration.

Exhibit 6-5
EBT REDEMPTION PROCESS



In addition to acting as EBT system processor and concentrator bank, FNBIA also holds retailer accounts in the New Mexico EBT system. As the EBT system processor, FNBIA generates a summary file at system settlement of credits due to retailers using information from the EBT system. FNBIA then "strips off" information pertaining to retailers that hold an account at FNBIA and credits these retailers for their daily EBT activity on the same day the activity was settled. FNBIA provides same day credits to its retailers as a marketing technique to encourage retailers to hold accounts at FNBIA.

The revised summary file contains 1) records of credits for retailer accounts at other banks; and 2) one lump sum credit amount for all retailers with FNBIA accounts. FNBIA sends the revised summary file through the ACH network on the morning after settlement. The Federal Reserve Bank receives the file, debits an FNBIA account for the sum total of the credits, and passes the ACH credits on to the local banks where retailers hold their accounts. The local banks receive the ACH credits on the afternoon following settlement, and apply the credits to retailer accounts shortly thereafter.

Separately, FNBIA requests reimbursement for the EBT credits through the PMS system of DHHS on the morning after settlement. Unlike the process for the Ramsey County EBS system, the Fedwire reimbursement is transmitted to the Federal Reserve Bank rather than directly to the concentrator bank. The Fedwire reimbursement is credited by the Federal Reserve Bank to the FNBIA account, thus compensating FNBIA for credits passed to retailers through the ACH network and for credits paid directly to retailers with FNBIA accounts.

FNBIA incurs float only on the money it advances its own retailers. It incurs no float on the remaining retail credits because the Fedwire reimbursement is credited to the FNBIA account at the Federal Reserve Bank at roughly the same time that the account is debited for the retailer credits passed through the ACH network.

Ramsey County. The process is slightly different in Ramsey County because the system processor and concentrator bank are separate entities. The system processor, TransFirst, settles the retailer EBT accounts daily, combines this information into a retailer credit file, and forwards the file to the concentrator bank, NationsBank. NationsBank reformats the file and submits it to the ACH network of the Federal Reserve Bank. The retailer file enters the ACH network on the same day that the EBT system was settled. The Federal Reserve Bank receives

the ACH file, debits a NationsBank account for the sum total of the retailer credits, and passes the ACH file on the next day to local bank for eventual credit to retailer accounts.

NationsBank debits an account held by TransFirst for the sum total of the ACH credits that it submitted to the ACH network. TransFirst requests reimbursement on the morning after settlement for the debit through the PMS system of DHSS and funds are transferred that afternoon through the Fedwire system into the TransFirst account at NationsBank. Neither NationsBank nor TransFirst incur float during this process, however, because NationsBank does not debit the TransFirst account until roughly the same time that the Fedwire transfer is credited to the TransFirst account.

NationsBank could receive float by debiting the TransFirst account upon receiving the ACH file rather than waiting until the Fedwire transfer is received. Although NationsBank is legally entitled to do this, they chose to wait as a courtesy to TransFirst, with whom they have other non-EBT financial relationships.

Estimated Cost of EBT Redemption

New Mexico. The cost for FNBIA to act as the concentrator bank in Bernalillo County is $0.12 per $1,000 benefits, as shown in Exhibit 6-6. The total cost is due entirely to direct operating expense. FNBIA does not incur float cost because its account at the Federal Reserve Bank is not debited for the retailer credits sent through the ACH network until roughly the same time as it receives reimbursement through Fedwire.

FNBIA is compensated an average of $0.14 per $1,000 benefits by the New Mexico HSD for its role as the concentrator bank. Thus, we estimate that FNBIA is incurring net revenues of $0.02 per $1,000 benefits from its role as a concentrator bank.[1]

Ramsey County. As shown in Exhibit 6-6, the cost for NationsBank to process EBT benefits is $0.21 per $1,000 benefits. This cost includes only operating costs. NationsBank does not incur a float cost because its account at the Federal Reserve is not debited until it debits

[1] FNBIA receives $25 per day for its ACH originating activities. Estimated reimbursement was generated using this rate and the average monthly amount of benefits received in Bernalillo County.

Exhibit 6-6

CONCENTRATOR BANK COSTS AND REIMBURSEMENT
(per $1,000 benefits)

Cost Elements	New Mexico	Ramsey County
Operating Costs	$0.12	$0.21
Float Costs	$0.00	$0.00
TOTAL COST	$0.12	$0.21
TOTAL REIMBURSED	$0.14	$0.37
NET COST	($0.02)	($0.15)

the TransFirst account. Direct operating costs are higher at NationsBank than at FNBIA because NationsBank initiates more ACH transactions, for each of which it pays a fee to the Federal Reserve Bank.

NationsBank is reimbursed by Transfirst the equivalent of $0.37 per $1,000 benefits for its activities as the concentrator bank. Thus, the concentrator bank in Ramsey County is generating net revenues of $0.15 per $1,000 benefits.[1] The net revenues that NationsBank generates are seomewhat higher than those earned by FNBIA. This reflects a difference in the fee structure negotiated in their respective contracts.

The Impact of EBT on Concentrator Bank Costs

The officials interviewed from the concentrator banks held an overall positive opinion about the EBT system. They felt that it improved the entire redemption process by aligning redemption procedures with electronic banking procedures.

A problem experienced by the concentrator banks was the occasional failure of the Payment Management System (PMS) of the U.S. Department of Health and Human Services. The PMS is not used only for the EBT program, so its failure would cause a series of problems for the concentrator bank, one of which would be the difficulty in processing EBT transactions. When the PMS is down, the concentrator bank has to transfer their daily EBT summaries over the telephone rather than simply sending them through the computer system.

Another problem mentioned by the concentrator banks involved ACH entries that are returned by the Federal Reserve Bank. The reasons for ACH items being returned included 1) the format of a file was incorrect; or 2) the retailer destination account was closed. A retailer may, for example, have closed or changed their account number and failed to notify the concentrator bank. In this situation, the concentrator bank would not know where to send the ACH deposit. The concentrator banks could sometimes rectify the problem by contacting the original receiving bank. In other cases the retailer contacted the concentrator bank because

[1] NationsBank's contract with Transfirst sets a fee per each ACH item originated. This fee translates into $1.37 per $1,000 based on the average number of ACH items that NationsBank originates and the average monthly amount of benefits processed for the Ramsey County demonstration.

funds that were expected to have been processed had not been received. These problems are all part of daily ACH business and, given the high overall volume of ACH activity, EBT-related problems represent only a marginal increase in operating costs.

New Mexico. One problem unique to the New Mexico demonstration site occurs between Sunwest and FNBIA. In some situations the Sunwest switch "timed-out" during a transaction, and the transaction was re-entered at the POS terminal. The problem occurs when the FNBIA listing shows both transactions as approved, when only one successfully went through the Sunwest switch. This discrepancy between the records of Sunwest and FNBIA constitutes a dispute which is negotiated and settled between the two banks.

Ramsey County. There were no problems mentioned that were distinct to the Ramsey County demonstration.

6.4 ROLE OF THE FEDERAL RESERVE SYSTEM

The Federal Reserve Bank serving the Ramsey County EBS demonstration is the Minneapolis Federal Reserve Bank. The New Mexico demonstration uses the Kansas City Federal Reserve Bank.

Coupon Redemption at the Federal Reserve Bank

The Coupon Redemption Process

Food coupons from local banks are brought to the cash-receiving or check-processing area at the regional Federal Reserve Bank along with other bank materials. The coupons are delivered using one of three delivery methods: 1) armored car; 2) registered mail; or 3) check courier. The Federal Reserve banks encourage delivery by armored car for security purposes, and this method is used by the majority of large banks sampled.

Two clerks from the cash receiving unit open the deposit bags, perform separate counts of the coupon straps, and compare their count with the amount on the deposit document. These clerks detect errors three to four times per week, and the errors generally involve addition mistakes on the deposit form. If there is a large discrepancy, it is usually because there is a strap missing.

During this initial counting process, the Redemption Certificates are separated from the coupons and sent to a check sorter. The sum total of the Redemption Certificates is verified with

[redacted]

Redemption Certificate information is transmitted nightly from both Federal Reserve banks to the Minneapolis Computer Support Center.

The coupons are transported to the counting operations center after they have been initially counted. Here, all of the $5 and $10 coupons and a 5-percent sample of the $1 coupons are piece counted using a counting machine. The $5 and $10 counts must be accurate, and the $1 count must average within $.60 per $100 counted. If a count fails then the entire lot of coupons in the delivery must be counted. Discrepancies are fairly common -- approximately 12 per day -- and are generally the result of a missing coupon. These discrepancies are adjusted to the account held by the depositing financial institution.

Once the totals have been verified, counting operations staff send the verified totals to the proof department where the accounts of depositing banks are credited. The proof department prepares a daily debit voucher which is used to transfer funds from a Food Stamp Program account at the U.S. Treasury Department. The debit voucher is balanced against the deposit documents prepared by local banks, and the funds are wired from the Treasury to the local bank.

The counted coupons are stored in a vault to await destruction. The Federal Reserve

Exhibit 6-7

FEDERAL RESERVE BANK: FOOD COUPON REDEMPTION COSTS AND REIMBURSEMENT (per $1,000 benefits)

Cost Element	New Mexico	Ramsey County
Labor (Direct/Indirect)	$0.93	$1.48
Other Direct Costs	$0.14	$0.34
TOTAL COST	$1.07	$1.92
TOTAL REIMBURSEMENT	$1.07	$1.92
NET COST	$0.00	$0.00

explain the lower cost by the Kansas City Federal Reserve Bank - approximately three times more coupons are processed by the Kansas City Federal Reserve than in Minneapolis. Again, this analysis assumes that fees are cost based. Therefore, the Minneapolis Federal Reserve Bank is reimbursed $1.92 per $1,000 and its net cost is zero.

The Role of the Federal Reserve Bank in EBT Redemption

The EBT Redemption Process

The Federal Reserve Bank begins daily processing of ACH items by first creating a master file of all ACH items organized by originating banks. This involves the merging of all bank ACH files, like the ones sent by the EBT concentrator banks. This main file is then sorted into files for each bank receiving ACH items. A given bank may be receiving thousands of ACH transmissions in one day, of which a small percent represent EBT activity.

The Federal Reserve Bank sends this ACH file to banks either through a telecommunications transmission or as a computer tape by courier. (The banks interviewed in Ramsey County and New Mexico all receive their ACH files as telecommunication transmissions.) The receiving bank then takes this file and credits the accounts receiving funds. This entire process is carried out electronically and is a part of daily operating procedures at a bank.

Estimated Cost of EBT at the Federal Reserve Bank

The Federal Reserve Banking system also uses a national policy of cost based pricing for the origination and receipt of ACH items. The standard cost for originating or receiving an ACH item is $0.02. While the fee schedule varies if ACH items are transmitted or in tape form, all of the banks interviewed in the demonstration receive ACH items in the form of telecommunications transmissions.

This cost/fee system applies to this analysis because the concentrator bank is originating the ACH item and the local bank is receiving the ACH item. The policy of cost-based pricing causes net Federal Reserve costs to equal zero (i.e., costs equal revenues) under both the coupon and EBT systems. We include Federal Reserve costs and revenues in the analysis, however, for two reasons. First, when compared with costs and revenues from other financial institutions,

the analysis presents the relative contribution of the Federal Reserve to overall financial institution costs under both systems. Also, the absolute magnitude of financial institution participation costs would be understated if Federal Reserve costs were excluded.

New Mexico. The estimated cost of redeeming EBT benefits at the Kansas City Federal Reserve bank is $0.02 per $1,000 benefits. Because the Kansas City Federal Reserve bank is then reimbursed by cost-based fees levied on the concentrator bank and the local bank, the bank's net costs are zero, as shown in Exhibit 6-8.

Ramsey County. The cost of redeeming EBT benefits at the Minneapolis Federal Reserve bank is $0.04 per $1,000 benefits. This number is higher than the cost at the Kansas City Fed because average retailer redemptions, and consequently the average value of an EBT ACH item, are lower in Ramsey County. Again, because cost-based pricing is used, the Minneapolis Federal Reserve Bank is reimbursed $0.04 per $1,000 benefits and its net cost is zero. These estimates are shown in Exhibit 6-8.

The Impact of EBT on Federal Reserve Banks

All Federal Reserve Bank officials interviewed strongly preferred the EBT system over food stamp coupons. They noted the decline in food coupon volume (which leads to a decrease in personnel costs) as the primary advantage. Some officials even mentioned that they would like to see the demonstration expanded throughout their region.

6.5 SUMMARY AND CONCLUSIONS

As shown in Exhibit 6-9, the EBT systems represent an overall net savings to financial institutions of $3.19 per $1,000 benefits in New Mexico and $5.63 per $1,000 benefits in Ramsey County. These net savings are mainly due to the large net savings experienced by local banks.

The EBT Systems Represent a Net Cost Savings for Local Banks

This analysis shows that the EBT system leads to a net savings for local banks in each demonstration site. Exhibit 6-9 shows that the net saving to local banks in New Mexico is $3.17 per $1,000 benefits and $5.48 per $1,000 in Ramsey County. The net saving is greater in

Exhibit 6-8

FEDERAL RESERVE BANK: EBT PROCESSING COSTS AND REIMBURSEMENT (per $1,000 benefits)

Cost Elements	New Mexico	Ramsey County
Operating Costs	$0.02	$0.04
Float Costs	$0.00	$0.00
TOTAL COST	$0.02	$0.04
TOTAL REIMBURSED	$0.02	$0.04
NET COST	$0.00	$0.00

Exhibit 6-9

SUMMARY OF TOTAL AND NET ESTIMATED COSTS
(per $1,000 benefits)

Estimated Cost Differences

	New Mexico			Ramsey County		
	Coupon	EBT	Difference	Coupon	EBT	Difference
Local Banks	$3.29	$0.14	$3.15	$5.52	$0.12	$5.40
Concentrator Bank	$0.00	$0.12	($0.12)	$0.00	$0.21	($0.21)
Federal Reserve Bank	$1.07	$0.02	$1.05	$1.92	$0.04	$1.88
TOTAL	$4.36	$0.28	$4.08	$7.44	$0.37	$7.07

Estimated Cost Differences Net of Revenues

	New Mexico			Ramsey County		
	Coupon	EBT	Difference	Coupon	EBT	Difference
Local Banks	$3.29	$0.12	$3.17	$5.52	$0.04	$5.48
Concentrator Bank	$0.00	($0.02)	$0.02	$0.0	($0.15)	$0.15
Federal Reserve Bank	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
TOTAL	$3.29	$0.10	$3.19	$5.52	($1.11)	$5.63

Ramsey County due to the higher coupon redemption costs at this site, which resulted from the procedures practiced at local bank branches.

The EBT System Represents a Small Net Increase in Revenues for Concentrator Banks

Exhibit 6-9 shows that net costs to the concentrator bank are negative in both New Mexico and Ramsey County, meaning that EBT activities represent a net increase in revenues. As explained in Section 6.3, the negative result in New Mexico is due primarily to the lower operating costs of sending fewer records through the ACH networks. The float costs of its crediting retailers in advance of reimbursement were included in EBT redemption costs.[1]

For the Ramsey County EBT system, the fee structure negotiated between TransFirst and NationsBank produces a net revenue of $0.15 to NationsBank per $1,000 of EBT credits processed. This amount would be greater if NationsBank debited the TransFirst account when they submitted the ACH file rather than waiting until TransFirst's reimbursement through the Fedwire was received.

These Cost Savings are Consistent with the Findings of a Similar Analysis

The overall savings experienced in both New Mexico and Ramsey County are consistent with the savings found in a similar study conducted in Reading, Pennsylvania. The net difference in cost in Reading was $3.62 per $1,000 benefits.[2] The Reading site was different from the two sites in this analysis, however, because local banks both issued and redeemed food coupons. If this difference is taken into account and issuance costs and compensation are excluded, the net cost difference between EBT and coupons in Reading is $5.44 per $1,000 benefits, or between the Ramsey County and New Mexico EBT estimates.

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[1] Unlike float costs to retailers and other financial institutions, FNBIA EBT float costs are assumed by FNBIA as a courtesy to its account holders, and thus are not offset by a float cost decrease to the Federal Government.

[2] John Kirlin, et al., op. cit., page 277.

The EBT System Improves the Process of Benefit Redemption by Integrating Food Stamp Program Activities into the Standard Operating Procedures of Financial Institutions

The opinion of every bank official interviewed was that an EBT system marks an improvement over the food stamp coupon system by automating a labor intensive process. Local banks are no longer responsible for manually counting and processing coupons; Federal Reserve Banks no longer count and destroy food coupons. This change represents a large cost saving on labor and aligns the Food Stamp Program more closely with normal bank procedures. Local banks now receive ACH items for retailers with their daily batch of ACH items; Federal Reserve Banks process EBT ACH items as they would any other ACH item.

Chapter 7

THE FEASIBILITY OF CONTINUED, EXPANDED OR TRANSFERRED EBT OPERATIONS

The previous chapters of this report have presented an evaluation of the New Mexico and Ramsey County EBT demonstrations along several different dimensions: the demonstration systems' cost-competitiveness with mail issuance coupon systems; the systems' impacts on benefit loss and diversion within the Food Stamp Program; and the demonstration systems' impacts on program-authorized food retailers, on food stamp recipients, and on the financial institutions that participate in the redemption of program benefits.

Based on these evaluation results and other information about the demonstrations, it is now appropriate to ask several future-oriented questions about these two EBT systems. First, should the EBT systems continue to operate within Bernalillo County and Ramsey County? Second, what is the feasibility and desirability of expanding these systems to other locations within the States of New Mexico or Minnesota? Finally, how easily could either system be transferred to another State to provide benefit issuance and redemption services? This chapter addresses each of these three questions.

Before assessing the feasibility of continuing, expanding or transferring these two EBT systems, however, we note a major change in the political and regulatory climate surrounding EBT systems that has taken place since the demonstrations were authorized in 1988. In 1990, Congress authorized the use of on-line EBT systems as a regular (i.e., non-demonstration) issuance approach for the Food Stamp Program.[1] The legislation states that EBT systems must be cost-effective and must adhere to regulations promulgated by the Department. On April 1, 1992, the Department of Agriculture issued regulations specifying the functional and performance requirements of an EBT system serving the Food Stamp Program.[2] The new regulations include more detailed system requirements than the Cooperative Agreements signed

[1] The authorization is contained in Section 1729 of the Food, Agriculture, Conservation and Trade Act of 1990.

[2] "Food Stamp Program: Standards for Approval and Operation of Food Stamp Electronic Benefit Transfer Systems." Federal Register 57, no. 63, 1 April 1992.

with the demonstration sites in 1988. The demonstration sites have until April 1, 1994, to bring their demonstration systems into compliance with the regulations.

7.1 THE FEASIBILITY OF CONTINUING SYSTEM OPERATIONS IN THE DEMONSTRATION SITES

The issue of the feasibility of continuing EBT operations in Bernalillo or Ramsey County involves several questions. First, do State and County officials in the two sites want to continue EBT operations? Second, based on the results of this evaluation, does it make sense for FNS to support continued operations? Third, can the systems be brought into compliance with Food Stamp Program regulations by April 1994 at reasonable cost and without undue disruptions in customer service? Fourth, and finally, are there any technical, contractual or other impediments to continued operations? The remainder of this section addresses each of these questions in turn.

Do State and County officials want to continue operations of their EBT systems?

The answer to this question is an emphatic "yes." Officials in New Mexico and Ramsey County are quite enthusiastic about their demonstration systems. In October 1992, New Mexico negotiated a new four-year EBT contract with the demonstration's system processor (First National Bank in Albuquerque), and Ramsey County's current contract with its processor (ACS/TransFirst) extends until September 1994. Both sites are talking about expanding system operations to other parts of their respective States.

Do evaluation results support a continuation of EBT operations?

A number of different public and private sector groups incur costs related to the issuance and redemption of program benefits. The national, regional and field offices of FNS bear costs related to the Food Stamp Program. Similarly, the national and regional offices of the Administration for Children and Families (ACF) bear costs related to AFDC. State and local governments incur issuance-related costs for both of these programs as well as for state assistance programs. In the private domain, program recipients incur costs to obtain benefits, and retailers and financial institutions incur costs to redeem program benefits.

Exhibit 7-1 summarizes the evaluation's estimates of the major impacts on issuance and redemption costs associated with the introduction of the New Mexico and Ramsey County EBT demonstrations. For each area of analysis, moving from a coupon mail issuance system to an EBT system has reduced issuance- or redemption-related costs in the Food Stamp Program in each site.[1],[2] Given previous research showing that the Reading EBT demonstration system cost three times more to operate than coupon issuance, the reductions in administrative costs arising from the EBT systems in New Mexico and Ramsey County are particularly important. They support the previously untested notion that EBT systems could be cost-effective for the Food

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[1] The evaluation did not measure the EBT systems' impacts on issuance-related costs for cash assistance programs. Thus, while the demonstration systems reduce costs for the Food Stamp Program, we do not know if the systems are cost effective for AFDC or other cash assistance programs.

[2] The strength of the evidence is further heightened because, in some situations, the evaluation's estimates of savings due to EBT are conservative. Some coupon-related issuance costs are measured in 1989 dollars. Other coupon-related costs -- and all EBT-related costs -- are measured in 1992 dollars. If the 1989 coupon costs were inflation-adjusted, the coupon-related costs would be somewhat higher than those presented in Exhibit 7-1, and the cost savings due to EBT would be higher.

In most situations the evaluation controlled for the difference between the times when coupon and EBT costs were collected. For instance, the entire administrative cost analysis adjusts for inflation. All labor costs in the retailer analysis were adjusted for salary inflation, and all time costs in the recipient analysis were calculated using the same hourly cost -- a federal minimum wage of $4.25 per hour. All benefit loss and diversion costs were calculated as a percent of benefits, and then converted to dollars per case month using each site's average monthly food stamp benefit allotment in March 1992. Thus, inflation does not affect any of these cost elements.

Financial institutions' coupon-related costs were not adjusted for inflation prior to standardization per $1,000 of benefits redeemed. Similarly, a few recipient-related costs (e.g., babysitting costs, bus fares, opportunity costs of lost or delayed benefits) were not adjusted. Finally, retailers' coupon-related accounting errors, float and other fee costs were not adjusted. In many of these situations, however, an appropriate adjustment factor is not easy to identify. For example, while financial institutions' labor costs may have increased between 1989 and 1992 due to inflation, their volume of food stamp redemptions also increased. Unless costs are exactly proportional to redemption level (an unlikely situation), applying an inflation adjustment could bias the standardized cost estimates up or down. The same argument holds for retailers' standardized costs. Given these difficulties in identifying an appropriate adjustment factor, we followed a conservative approach of making no adjustment in these situations.

Exhibit 7-1

SUMMARY OF SYSTEM IMPACTS

	New Mexico		Ramsey County	
	Coupon	EBT	Coupon	EBS
Administrative Costs				
Cost per case month	**$4.04**	**$3.07**	**$4.53**	**$4.38**
Benefit Loss and Diversion				
Program loss per case month	$1.44	$0.07	$1.26	$0.08
Participant loss per case month[a]	$0.93	$0.35	$2.20	$0.32
Benefit diversion per case month	$2.00	$0.67	$1.83	$0.61
Total loss and diversion per case month	**$4.37**	**$1.09**	**$5.29**	**$1.01**
Retailers' Costs of Participation				
Cost per $1,000 of benefits redeemed	**$17.83**	**$13.85**	**$46.05**	**$36.96**
Recipients' Costs of Participation				
Expenditure per case month	$3.12	$0.66	$3.02	$1.04
Time spent (in minutes) per case month	10.9	11.0	8.0	12.8
Total cost per case month[b]	**$3.89**	**$1.44**	**$3.59**	**$1.95**
Financial Institutions' Costs of Participation[c]				
Local banks' net cost per $1,000 of benefits redeemed	$3.29	$0.12	$5.52	$0.04
Concentrator banks' net cost per $1,000 of benefits redeemed	$0.00	($0.02)	$0.00	($0.15)
Federal Reserve Bank's net cost per $1,000 of benefits redeemed	$0.00	$0.00	$0.00	$0.00
Total net cost per $1,000 of benefits redeemed	**3.29**	**$0.10**	**$5.52**	**($0.11)**

Notes: [a] Participant losses are double-counted in this Exhibit in that they are also included in retailers', recipients', and financial institutions' costs of participation. They are presented as part of benefit loss and diversion to provide a better perspective on the overall security of the EBT and coupon issuance systems.

[b] Recipients' time is valued at the federal minimum wage of $4.25 per hour.

[c] Parentheses indicate that revenue exceeds cost by the amount shown.

Stamp Program if they: a) served multiple assistance programs, thereby spreading certain costs across programs; and b) were integrated with commercial EFT services, thereby reducing the Food Stamp Program's share of terminal deployment and maintenance costs.

These administrative cost savings were not achieved at the expense of system security or program participants. As shown in Exhibit 7-1, levels of benefit loss and diversion dropped under EBT in both sites, as did participation costs for retailers, recipients and financial institutions. Just as importantly, program participants said they preferred the EBT systems to coupon issuance, often by large margins. These evaluation findings provide strong evidence for FNS' continued support of EBT operations at each site.

To more readily interpret the overall impact of EBT in each site and the contribution of each evaluation element to this overall impact, Exhibit 7-2 presents all cost impacts using the same measure -- cost per case month. Totalling all evaluation-measured impacts, the EBT system in New Mexico reduced overall costs from $15.01 per case month to $7.65 per case month, a 49-percent reduction. In Ramsey County there was a 34-percent reduction, from $19.31 per case month to $12.81 per case month.

These overall impacts, of course, must be interpreted with some caution. Summing impacts across evaluation elements implicitly assigns an equal policy valuation to equal-sized impacts across elements. For example, reducing benefit diversion by $1 per case month is assumed to be of equal importance as reducing administrative costs by $1 per case month. This may not necessarily be the case. Nevertheless, the numbers in Exhibit 7-2 do allow ready comparison of EBT effects across elements. For instance, in both the coupon and EBT systems the largest cost elements are administrative costs and retailers' costs to participate in the Food Stamp Program. In percentage terms, the greatest EBT impacts are in the systems' estimated reductions in program losses and in local banks' net costs to redeem food stamp benefits.

Can the systems be brought into compliance with program EBT regulations by April 1994 at reasonable cost and without undue disruptions in customer service?

According to the New Mexico Human Services Department, the New Mexico EBT system is already in compliance with federal regulations governing on-line EBT systems, with one possible exception. The federal regulations require that a system processor's central

Exhibit 7-2

SUMMARY OF SYSTEM IMPACTS
(Cost per Case Month)

	New Mexico		Ramsey County	
	Coupon	EBT	Coupon	EBS
Administrative Costs				
Cost per case month	$4.04	$3.07	$4.53	$4.38
Benefit Loss and Diversion				
Program loss per case month	$1.44	$0.07	$1.26	$0.08
Benefit diversion per case month	$2.00	$0.67	$1.83	$0.61
Retailers' Costs of Participation				
Cost per case month	$3.07	$2.38	$7.23	$5.80
Recipients' Costs of Participation				
Cost per case month[a]	$3.89	$1.44	$3.59	$1.95
Financial Institutions' Costs of Participation[b]				
Total net cost per case month	$0.57	$0.02	$0.87	($0.01)
Total Cost per Case Month	$15.01	$7.65	$19.31	$12.81

Notes: [a] Recipients' time is valued at the federal minimum wage of $4.25 per hour.

[b] Parentheses indicate that revenue exceeds cost by the amount shown.

computer be available 99.9 percent of scheduled up-time. That is, clients must be able to access the system for electronic authorization of EBT transactions 99.9 percent of the time (excluding the system's scheduled down-time, which usually occurs in the very early morning hours of a weekend day). The EBT processor in New Mexico is meeting this requirement. The regulations also state, however, that all third-party processors must meet this same standard. During the first year and a half of system operations, one of the third-party processors in New Mexico was

system. County officials are now discussing with FNS what limits to use. Once a dollar amount is established, incorporating the limit into the system's software should not be too difficult or costly.

Third, the regulations specify that an EBT system should generate exception reports on a quarterly basis to assist compliance investigations. The Ramsey County system does not generate such reports currently. Instead, beginning in December 1992, the EBS system started providing copies of the system's retailer transaction database to FNS' Minneapolis Computer Support Center. This allows compliance investigators to perform their own analysis of the database to identify retailers who are processing suspicious transactions.

Fourth, the regulations specify a limited number of situations in which, if an overdraft occurs as a result of a backup transaction, debits may be applied against the recipient's future issuances to recover the overdraft amount. This debiting process is referred to as re-presentation. Currently, the Ramsey County system allows re-presentation in some situations not allowed by the regulations (for instance, when an overdraft occurs when the POS terminal is down and voice authorization for the backup transaction cannot be obtained). While the system's re-presentation software could be modified to adhere to the regulations, Ramsey County's re-presentation policy reflects the result of negotiations between the County and participating retailers back in 1991 (before the federal regulations were promulgated). Because retailers might object if the County changed its policy, the County would like to maintain its re-presentation policy in its current form.

Finally, the Ramsey County system is not currently expunging benefits in dormant accounts after one year. The problem arises because the State's centralized eligibility and certification system (called MAXIS) does not have the ability to process expunged benefits. Efforts are being made to assess what needs to be done to the MAXIS system to support this federal EBT requirement.

In retrospect, even though experience gained from the EBT demonstrations in New Mexico and Ramsey County helped federal officials draft the new EBT regulations, it is somewhat surprising how closely the two demonstration systems conformed to the new regulations when they were issued. With the exception of Ramsey County's re-presentation

policy, there is little reason to believe that the two systems will not fully conform to the new regulations by the April 1994 deadline.

Are there any other impediments to continued operations?

There are no other known site-specific impediments to continued operations of either demonstration system. A recent ruling of the Board of Governors of the Federal Reserve System, however, may affect the feasibility of operating any EBT system in a cost-effective manner.

On January 6, 1993, the Board of Governors voted that the Federal Reserve System's Regulation E should be applied to EBT accounts. Regulation E creates the legal framework of rights and responsibilities for providers of EFT (electronic funds transfer) services and their customers. Among these are consumer rights to disclosure of terms and conditions, to receipts and periodic statements, to error resolution within specified time frames, and to limits on a consumer's liability for unauthorized transfers from his or her account.

The Board's reasoning for extending Regulation E coverage to EBT accounts was that EBT is not very different from EFT, and that setting up two classes of consumer protection is not warranted.

The difficulty of applying Regulation E to EBT accounts stems from its possible effects on liability costs. Regulation E normally limits consumer liability to $50 if lost or stolen cards are reported within two business days of the consumer learning of it. The card issuer is liable for any unauthorized use of the card exceeding $50. Thus, if a card is stolen and used to pay for $150 in goods or services, the card holder is liable for $50 and the card issuer is liable for $100.

In an EBT system, the State or County agency is the card issuer, even though the actual task of issuing cards may be contracted out to the system vendor. Thus, with Regulation E extended to EBT systems, State or County agencies may face increased costs in the form of increased liabilities. Such costs could render an EBT system more costly to operate than the coupon issuance system being replaced.

The exact impact of this ruling is currently uncertain for two reasons. First, the ruling is not final. Federal Reserve staff have issued draft regulations extending Regulation E to EBT systems. Final regulations will not be promulgated until public comments on the draft regulations have been received and reviewed. Second, even if the final regulations extend the Regulation E liability provisions to EBT, no one knows how much the provisions might cost. That is, because no EBT demonstration has operated under the proposed liability framework, no data exist to predict the possible impact on costs. In theory, EBT systems' use of personal identification numbers (PINs) should prevent the unauthorized use of lost or stolen EBT cards, thereby limiting a State or County agency's liability. If program recipients use their benefits and then falsely report their cards as lost or stolen, however, the liability could be large. The same is true if recipients, contrary to training instructions, do not maintain the secrecy of their PINs.

Summary of Considerations for Continued Operations

There are no major obstacles to continuing EBT operations in either demonstration site. Program officials in each site want operations to continue. System participants prefer the two EBT systems to the coupon systems that were replaced. Levels of benefit loss and diversion are lower under EBT than coupon issuance. Finally, the two EBT systems cost less to operate than the coupon issuance systems they replaced.

With regard to technical matters and system performance, New Mexico officials say their system is already in compliance with the new federal EBT regulations, with the possible exception of one third-party processor's up-time performance. Any remaining down-time problems with that processor, however, seem fairly small and manageable. With the exception of its re-presentation policy, the Ramsey County EBS system is also in compliance with the new federal regulations.

The potential impacts of Regulation E on EBT system cost-effectiveness are worthy of some concern, but they do not represent a reason to discontinue EBT operations in New Mexico or Ramsey County. If Regulation E increases State or County potential liability for unauthorized EBT transfers, the sites should have ample time to track the Regulation's actual impacts on liability costs before deciding whether to continue EBT or return to coupon issuance.

7.2 THE FEASIBILITY OF EXPANDING SYSTEM OPERATIONS

With regard to possible expansion of system operations, the relevant questions are: 1) do State officials (and officials of other counties in Minnesota) want to expand system operations? 2) is it technically feasible to expand system operations without reducing cost-effectiveness or client service? and 3) are there any other impediments to system expansion?

Do State and County officials want to expand EBT operations?

Officials in both sites want to expand EBT operations, and some plans for system expansion are already taking place. Officials in New Mexico, for instance, hope that the EBT system will be expanded to statewide operations for the Food Stamp Program within the four-year period of the new contract signed in October 1992, and they are preparing an APD (advanced planning document) for FNS that incorporates this plan. The portion of the system serving the AFDC program would also be expanded, but only to urbanized areas of the State. The absence of sufficient ATMs in rural portions of the State creates problems for total statewide conversion of the AFDC program; clients in rural areas would have difficulty accessing their benefits without a nearby ATM network.

In Minnesota, where benefit programs are County-administered but benefit issuance is State-administered, officials in Hennepin County are very interested in expanding the Ramsey County EBS system into their jurisdiction, and they have hired staff to begin project planning. They are principally interested in the food stamp portion of the system because coupon mail loss rates in the County (which includes Minneapolis) are very high and coupon issuance centers are overburdened. At the State level, however, officials are interested in expanding both the food stamp and cash assistance portions of the Ramsey County system, first to Hennepin County and then to other portions of the State. The issue of whether there are a sufficient number of ATMs in other parts of the State to serve recipients of cash assistance programs has not yet been addressed.

Is it technically feasible to expand operations without reducing cost-competitiveness or client service?

There are several factors to consider in assessing the technical feasibility of system expansion. First, do the two systems have sufficient processing, data storage and telecommunications capacity and, if not, can it be increased at reasonable cost? Second, would the system design have to be changed to accommodate expansion, and again, if so, at what cost? Finally, would expansion increase or decrease administrative costs per case month?

To accommodate the increased volume of transaction activity that would accompany system expansion, both system processors would probably have to expand system capacity to handle a statewide system. Some expansion, however, could occur without increased capacity. The New Mexico system is currently operating at about 33 percent capacity, and the ACS/TransFirst system has some excess capacity at the moment because ACS/TransFirst is no longer providing EBT processing services for the Maryland EBT demonstration.[1]

If the New Mexico system had to increase processing capacity, this would not increase EBT costs. The new four-year contract includes provisions for statewide expansion without a capacity-related increase in fee structure. The costs of increased capacity would be covered by the additional revenues generated from increased transaction activity.

Inasmuch as discussions about possible expansion have not progressed as far in Minnesota as in New Mexico, there is more uncertainty about the potential for fee increases to cover the costs of increased capacity. In general, however, the commercial EFT industry tends to decrease unit costs as volumes expand, so there is no strong reason to expect that unit costs would increase.

With regard to possible needed changes in system design to accommodate system expansion, both sites would benefit from the fact that the respective States have centralized

[1] As noted in Chapter 1, ACS/TransFirst developed and operated an EBT pilot demonstration in Maryland. In January 1992 the Maryland Department of Human Resources began expanding the EBT system statewide. With the introduction of a new EBT system, developed by Deluxe Data Systems, in July 1992, ACS/TransFirst's EBT processing responsibilities were completed.

issuance systems. This means that few, if any, changes would be needed in the State agency/system interface that posts program benefits to clients' EBT accounts.[1]

Thus, system expansion could be accomplished in each site without major or costly system design changes. However, it is worth noting that, with an expanded system, more local or county offices will be participating in EBT. Local program officials may request design changes to better match existing office procedures, which can vary among offices. This is probably more likely in Minnesota, where program administration is county based, than in New Mexico. For instance, officials in Hennepin County may want a different set of management reports than Ramsey County officials have established. According to Ramsey County officials, however, State officials in Minnesota are thinking mainly of expanding the existing Ramsey County EBS system, without unnecessary changes in system design or software.

Whether system expansion would increase or decrease costs per case month in the Food Stamp Program is somewhat uncertain. Some system costs are relatively invariant with respect to system size, and these fixed costs would be spread over more cases in an expanded system. This would tend to reduce costs per case month. Large cost savings should not be anticipated from this factor, however, because most system costs vary by the number of recipients and retailers participating in the system.

In New Mexico, costs per case month in the Food Stamp Program would probably increase in an expanded system. First, because New Mexico is not planning to place all AFDC cases in the State on EBT, some costs that are now shared between programs (e.g., card issuance and recipient training costs) would fall totally on the Food Stamp Program. The number of AFDC cases that would not be added to the EBT system is relatively low, however, because plans call for only rural AFDC clients not to be served by an expanded EBT system.

More importantly, in an expanded New Mexico system, the processor's transaction fees for clients living outside the Albuquerque metropolitan area would be higher than for those

[1] Minnesota's centralized issuance system does not interface directly with the EBS system. Instead, issuance information is sent to the Ramsey County CHSD, and the County converts the information for transmission to the EBS processor. In an expanded system the same procedures could be followed (with either the County or the State performing the conversion) or a more direct linkage with the processor could be established.

clients in the current demonstration. The higher fees would result from higher costs associated with processing transactions initiated outside Albuquerque. These transactions would incur long-distance telecommunications charges. With approximately 70 percent of the New Mexico food stamp caseload living outside Albuquerque, the estimated statewide increase in costs per case month for the Food Stamp Program would be about 47 cents. The New Mexico system would still probably be cost-competitive with this increase, especially when the EBT system's impacts on program losses are factored in.

One other issue which might increase statewide EBT costs concerns system integration with commercial EFT and retailers' use of third-party processors. The New Mexico system is currently cost-competitive, in part, because terminal costs are shared with retailers (either because the terminals are deployed by a third-party processor or because the terminals also process commercial EFT transactions). In addition, third parties and retailers do not charge the system processor a fee for acquiring EBT transactions, and the system processor does not charge third parties or retailers a transaction processing fee. In a statewide EBT system, the system would not have to pay any terminal-related costs (according to the new contract), but there is no information on what fee structure might be negotiated with retailers and third parties elsewhere in the State. EBT costs could rise depending on negotiated results.

It is impossible at this time to determine whether EBS costs in Minnesota would increase or decrease with an expanded system. One unknown but important factor is how project management costs would change under an expanded system, and this will depend in part on how management tasks would be shared between State and County officials. In addition, unlike New Mexico, Ramsey County currently incurs most terminal deployment and maintenance costs. If retailers elsewhere in Minnesota were more likely to use third-party processors or commercial EFT services, terminal-related costs in an expanded EBS system could decrease.

Are there any other impediments to system expansion?

Both sites experienced difficulty in recruiting retailers to participate in their EBT demonstrations. Thus, one cannot ignore the possibility that it may be difficult to recruit retailers for an expanded EBT system. In Minnesota, retailer concerns over terminal deployment and overdraft liability are almost certain to rise again, especially if the re-presentation policy

needs to be tightened to conform to federal regulations. In New Mexico, where third-party participation is more prevalent, issues may arise over an appropriate fee structure for EBT transactions processed through third parties.

Each State's efforts to recruit retailers, however, should benefit from the presence of its demonstration system. First, both systems are in place and working well. This should reduce any concerns other retailers in each State might have about potential EBT operating problems. Second, some stores in each site (but especially New Mexico) belong to retail food chains that operate throughout the State. Upper management in these retail food chains already is familiar with EBT. If, as program officials expect, these retail chains support EBT expansion, the rest of the retail food industry is likely to join in.

One other potential impediment to expansion cited by New Mexico officials is the possible lack of available office space for client training and card issuance in some local offices throughout the State. The limited space in the Bernalillo County offices was a significant constraint on client training during EBT system implementation.

In Ramsey County, several other potential obstacles to expansion are worth mention. First, if the Ramsey County system is going to expand, some clear consensus must emerge as to who will be responsible for the system. Ramsey County officials would like to maintain their control over the system, which is entirely understandable. It does not seem reasonable, though, to assume that Ramsey County staff should or could manage an expanded system for other counties. The seemingly obvious solution is for the State to assume responsibility. State agency personnel, however, do not yet have the experience to manage an expanded EBS system.

Second, there is a related question about which administrative unit would negotiate a new EBS processing contract. Would Ramsey County negotiate a new contract for expanded operations, would the State agency do so, or would each County negotiate is own contract? The latter seems an implausible situation, which reinforces the earlier-mentioned need for a consensus to be reached on how an expanded system would be structured administratively.

A third factor is that, unlike in New Mexico, many retailers in Ramsey County have EBS contracts with the County and not with the system processor. Ramsey County staff deployed many of the EBS terminals and trained the retailers. Ramsey County staff are not prepared to

provide similar services in other counties. Before expansion can take place, responsibility for recruiting retailers and deploying terminals must be determined.

Summary of Considerations for Expanded Operations

From a technical viewpoint, both demonstration systems could be expanded without major problems. Whether expanded operations would be cost-competitive is not immediately obvious, and a complete cost analysis would need to be done. In this regard New Mexico is further along due to its efforts in negotiating a new contract that covers the possibility of expanded operations.

Administratively, State and local officials in Minnesota need to make many decisions before operations could expand. These decisions include who has ultimate responsibility for an expanded system, to what degree (if any) will the system design be changed to accommodate local requests, who will be responsible for recruiting retailers and deploying terminals, and who will hold the contract with the system processor. By no means are these issues insurmountable. They are not easy issues to resolve, however, so much needs to be done to prepare for expansion.

Finally, neither site would likely experience the same level of difficulty in recruiting retailers for an expanded system as for the original demonstration. Indeed, retailer response might be quite positive. Nevertheless, both sites should be sensitive to retailer concerns about any expansion proposals.

7.3 THE FEASIBILITY OF TRANSFERRING EBT OPERATIONS TO ANOTHER STATE

The cost to design, develop and implement the New Mexico EBT system was approximately $1.58 million (in 1992 dollars); in Ramsey County the cost was approximately $2.08 million. Of these total costs, about 58 percent of the New Mexico costs and about 67 percent of the Ramsey County costs were for system design and development activities. If either system could be transferred to another State without major design changes, a significant portion of the cost of establishing a system could be avoided. The question is whether this is possible.

Without question, the basic processing structure of either EBT system could provide transaction authorization services in another State. That is, the system software that accepts

inbound authorization requests from POS terminals, checks the recipient's remaining balance, authorizes (or rejects) the request, updates data files, and sends the authorization message back to the terminal can be used in almost any setting.

A significant portion of each system's design, however, centers around the interface with the State agency's computerized benefit authorization and issuance systems and the need to allow local personnel to perform needed administrative functions like card issuance and maintenance, benefit cancellation, coupon conversion, claims payments, and review of transaction histories. As noted below, the need for a system/State interface and other potential factors suggest that neither demonstration system could be transferred to another State without some significant and costly new design and development work.

Because different State agencies use different computerized authorization and issuance systems, one should expect that each EBT interface with a State's authorization and issuance systems will have to be separately designed. This redesign would not only require new communication protocols (so one system could understand the other system's data and messages), but would also certainly involve a change in the exact data elements being transferred to set up new EBT accounts, issue new cards, or post benefits.

Differences in State systems may also require more fundamental changes in system design. For instance, if a State's issuance system is not integrated across all programs that the State seeks to place on EBT, it may be very difficult or impossible to have one EBT card access benefits for multiple programs.

With regard to functions performed at administrative terminals, flexibility in the regulations allows substantial variation in the functions a State agency may request and how they will be performed. Requests as simple as a different layout of the workscreen displayed by administration terminals could require substantial reprogramming of an existing system.

[redacted]

In addition, the ease of system transfer will be affected by exactly which programs another State might want to place on EBT. While the New Mexico and Ramsey County systems currently include cash assistance programs as well as the Food Stamp Program, some additional needed system design changes can probably be anticipated to adapt either system to another State's program list. For example, because the New Mexico system serves only one cash assistance program (AFDC), that system does not need to track which cash assistance program's benefits are being accessed through the EBT system. If multiple cash assistance programs are included in an EBT system (as in Ramsey County), the system either needs a set of rules for which account is being accessed with each cash assistance EBT transaction (assuming that a single card can access more than one cash benefit type), or the system's POS terminals and ATMs must be able to identify which program is being accessed.[1] Furthermore, if programs requiring different system functionality are to be served, major design changes will need to be made. For example, the originally planned EBT system for Arizona was to include a State-subsidized day care program, which would have required an entirely different system ability to track hours of day care use. Washington State's EBT system was going to include its Medicaid program, which would have required an ability to track and communicate the Medicaid eligibility status of patients when they went to see a health care provider.

Finally, the issue of retailer recruitment arises again when considering the feasibility of transferring the New Mexico EBT system or the Ramsey County EBS system to another State. This issue, however, is not unique to a transfer of an existing EBT system. It will arise regardless of which EBT system is being considered.

In summary, then, either system could be transferred to another State, but whether this would result in major cost savings for system design and development is questionable. At a minimum, each system's interface with the State's issuance system would have to be redesigned, and one should anticipate some changes in the desired functionality of administrative terminals as well. Finally, major design changes might be needed if the programs another State desired to be served by the EBT system were different from those already being served.

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[1] The POS terminals in New Mexico have the technical capability of identifying up to eight separate programs, but program officials believe that recipients and cashiers would become very confused with an EBT system this complex.

Appendix A

OPERATIONAL AND FUNCTIONAL REQUIREMENTS FOR THE DEMONSTRATION EBT SYSTEMS

This appendix lists the operational and functional requirements for EBT systems specified in the Cooperative Agreements between FNS and the four State and County agencies participating in the State-initiated EBT demonstrations. While these requirements still govern the EBT demonstration systems, State agencies wishing to implement non-demonstration EBT systems must adhere to new federal regulations. The new regulations, which include much more detailed requirements for EBT systems, were published in the Federal Register on April 1, 1992.

A.1 EBT OPERATING ENVIRONMENT AND FUNCTIONAL RESPONSIBILITY

An EBT system for the issuance of FSP benefits requires changes to the present operating environment and functional responsibilities. The operating environment and the major participants' functional responsibilities shall dictate, to a large extent, the design of the proposed EBT system. The State or local agency shall provide whatever procedures are necessary to satisfy the functional requirements and the special FSP requirements described in this document.

An overview of the basic EBT system's operating environment and functional responsibilities, by program function, is provided below:

a. Authorizing recipient benefits

- Certifying households in accordance with FSP regulations
- Establishing certified households on an automated Master File and Issuance Authorization File
- Providing identification cards and benefit access devices to recipients
- Assigning personal identification numbers (PIN's) or providing an alternative verification mechanism
- Establishing benefit cards and accounts
- Training recipients in system usage

- Authorizing benefit delivery
- Posting benefits to recipients' accounts
- Providing recipients access to information on benefit availability
- Inventorying and securing accountable documents, including unissued, blank transaction documents

b. Providing food benefits to recipients

- Verifying the identity of authorized recipients or recipients' representatives at issuance terminals or POS
- Debiting/crediting recipient benefit accounts at POS in conjunction with appropriate account and balance validation
- Providing back-up purchase procedures for those instances in which the electronic system is not functional
- Delivering food benefits to recipients or recipients' representatives
- Providing recipients receipts for benefits redeemed and balance remaining at POS

c. Crediting retailers and financial institutions for redeemed benefits

- Verifying bank account information for all retailers involved in the system
- Providing retailers with the ability to obtain balance information for individual POS terminals, as needed during the day
- Creating records of EBT transactions and totalling all credits accumulated by each retailer
- Providing retailers, on a schedule selected by each retailer, information on total debits/credits on a daily basis
- Preparing a daily Automated Clearing House (ACH) tape with information on benefits redeemed for each retailer
- Transmitting the ACH tape to a financial clearinghouse institution for transmission to the Federal Reserve

- Transferring the ACH tape to the Federal Reserve using electronic funds transfer (EFT) technology. The Federal Reserve will take action which results in crediting retailers accounts, debiting and crediting the financial clearinghouse accounts, and debiting USDA's Treasury Account.

Note: Another procedure may be used to credit retailer accounts/debit FNS' account, if it meets the system's and FNS' needs.

d. Benefit reconciliation and management report production

- Reconciling posted benefits to the Issuance Authorization File
- Reconciling individual recipient's account balances against account activities on a daily basis
- Reconciling individual retail store's food stamp transactions to deposits on a daily basis
- Verifying retailer's credits against deposit information entered into the ACH network
- Reconciling total funds entered into, exiting from, and remaining in the system
- Transmitting information on retailer's deposits to points specified by FNS
- Producing management reports
- Maintaining audit trails

e. Managing retailer participation

- Receiving information from FNS on stores authorized or disqualified to redeem food stamp benefits
- Ensuring that stores have the necessary equipment and supplies and that such equipment and supplies are removed for FSP purposes if stores are disqualified or withdraw from the program
- Ensuring that equipment is maintained in working order
- Training store employees in system operation
- Providing a mechanism for compliance investigations

A.2 SPECIAL FOOD STAMP PROGRAM REQUIREMENTS

The EBT system shall maintain the level and quality of service to participants that is mandated by law and program regulations. If there is no way to avoid a conflict with basic program requirements, any deviations necessary to successfully accomplish project implementation must be described and waivers of requirements, where necessary to implement the design, must be requested. Specific FNS approval of such waivers will be required.

The State or local agency shall consider the following items in the design of the EBT demonstration system, the operation of the EBT system, and the possible transition to a broader EBT system implementation.

- Recipient Access

  The EBT system shall provide for minimal disruption of recipients' access to retail outlets. All authorized retailers within the project area must be afforded the opportunity to participate in the project. If all authorized stores are not equipped with on-line POS devices, an alternate method to accept client benefits must be established. The alternate method cannot be burdensome on either the participant or the retailer. Because recipient access is a critical element of the FSP, the State or local agency must establish how retailers' participation will be maintained under the EBT system. Recipients residing inside the project's boundary should be able to shop at nearby stores even though the store may be outside the project area.

- Equal Treatment

  The EBT system shall maintain equal treatment for food stamp recipients. Retailers may be tempted to require recipients to check out at exclusive registers or particular areas of the store. It will not be acceptable to establish special lines which are only for food stamp recipients. However, if special lines are established for check cashers or holders of other debit/credit cards, food stamp customers could also be assigned to such lines. Strategy for avoiding unequal treatment and negative impacts on food stamp transaction time must be developed.

- Knowledge of Allotment Balance

  Households need to know their account balance in order to plan purchases. The EBT system shall provide recipients with informational access to the system without their having to make a purchase or stand in a check-out line. Recipients must also receive information about their account balance at the time of food purchase.

- Retention of Remaining Monthly Balance

  The EBT system shall allow for the carry-over from month-to-month of accumulated balances of household benefits. However, if household accounts are inactive for a period of time, the State or local agency may arrange to "store" such benefits off-line pending recontact by recipients.

- Replacement of Lost, Stolen, or Damaged Cards

  The EBT system should be capable of quickly replacing the benefit card for any household claiming its damage or loss, while ensuring that the household does not obtain more than one account with which to access the system. Similarly, households believing that someone else has unauthorized knowledge of their PIN or code must be able to obtain a new PIN within one business day.

- Benefit Adjustment

  Procedures must be available to restore/debit benefits and sales that have been erroneously debited/credited. Authority for such functions shall be limited to appropriate managers and any corrections must be fully documented.

- Expedited Service

  Program regulations require that certain types of households demonstrating immediate need be provided benefits in accordance with the timeframes established at 273.2(i) of FSP regulations. The EBT system must provide for the creation of a household benefit account, and the production and issuance of identification/benefit cards within these specified timeframes.

- Household Mobility

  The EBT system must provide a mechanism to allow households leaving or entering an EBT project area to take their current benefit allotment with them. Benefits must be converted to coupons for those leaving the demonstration area. This provision is intended to accommodate those situations where recipients are permanently or temporarily (vacation, emergency, etc.) re-locating their place of residence. Requests for coupons solely for purposes of shopping outside the demonstration area shall not be approved.

- Project Boundary and Transition Problems

  The demonstration site should ideally be a contained grocery shopping area in order to minimize participants shopping out of the test area. If the project area is not a contained area, the State or local agency must allow for recipient shopping in stores which border on the demonstration sites. Decisions about which stores to include should be made in consultation with advocate groups. If

the demonstration is phased-in, the State or local agency shall specify how transitional problems will be handled.

- Restricted Access to System

The EBT system shall include procedures to limit access to information about recipient households and their benefits. While households and their authorized representatives need easy system access, this need cannot open the system to abuse by retailers, cashiers, or any other persons. The PIN, or other access code to enable verification should not subsequently be available for a clerk or others to use in obtaining unauthorized benefits. Similarly, if recipients fail to exhaust the contents of their accounts, unauthorized individuals should not be able to divert the remaining benefits to their own use. These are critical elements to the success of this system, and must be provided for in any design considered.

- Issuance of Household Benefit Card

The EBT system shall provide for the separation of certification from issuance and card initialization functions. By substituting the benefit card for other authorizing documents, such as the ATP, access to benefits is more rapid since the intermediate step of ATP exchange for food coupons is removed. Elimination of the ATP, however, makes security of the benefit card more important since it becomes the authorizing instrument for access to benefits. By having benefit card production and initialization done by an issuance unit employee or staff other than certification unit personnel, no single agency employee or unit will have the ability to both authorize and provide access to the benefit allotments.

- Retailer Identification/Clearance

The EBT system shall include a retailer validation check to ensure that only currently-authorized stores can access the system. Stores whose program participation has been withdrawn or disqualified must be denied access immediately, while newly authorized stores must be included in the system as quickly as possible.

- System Reliability and Back-up

The reliability of the EBT system is absolutely essential to its success. In contrast to existing credit card or debit card systems, the unavailability of the EBT system, even temporarily, would impose severe hardship on households largely dependent on it for purchasing their food. This may be addressed through full redundancy of critical system components, through a manual back-up system for emergency use, through an alternate mechanism, or through some combination of these. Any system chosen must be fully consistent with FSP security requirements and acceptable to stores.

- Applicability to Entire Food Stamp Program on a Larger Scale

  The EBT demonstration will originally be implemented in a small-scale environment. However, the design of the EBT demonstration system must be suitable for a larger scale implementation, i.e., in other project areas or jurisdictions, should this later be deemed desirable. With the approval of FNS, State or local agencies may be allowed to expand the demonstration during the operational period.

- Integrity

  The system shall be designed to ensure its integrity through: the separation of responsibilities; data reconciliation; and other safeguards such as encryption, limited access, and security bonding. Points of particular vulnerability in an EBT system include: tampering with or creating recipients' accounts; erroneous posting of issuances to recipients' accounts; manipulation of retailers' accounts; and tampering with information on the ACH tape.

Appendix B

SUPPLEMENTARY EXHIBITS FOR CHAPTER 2

This appendix contains supplementary exhibits for the analysis of EBT system impacts on administrative costs. Before presenting these exhibits, we provide some additional details on the calculation of these impacts.

The calculation of indirect costs followed, as closely as practical, the existing indirect cost allocation procedures of the State and local agencies in the study. Data were collected from cost allocation calculations made by these agencies for the purpose of claiming Federal reimbursement of administrative costs. These calculations typically allocate the costs of overhead staff (office managers, support staff, etc.) and non-labor overhead (supplies, facilities and other shared resources that are not directly charged to program activities) to the direct costs of eligibility workers and other direct-service staff. In New Mexico, the allocation is done at the State level, and both State and local indirect costs are included in the local indirect cost rate.

The indirect cost data were used to determine the ratio of indirect costs to direct costs for each agency at baseline and post-implementation, and to which direct costs the indirect cost rate should be applied. Some adjustments to the actual ratios were necessary when staff costs measured directly by the evaluation were already included in the State or local agency indirect cost calculations. Exhibit B-19 summarizes the indirect cost rates used by the evaluation and the costs to which they were applied.

No indirect costs were allocated to those direct costs that were not allocated indirect costs by the State or local agency. Ramsey County did allocate a small amount of indirect cost ($465 per month) to the EBS project director and assistant, but this cost was simply assigned to the project management and oversight task (appropriately allocated between the food stamp and cash programs). Except for the baseline State non-labor costs in New Mexico, no non-labor direct costs received an allocation of indirect costs.

The tables in this appendix are organized as follows:

- Exhibits B-1 through B-10 present detailed coupon system costs by function for New Mexico and Ramsey County. Each table presents the baseline and post-implementation costs for one function in one State's

demonstration and comparison sites.

- Exhibits B-11 through B-15 compare detailed EBT system operating costs for New Mexico and Ramsey County, with one table for each function.
- Exhibit B-16 presents total EBT system monthly operating costs by agency and program for the two sites.
- Exhibits B-17 and B-18 present caseload and transaction data used in the calculations.
- Exhibit B-19 provides the indirect cost rates used in the evaluation.

A column indicating the percentage change in the comparison site cost per case month (or, where indicated, the change in the time per case month) is provided in Exhibits B-1 through B-4 and B-10. These are the only exhibits that contain local agency costs for the coupon system, for which the post-implementation demonstration site cost had to be estimated using the baseline demonstration site data and the change in the comparison site, as described in Section 2.1. The post-implementation State and FNS costs in Exhibits B-5 through B-9 were, by their nature, the same for both demonstration and comparison sites. As explained in Section 2.1, the percentage change in comparison site eligibility worker and clerical time per case month was used to estimate the Ramsey County post-implementation time per case month for these workers; this cost of this time was calculated at actual 1992 Ramsey County pay rates.

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Exhibit B-1

COUPON SYSTEM COSTS TO AUTHORIZE ACCESS TO BENEFITS: NEW MEXICO

	Baseline Costs		Post-Implementation Costs		
	Comparison Site Cost per Case Month	Demonstration Site Cost per Case Month	Comparison Site Cost per Case Month	Percentage Change in Comparison Site Cost	Demonstration Site Estimated Cost per Case Month
Task: Issue/update/replace ID card					
Local Agency costs:					
Eligibility worker labor	0.047	0.101	0.074	57.1%	0.159
Clerical labor	<0.001	0.002		(1)	0.002
Indirect cost	0.022	0.050	0.037	(2)	0.078
Local Agency Total	*0.069*	*0.153*	*0.111*		*0.239*
TASK TOTAL	0.069	0.153	0.111		0.239

See end of table for notes.

Exhibit B-1
(continued)

	Baseline Costs		Post-Implementation Costs		
	Comparison Site Cost per Case Month	Demonstration Site Cost per Case Month	Comparison Site Cost per Case Month	Percentage Change in Comparison Site Cost	Demonstration Site Estimated Cost per Case Month
Task: Create and print benefit records					
Local Agency costs:					
Eligibility worker labor	0.043	0.053	0.119	176.9%	0.147
Clerical labor	0.010	0.026	0.106	959.6%	0.275
Indirect cost	0.025	0.038	0.113	(2)	0.211
Local Agency Total	*0.078*	*0.117*	*0.338*		*0.633*
State Agency costs:					
General labor	0.028	0.028	0.016		0.016
Clerical labor	<0.001	<0.001	<0.001		<0.001
Misc. supplies	0.006	0.006	0.006		0.006
Printing	0.016	0.016	0.017		0.017
Indirect cost	0.011	0.011	0.009		0.009
State Agency Total	*0.063*	*0.063*	*0.048*		*0.048*
TASK TOTAL	0.141	0.180	0.386		0.681
FUNCTION TOTAL	**0.210**	**0.333**	**0.497**		**0.920**

Notes: 1. Wave 3 demonstration site cost assumed to be the same as Wave 1 demonstration site cost.

2. Overhead rate for demonstration office was used to calculate demonstration site overhead cost.

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Exhibit B-2

COUPON SYSTEM COSTS TO AUTHORIZE ACCESS
TO BENEFITS: RAMSEY COUNTY, MINNESOTA

	Baseline Costs		Post-Implementation Costs		
	Comparison Site Cost per Case Month	Demonstration Site Cost per Case Month	Comparison Site Cost per Case Month	Percentage Change in Comparison Site[1]	Demonstration Site Estimated Cost per Case Month
Task: Issue/update/ replace ID					
Local Agency costs:					
Eligibility Worker labor	0.016	0.008	0.008	-51.6%	0.005
Clerical labor	0.011	0.006	0.001	-98.2%	<0.001
Specialist labor		0.001			
Paper ID stock	n.a.	0.002	n.a.	(2)	0.002
Envelopes		0.004			
Printing		<0.001			
Regular mail		0.037			
Indirect cost	0.010	0.005	0.003	(3)	0.002
Local Agency Total	*0.037*	*0.063*	*0.012*		*0.009*
TASK TOTAL	0.037	0.063	0.012		0.009

See end of table for notes.

Exhibit B-2
(continued)

	Baseline Costs		Post-Implementation Costs		
	Comparison Site Cost per Case Month	Demonstration Site Cost per Case Month	Comparison Site Cost per Case Month	Percentage Change in Comparison Site[1]	Demonstration Site Estimated Cost per Case Month
Task: Create and print benefit records					
Local Agency costs:					
Eligibility worker labor	0.040	0.111	0.035	-13.6%	0.123
Clerical labor	0.070	0.106	0.024	-67.9	0.040
Specialist labor		0.010			
CPU time	0.025	0.009			
Printing	0.024	0.001			
Indirect cost	0.037	0.070	0.017	(3)	0.039
Local Agency Total	*0.196*	*0.307*	*0.076*		*0.202*
State Agency costs:					
Specialist labor			0.044		0.044
Indirect cost			<0.001		<0.001
State Agency Total			*0.045*		*0.045*
TASK TOTAL	0.196	0.307	0.121		0.247
FUNCTION TOTAL	**0.233**	**0.370**	**0.133**		**0.256**

n.a. = not available

Notes:
1. For local agency labor, change is in time per case month; demonstration site estimated post-implementation cost was calculated using actual 1992 pay rates for Ramsey County. For other direct local agency costs, percentage change in comparison site costs was used, except as noted.
2. Baseline demonstration site cost was only available measure for paper ID stock.
3. Indirect cost for estimated post-implementation demonstration site cost was calculated using direct cost estimates and applicable overhead rates.

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Exhibit B-3

COUPON SYSTEM COSTS TO DELIVER BENEFITS:
NEW MEXICO

	Baseline Costs		Post-Implementation Costs		
	Comparison Site Cost per Case Month	Demonstration Site Cost per Case Month	Comparison Site Cost per Case Month	Percentage Change in Comparison Site Cost	Demonstration Site Estimated Cost per Case Month
Task: Supply coupons					
State Agency costs:					
General labor	0.013	0.013	0.002	(1)	0.002
Alarms/monitoring	0.001	0.001	0.001	(1)	0.001
Secure storage	0.020	0.020	0.051	(1)	0.051
Indirect cost	0.008	0.008	0.001	(1)	0.001
State Agency Total	*0.042*	*0.042*	*0.054*		*0.054*
Regional Agency costs:					
Labor	0.001	0.001			
Indirect cost	0.000	0.000			
Regional Agency Total	*0.001*	*0.001*			

See end of table for notes.

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Exhibit B-3
(continued)

		Baseline Costs		Post-Implementation Costs		
		Comparison Site Cost per Case Month	Demonstration Site Cost per Case Month	Comparison Site Cost per Case Month	Percentage Change in Comparison Site Cost	Demonstration Site Estimated Cost per Case Month
Task:	**Supply coupons (continued)**					
	National Agency costs:					
	Clerical labor	<0.001	<0.001	<0.001		<0.001
	Specialist labor	0.001	0.001	0.003		0.003
	Administrator labor	0.001	0.001	0.001		0.001
	Coupon printing	0.207	0.207	0.347		0.347
	Regular mail	0.005	0.005			
	Armored car service	0.017	0.017			
	CPU time			0.002		0.002

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Exhibit B-3
(continued)

	Baseline Costs		Post-Implementation Costs		
	Comparison Site Cost per Case Month	Demonstration Site Cost per Case Month	Comparison Site Cost per Case Month	Percentage Change in Comparison Site Cost	Demonstration Site Estimated Cost per Case Month
Task: Deliver coupons to recipients					
State Agency costs:					
General labor	0.106	0.106	0.123	(1)	0.123
Envelopes	0.016	0.016	0.037	(1)	0.037
Regular mail	1.104	1.104	1.328	(1)	1.328
Depreciation	0.122	0.122	0.075	(1)	0.075
Maintenance	0.024	0.024	0.021	(1)	0.021
Travel			0.001	(1)	0.001
Indirect cost	0.280	0.280	0.065	(1)	0.065
State Agency Total	*1.653*	*1.653*	*1.650*		*1.650*
TASK TOTAL	1.653	1.653	1.650		1.650

See end of table for notes.

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Exhibit B-3
(continued)

	Baseline Costs		Post-Implementation Costs		
	Comparison Site Cost per Case Month	Demonstration Site Cost per Case Month	Comparison Site Cost per Case Month	Percentage Change in Comparison Site Cost	Demonstration Site Estimated Cost per Case Month
Task: Resolve issuance problems					
Local Agency costs:					
Eligibility worker labor	0.206	0.266	0.104	-49.4%	0.135
Clerical labor	0.043	0.095	0.081	+87.6	0.178
Indirect labor	0.119	0.173	0.093	(2)	0.155
Local Agency Total	*0.368*	*0.535*	*0.278*		*0.468*
State Agency costs:					
General labor	0.049	0.049	0.054	(1)	0.054
Specialist labor	n.a	n.a	0.086	(1)	0.086
Administrator labor	0.017	0.017	0.016	(1)	0.016
Indirect cost	0.015	0.015	0.028	(1)	0.028
State Agency Total	*0.082*	*0.082*	*0.184*		*0.184*
TASK TOTAL	0.450	0.617	0.462		0.652
FUNCTION TOTAL	2.377	2.544	2.561		2.751

Notes: 1. Statewide costs are assumed to be the same for demonstration and comparison sites.

2. Overhead rate for demonstration office was used to calculate demonstration site overhead cost.

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Exhibit B-4

COUPON SYSTEM COSTS TO DELIVER BENEFITS:
RAMSEY COUNTY, MINNESOTA

	Baseline Costs		Post-Implementation Costs		
	Comparison Site Cost per Case Month	Demonstration Site Cost per Case Month	Comparison Site Cost per Case Month	Percentage Change in Comparison Site[1]	Demonstration Site Estimated Cost per Case Month
Task: Supply Coupons					
Local Agency costs:					
Clerical labor	0.027	0.033			
Clerical supvr. labor	0.001				
Operator/driver	0.001				
Administrator	0.001				
Armored car service	0.027	0.025			
Alarms/monitoring	0.011	0.009			
Insurance	0.112	0.116			
Secure storage	0.025				
Indirect cost	0.000	0.000			
Local Agency Total	*0.206*	*0.184*	*0.000*		*0.000*

See end of table for notes.

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Exhibit B-4
(continued)

	Baseline Costs		Post-Implementation Costs		
	Comparison Site Cost per Case Month	Demonstration Site Cost per Case Month	Comparison Site Cost per Case Month	Percentage Change in Comparison Site[1]	Demonstration Site Estimated Cost per Case Month
Task: Supply Coupons (continued)					
State Agency costs:					
General labor			0.004	(2)	0.004
Clerical labor	0.001	0.001			
Alarms/security			0.060	(2)	0.060
Secure storage			0.055	(2)	0.055
Miscellaneous services			0.009	(2)	0.009
Indirect cost	<0.001	<0.001	<0.001	(2)	<0.001
State Agency Total	*0.001*	*0.001*	*0.129*		*0.129*
Regional Agency costs:					
Labor			<0.001		<0.001
Indirect Cost			0.000		0.000
Regional Agency Total			*<0.001*		*<0.001*

See end of table for notes.

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Exhibit B-4
(continued)

	Baseline Costs		Post-Implementation Costs		
	Comparison Site Cost per Case Month	Demonstration Site Cost per Case Month	Comparison Site Cost per Case Month	Percentage Change in Comparison Site[1]	Demonstration Site Estimated Cost per Case Month
Task: Supply Coupons (continued)					
National Agency costs:					
Clerical labor	<0.001	<0.001	<0.001		<0.001
Specialist labor	0.001	0.001	0.003		0.003
Administrator labor	0.001	0.001	0.001		0.001
Coupon printing	0.207	0.207	0.347		0.347
Regular mail	0.005	0.005			
Armored car service	0.017	0.017			
Travel	<0.001	<0.001			
CPU time			0.002		0.002
Computer depreciation			<0.001		<0.001
Long-distance service			<0.001		<0.001
Storage and shipping			0.041		0.041
Travel			<0.001		<0.001
Indirect cost	<0.001	<0.001	<0.001		<0.001
National Agency Total	*0.231*	*0.231*	*0.395*		*0.395*
TASK TOTAL	0.438	0.416	0.524		0.524

See end of table for notes.

Exhibit B-4
(continued)

	Baseline Costs		Post-Implementation Costs		
	Comparison Site Cost per Case Month	Demonstration Site Cost per Case Month	Comparison Site Cost per Case Month	Percentage Change in Comparison Site[1]	Demonstration Site Estimated Cost per Case Month
Task: Deliver coupons to recipients					
Local Agency costs:					
Clerical labor	0.239	0.289			
Specialist labor		0.008			
Envelopes	0.027	0.142			
Misc. supplies		0.010			
Regular mail	0.549	0.105			
Certified mail		0.743			
Leased equipment		0.001			
Maintenance		0.003			
Indirect cost	0.000	0.002			
Local Agency Total	*0.815*	*1.301*			

See end of table for notes.

Exhibit B-4
(continued)

	Baseline Costs		Post-Implementation Costs		
	Comparison Site Cost per Case Month	Demonstration Site Cost per Case Month	Comparison Site Cost per Case Month	Percentage Change in Comparison Site[1]	Demonstration Site Estimated Cost per Case Month
Task: Deliver coupons to recipients (continued)					
State Agency costs:					
General labor			0.179	(2)	0.179
Administrator labor			0.029	(2)	0.029
Leased equipment			0.285	(2)	0.285
Postage			0.716	(3)	1.001
Envelopes			0.020	(2)	0.020
Other misc. services			0.019	(2)	0.019
Indirect cost			0.002	(2)	0.002
State Agency Total			*1.249*		*1.534*
TASK TOTAL	0.815	1.301	1.249		1.534

See end of table for notes.

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Exhibit B-4
(continued)

	Baseline Costs		Post-Implementation Costs		
	Comparison Site Cost per Case Month	Demonstration Site Cost per Case Month	Comparison Site Cost per Case Month	Percentage Change in Comparison Site[1]	Demonstration Site Estimated Cost per Case Month
Task: Resolve issuance problems					
Local Agency costs:					
Eligibility worker labor	0.043	0.086	0.083	+83.3	0.201
Clerical labor	0.046	0.256	0.245	+309.9	1.273
Administrator labor			0.043	(4)	0.043
Secure storage	0.004				
Indirect cost	0.026	0.051	0.121		0.092
Local Agency Total	*0.119*	*0.393*	*0.492*		*1.609*
State Agency costs:					
General labor			0.043	(2)	0.043
Specialist labor (continued)			0.002		0.002

See end of table for notes.

Exhibit B-4
(continued)

	Baseline Costs		Post-Implementation Costs		
	Comparison Site Cost per Case Month	Demonstration Site Cost per Case Month	Comparison Site Cost per Case Month	Percentage Change in Comparison Site[1]	Demonstration Site Estimated Cost per Case Month
Task: Resolve issuance problems (continued)					
State Agency costs:					
Postage			0.067	(2)	0.067
Envelopes			0.005	(2)	0.005
Misc. supplies			0.001	(2)	0.001
Equipment depreciation			0.017	(2)	0.017
Armored car service			0.040	(2)	0.040
Misc. services			0.061	(2)	0.061
Indirect cost			0.002	(2)	0.002
State Agency Total			*0.238*		*0.238*
TASK TOTAL	0.119	0.393	0.730		1.847
FUNCTION TOTAL	**1.372**	**2.110**	**2.503**		**3.905**

Notes: 1. For local agency labor, percentage change is in time per case month; demonstration site estimated post-implementation cost was calculated using actual 1992 pay rates for Ramsey County. For other direct local agency costs, percentage changes in comparison site costs was used, except as noted.

2. State agency cost assumed to be the same for both sites.

3. Post-implementation postage for demonstration site was estimated using baseline local postage, adjusted for 18 percent postal rate increase over period.

4. Local cost assumed the same for both sites; no baseline cost for this item.

Exhibit B-5

COUPON SYSTEM COSTS TO CREDIT RETAILERS:
NEW MEXICO

	Baseline National Costs Per Case Month (Comparison and Demonstration sites)	Post-Implementation National Costs per Case (Comparison and Demonstration sites)
Task: Process coupon deposits and related documents		
National Agency costs:		
Clerical labor	<0.001	<0.001
Clerical supv. labor		<0.001
Specialist labor	<0.001	<0.001
Administrator labor		<0.001
Federal Reserve Services	0.139	0.164
Indirect cost	<0.001	<0.001
National Agency Total	*0.139*	*0.165*
TASK TOTAL	0.139	0.165
FUNCTION TOTAL	0.139	0.165

Exhibit B-6

**COUPON SYSTEM COSTS TO CREDIT RETAILERS:
RAMSEY COUNTY, MINNESOTA**

	National Baseline Costs Per Case Month (Comparison and Demonstration sites)	Post-Implementation National Costs per Case Month (Comparison and Demonstration sites)
Task: Process coupon deposits and related documents		
National Agency costs:		
Clerical labor	<0.001	<0.001
Clerical supr. labor		<0.001
Administrator labor		<0.001
Specialist labor	<0.001	<0.001
Federal Reserve services	0.139	0.164
Indirect costs	<0.001	<0.001
National Agency Total	*0.139*	*0.165*
TASK TOTAL	0.139	0.165
FUNCTION TOTAL	0.139	0.165

Exhibit B-7

COUPON SYSTEM COSTS TO MANAGE RETAILER PARTICIPATION: NEW MEXICO

	Baseline Costs Per Case Month (Comparison and Demonstration sites)	Post-Implementation National Costs per Case Month (Comparison and Demonstration sites)
Task: Authorize and train retailers		
Field Agency costs:		
Labor	0.030	0.053
Travel	0.020	
Indirect cost	0.000	0.000
Field Agency Total	*0.050*	*0.053*
National Agency costs:		
Regular mail	0.002	0.002
Misc. supplies		<0.001
Reauthorization project		0.001
Indirect cost	0.000	0.000
National Agency Total	*0.002*	*0.003*
TASK TOTAL	0.052	0.056
Task: Monitor Redemption Activity		
National Agency costs:		
General labor	0.011	0.008
Specialist labor		<0.001
Administrator labor		<0.001
Envelopes	<0.001	
Redemption certificates	0.002	0.005
Misc. supplies	0.001	0.001
Computer depreciation	0.001	0.001

Exhibit B-7
(continued)

	Baseline Costs Per Case Month (Comparison and Demonstration sites)	Post-Implementation National Costs per Case Month (Comparison and Demonstration sites)
Task: Monitor Redemption Activity		
National Agency Costs: (continued)		
Regular mail	0.003	0.004
Maintenance	0.001	<0.001
Other misc.	0.001	
Miscellaneous services		<0.001
Space usage	<0.001	0.001
Indirect cost	0.000	0.001
National Agency Total	*0.020*	*0.021*
TASK TOTAL	0.020	0.021
Task: Compliance enforcement		
Field Agency costs:		
Labor	0.025	0.026
Indirect cost	0.000	0.000
Field Agency Total	*0.025*	*0.026*
Regional Agency costs:		
Labor	0.015	<0.001
Indirect cost	0.000	0.000
Regional Agency Total	*0.015*	*<0.001*
National Agency costs:		
General labor	0.026	0.022
Clerical labor	0.002	0.001
Clerical supv. labor		<0.001
Administrator labor	0.008	0.006

Exhibit B-7
(continued)

	Baseline Costs Per Case Month (Comparison and Demonstration sites)	Post-Implementation National Costs per Case Month (Comparison and Demonstration sites)
Task: Compliance enforcement		
National Agency costs: (continued)		
Coupons for investigation	0.013	0.017
Depreciation		<0.001
Travel	0.005	0.004
Misc. services	<0.001	<0.001
Other misc.	0.001	0.001
Indirect cost	0.001	0.001
National Agency Total	*0.056*	*0.052*
TASK TOTAL	0.096	0.078
Task: Set policy and oversee redemption system		
Regional Agency costs:		
Labor	0.001	0.001
Travel		0.001
Indirect cost	0.000	0.000
Regional Agency Total	*0.001*	*0.002*
National Agency costs:		
Clerical labor	<0.001	<0.001
Clerical supr. labor		<0.001
Specialist labor	0.003	0.002
Administrator labor	0.001	0.001

Exhibit B-7
(continued)

	Baseline Costs Per Case Month (Comparison and Demonstration sites)	Post-Implementation National Costs per Case Month (Comparison and Demonstration sites)
Task: Set policy and oversee redemption system		
National Agency costs: (continued)		
Travel	<0.001	<0.001
Indirect cost	<0.001	<0.001
National Agency Total	*0.004*	*0.004*
TASK TOTAL	0.005	0.006
FUNCTION TOTAL	**0.173**	**0.161**

Exhibit B-8

COUPON SYSTEM COSTS TO MANAGE RETAILER PARTICIPATION: RAMSEY COUNTY, MINNESOTA

	Baseline Costs Per Case Month (Comparison and Demonstration sites)	Post-Implementation Costs per Case Month (Comparison and Demonstration sites)
Task: Authorize and train retailers		
Field Agency costs:		
Labor	0.039	0.059
Indirect cost	0.000	0.000
Field Agency Total	*0.039*	*0.059*
Regional Agency costs:		
Labor		0.002
Travel		<0.001
Indirect cost		0.000
Regional Agency Total		*0.002*
National Agency costs:		
Regular mail	0.002	0.002
Misc. supplies		<0.001
Reauthorization project		0.001
Indirect cost	0.000	0.000
National Agency Total	*0.002*	*0.003*
TASK TOTAL	0.041	0.064

Exhibit B-8
(continued)

	Baseline Costs Per Case Month (Comparison and Demonstration sites)	Post-Implementation Costs per Case Month (Comparison and Demonstration sites)
Task: *Monitor Redemption Activity*		
National Agency costs:		
General labor	0.011	0.008
Specialist labor		<0.001
Administrator labor		<0.001
Envelopes	<0.001	
Redemption certificates	0.002	0.005
Misc. supplies	0.001	0.001
Computer depreciation	0.001	0.001
Regular mail	0.003	0.004
Maintenance	0.001	<0.001
Misc. services		<0.001
Other misc.	0.001	
Space usage	<0.001	0.001
Indirect costs	0.000	0.001
National Agency Total	*0.020*	*0.021*
TASK TOTAL	0.020	0.021
Task: Compliance Enforcement		
Field Agency costs:		
Labor	0.023	0.014
Indirect costs	0.000	0.000
Field Agency Total	*0.023*	*0.014*

Exhibit B-8
(continued)

	Baseline Costs Per Case Month (Comparison and Demonstration sites)	Post-Implementation Costs per Case Month (Comparison and Demonstration sites)
Task: Compliance Enforcement (continued)		
Regional Agency costs:		
Labor	0.001	0.001
Travel		<0.001
Indirect costs	0.000	0.000
Regional Agency Total	*0.001*	*0.001*
National Agency costs:		
General labor	0.026	0.022
Clerical labor	0.002	0.001
Clerical supv. labor		<0.001
Administrator labor	0.008	0.006
Coupons for investigation	0.013	0.017
Depreciation		<0.001
Travel	0.005	0.004
Misc. services	<0.001	<0.001
Other misc.	0.001	0.001
Indirect cost	0.001	0.001
National Agency Total	*0.056*	*0.052*
TASK TOTAL	0.080	0.067
Task: Set Policy and Oversee Redemption System		
Regional Agency costs:		
Labor	0.006	0.008

Exhibit B-8
(continued)

	Baseline Costs Per Case Month (Comparison and Demonstration sites)	Post-Implementation Costs per Case Month (Comparison and Demonstration sites)
Task: Set Policy and Oversee Redemption System		
Regional Agency costs: (continued)		
Indirect cost	0.000	0.000
Regional Agency Total	*0.006*	*0.008*
National Agency costs:		
Clerical labor	<0.001	<0.001
Clerical supv. labor		<0.001
Specialist labor	0.003	0.002
Administrator labor	0.001	0.001
Travel	<0.001	<0.001
Indirect cost	<0.001	<0.001
National Agency Total	*0.004*	*0.004*
TASK TOTAL	0.010	0.012
FUNCTION TOTAL	0.151	0.164

Exhibit B-9

COUPON SYSTEM COSTS TO RECONCILE AND MONITOR ISSUANCE SYSTEM: NEW MEXICO

	Baseline Costs Per Case Month (Comparison and Demonstration sites)	Post-Implementation Costs per Case Month (Comparison and Demonstration sites)
Task: Reconcile issuances and report losses		
State Agency costs:		
General labor	0.013	0.014
Indirect cost	0.003	0.007
State Agency Total	*0.016*	*0.021*
Regional Agency costs:		
Labor	0.003	0.003
Travel	<0.001	
Indirect cost	0.000	0.000
Regional Agency Total	*0.003*	*0.003*
National Agency costs:		
Specialist labor	0.002	0.001
Administrator labor		<0.001
CPU Time	0.001	0.001
Computer depreciation	<0.001	<0.001
Long-distance service	<0.001	<0.001
Indirect cost	≤0.001	≤0.001
National Agency Total	*0.003*	*0.002*
TASK TOTAL	0.022	0.026

Exhibit B-9
(continued)

	Baseline Costs Per Case Month (Comparison and Demonstration sites)	Post-Implementation Costs per Case Month (Comparison and Demonstration sites)
Task: Set policy and oversee issuance operations		
State Agency costs:		
Administrator labor	0.017	0.016
Indirect cost	0.004	0.000
State Agency Total	*0.021*	*0.016*
National Agency costs:		
Clerical labor		<0.001
Specialist labor	0.001	<0.001
Administrator labor		<0.001
Travel		<0.001
Indirect cost	<0.001	<0.001
National Agency Total	*0.001*	*0.001*
TASK TOTAL	0.022	0.017
FUNCTION TOTAL	**0.044**	**0.043**

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Exhibit B-10

COUPON SYSTEM COSTS TO RECONCILE AND MONITOR ISSUANCE SYSTEM: RAMSEY COUNTY, MINNESOTA

	Baseline Costs		Post-Implementation Costs		
	Comparison Site Cost per Case Month	Demonstration Site Cost per Case Month	Comparison Site Cost per Case Month	Percentage Change in Comparison Site[1]	Demonstration Site Estimated Cost per Case Month
Task: Reconcile issuances and report losses					
Local Agency costs:					
Clerical labor	0.049	0.008	0.029	-59.2	0.004
Indirect cost	0.004	0.000	0.011	(2)	≤0.001
Local Agency Total	*0.054*	*0.008*	*0.040*		*0.004*
State Agency costs:					
Labor	0.013	0.013	0.005	(3)	0.005
Specialist labor			0.007	(3)	0.007
Indirect cost	0.001	0.001	0.001	(3)	0.001
State Agency Total	*0.014*	*0.014*	*0.012*		*0.012*
Regional Agency costs:					
Labor	0.006	0.006	0.003		0.003
Indirect Costs	0.000	0.000	0.000		0.000
Regional Agency Total	*0.006*	*0.006*	*0.003*		*0.003*

See end of table for notes.

Exhibit B-10
(continued)

	Baseline Costs		Post-Implementation Costs		
	Comparison Site Cost per Case Month	Demonstration Site Cost per Case Month	Comparison Site Cost per Case Month	Percentage Change in Comparison Site[1]	Demonstration Site Estimated Cost per Case Month
Task: Reconcile issuances and report losses (continued)					
National Agency costs:					
Specialist labor	0.002	0.002	0.001		0.001
Administrator labor			<0.001		<0.001
CPU Time	0.001	0.001	0.001		0.001
Computer depreciation	<0.001	<0.001	<0.001		<0.001
Long-distance service	<0.001	<0.001	<0.001		<0.001
Indirect cost	≤0.001	≤0.001	≤0.001		≤0.001
National Agency Total	*0.003*	*0.003*	*0.002*		*0.002*
TASK TOTAL	0.077	0.031	0.057		0.021
Task: Set policy and oversee issuance operations					
State Agency costs:					
Specialist labor	0.017	0.017	0.019	(3)	0.019
Travel	0.003	0.003			
Indirect cost	0.001	0.001	0.001	(2)	0.001
State Agency Total	*0.021*	*0.021*	*0.019*		*0.019*

See end of table for notes.

Exhibit B-10
(continued)

	Baseline Costs		Post-Implementation Costs		
	Comparison Site Cost per Case Month	Demonstration Site Cost per Case Month	Comparison Site Cost per Case Month	Percentage Change in Comparison Site[1]	Demonstration Site Estimated Cost per Case Month
Task: Set policy and oversee issuance operations (continued)					
Regional Agency costs:					
Labor	0.001	0.001	0.001		0.001
Indirect cost	0.000	0.000	0.000		0.000
Regional Agency Total	*0.001*	*0.001*	*0.001*		*0.001*
National Agency costs:					
Clerical labor			<0.001		<0.001
Specialist labor	0.001	0.001	<0.001		<0.001
Administrator labor			<0.001		<0.001
Travel			<0.001		<0.001
Indirect cost	<0.001	<0.001	<0.001		<0.001
National Agency Total	*0.001*	*0.001*	*0.001*		*0.001*
TASK TOTAL	0.023	0.023	0.021		0.021
FUNCTION TOTAL	**0.101**	**0.054**	**0.078**		**0.042**

Note:
1. For local agency labor, percentage change is in time per case month; demonstration site estimated post-implementation cost was calculated using actual 1992 pay rates for Ramsey County. For other direct local agency costs, percentage changes in comparison site costs was used, except as noted.
2. Indirect cost for estimated post-implementation demonstration site cost was calculated using direct cost estimate and applicable overhead rates.
3. State cost assumed to be the same for both sites.

Exhibit B-11

EBT SYSTEM COSTS TO AUTHORIZE ACCESS TO BENEFITS

	New Mexico Site Cost per Case Month	Ramsey County Site Cost per Case Month	Cross-Site Cost Difference per Case Month
Task: Issue/update/replace ID			
Local Agency/EBT Project costs:			
EBT Specialist/Customer Service	0.271	0.043	
Eligibility Worker	0.094	0.067	
Clerical	<.001	0.001	
EBT cards	0.019	0.013	
Computer time	0.017	0.033	
Equipment depreciation	0.008	0.008	
Indirect cost	0.184	0.022	
Local Agency/EBT Project Total	*0.592*	*0.186*	*0.406*
EBT Vendor costs:			
Trainer/ID clerk		0.131	
EBT Vendor Total	*0.000*	*0.131*	*-0.131*
TASK TOTAL	0.592	0.317	0.275
Task: Create and post benefit file			
Local Agency/EBT Project costs:			
EBT Specialist/Customer Service	0.036	0.006	
Eligibility Worker	0.049	0.020	
Clerical	0.004	0.001	
Other labor	0.004		
Computer time		0.018	
Indirect Cost	0.048	0.007	
Local Agency/EBT Project Total	*0.142*	*0.052*	*0.090*
EBT Vendor costs:			
Card maintenance fees		0.210	
EBT Vendor Total	*0.000*	*0.210*	*-0.210*
State Agency costs:			
Labor	0.010		
Indirect cost	0.005		
State Agency Total	*0.015*	*0.000*	*0.015*
TASK TOTAL	0.157	0.262	-0.105
FUNCTION TOTAL	**0.749**	**0.579**	**0.170**

Exhibit B-12

EBT SYSTEM COSTS TO DELIVER BENEFITS

		New Mexico Site Cost per Case Month	Ramsey County Site Cost per Case Month	Cross-Site Cost Difference per Case Month
Task:	**Deploy and maintain terminal network**			
	Local Agency/EBT Project costs:			
	EBT Specialist/Customer Service		0.010	
	Project Assistant		0.009	
	Local telephone service		0.312	
	Long-distance telephone service		0.514	
	POS equipment depreciation	0.033	0.290	
	POS maintenance		0.274	
	Indirect cost	0.000	0.000	
	Local Agency/EBT Project Total	*0.033*	*1.409*	*-1.376*
	EBT Vendor costs:			
	POS equipment leases	0.018		
	POS maintenance	0.006		
	EBT Vendor Total	*0.024*	*0.000*	*0.024*
TASK TOTAL		0.058	1.409	-1.351
Task:	**Process transactions**			
	Local Agency/EBT Project costs:			
	Local telephone service		0.022	
	Amortization of leased line installation		0.002	
	Leased lines		0.050	
	Third-party transaction fees		0.051	
	POS cost-sharing fees to third parties		0.345	
	Other leased equipment		0.044	
	Other equipment depreciation	___	0.023	
	Local Agency/EBT Project Total	*0.000*	*0.539*	*-0.539*

Exhibit B-12
(continued)

	New Mexico Site Cost per Case Month	Ramsey County Site Cost per Case Month	Cross-Site Cost Difference per Case Month
Task: Process transactions (continued)			
EBT Vendor costs:			
Transaction processing fees	1.423	0.483	
EBT Vendor Total	*1.423*	*0.483*	*0.940*
TASK TOTAL	1.423	1.022	0.401
Task: Resolve transaction problems/ provide balances			
Local Agency/EBT Project costs:			
EBT Specialist/Customer Service	0.056	0.110	
Eligibility worker	0.044	0.014	
Clerical/Senior Clerk	0.013		
Project Assistant	0.059	0.018	
Equipment lease/depreciation (ARU)	0.023	0.036	
Indirect cost	0.077	0.005	
Local Agency/EBT Project Total	*0.272*	*0.181*	*0.091*
EBT Vendor costs:			
Vendor Customer Service		0.093	
EBT Vendor Total	*0.000*	*0.093*	*-0.093*
State Agency costs:			
Specialist	0.034		
Indirect cost	0.015		
State Agency Total	*0.050*	*0.000*	*0.050*
TASK TOTAL	0.322	0.274	0.048
FUNCTION TOTAL	**1.802**	**2.705**	**-0.903**

Exhibit B-13

EBT SYSTEM COSTS TO CREDIT RETAILERS

	New Mexico Site Cost per Case Month	Ramsey County Site Cost per Case Month	Cross-Site Cost Difference per Case Month
Task: Food retailer settlement			
EBT Vendor costs:			
Settlement services	0.024	0.040	-0.016
National Agency costs:			
Funds transfer services	0.001	0.001	0.000
TASK TOTAL	0.025	0.041	-0.016
FUNCTION TOTAL	**0.025**	**0.041**	**-0.016**

Exhibit B-14

EBT SYSTEM COSTS TO MANAGE RETAILER PARTICIPATION

	New Mexico Site Cost per Case Month	Ramsey County Site Cost per Case Month	Cross-Site Cost Difference per Case Month
Task: Authorize and train retailers			
Local Agency/EBT Project:			
Project Assistant	(1)	0.020	-0.020
Field Agency costs:			
Labor	0.053	0.059	-0.006
Regional Agency costs:			
Labor and travel	(2)	0.002	-0.002
Field and Regional Agency Total	*0.053*	*0.081*	*-0.028*
National Agency costs:			
Postage[3]	0.002	0.002	
Reauthorization project expenses[3]	0.001	0.001	
National Agency Total	*0.003*	*0.003*	*0.000*
TASK TOTAL	0.056	0.084	-0.028
Task: Monitor redemption activity			
National Agency costs:			
General labor[3]	0.006	0.006	
Specialist labor - EBT data review	0.012	0.012	
Specialist labor - other[3]	<0.001	<0.001	
Administrator labor[3]	<0.001	<0.001	
Supplies[3]	<0.001	<0.001	
Computer depreciation[3]	0.001	0.001	
Maintenance[3]	<0.001	<0.001	
Miscellaneous services[3]	<0.001	<0.001	
Space costs[3]	0.001	0.001	
Indirect cost[3]	0.001	0.001	
National Agency Total	*0.023*	*0.023*	*0.000*
TASK TOTALS	0.023	0.023	0.000

Exhibit B-14
(continued)

	New Mexico Site Cost per Case Month	Ramsey County Site Cost per Case Month	Cross-Site Cost Difference per Case Month
Task: Enforce compliance with regulations			
Field Agency costs:			
Labor[3]	0.026	0.014	0.012
Regional Agency costs:			
Labor and travel[3]	<0.001	0.001	-0.001
Field and Regional Agencies Total	*0.026*	*0.015*	*0.011*
FNS National Costs:			
Labor[3]	0.029	0.029	
Benefits used in investigations[3]	0.017	0.017	
Travel[3]	0.004	0.004	
Other miscellaneous costs[3]	0.001	0.001	
Indirect cost[3]	0.001	0.001	
National Agency Total	*0.052*	*0.052*	*0.000*
TASK TOTAL	0.078	0.067	0.011
Task: Set policy and oversee redemption system			
Regional Agency costs:			
Labor and travel[3]	0.002	0.008	-0.006
National Agency costs:			
Labor and travel[3]	0.003	0.003	
Indirect cost[3]	<0.001	<0.001	
TASK TOTAL	0.006	0.012	-0.006
FUNCTION TOTAL	**0.163**	**0.186**	**-0.023**

Notes:
1. New Mexico Project Assistant costs related to new retailers are included in time spent resolving transaction problems.
2. Southwest Regional Office costs for retailer authorization are included in redemption policy and oversight.
3. These costs are common to the coupon and EBT systems.

Exhibit B-15

EBT SYSTEM COSTS TO RECONCILE AND MONITOR SYSTEM ACTIVITY

	New Mexico Site Cost per Case Month	Ramsey County Site Cost per Case Month	Cross-Site Cost Difference per Case Month
Task: Reconcile issuances and report losses			
State Agency costs:			
Labor	0.015	0.005	
Indirect cost	0.008	<0.001	
State Agency Total	*0.023*	*0.005*	*0.018*
National Agency costs:			
Labor - EBT only	0.006	0.006	
Indirect cost (EBT only)	0.001	0.001	
National Agency Total	*0.007*	*0.007*	*0.000*
TASK TOTAL	0.030	0.012	0.018
Task: Reconcile EBT System			
Local Agency/EBT Project costs:			
Accountant		0.005	
Project assistant		0.027	
Computer time		0.109	
Printing		0.013	
Indirect cost		0.000	
Local Agency/EBT Project Total	*0.000*	*0.154*	*-0.154*
EBT Vendor costs:			
Printing	0.007	0.064	
EBT Vendor Total	*0.007*	*0.064*	*-0.057*
Regional Agency costs:			
Labor	0.010	0.068	-0.058
National Agency costs:			
Labor	0.018	0.018	
Indirect cost	0.002	0.002	
Regional and National Agency Total	*0.030*	*0.088*	*-0.058*
TASK TOTAL	0.037	0.306	-0.269

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Exhibit B-15
(continued)

		New Mexico Site Cost per Case Month	Ramsey County Site Cost per Case Month	Cross-Site Cost Difference per Case Month
Task:	**Project management, oversight and support**			
	Local Agency/EBT Project costs:			
	Project Director/Other managers	0.106	0.042	
	Project Assistant/Other labor	0.010	0.103	

Exhibit B-16

TOTAL EBT SYSTEM COSTS BY PROGRAM AND AGENCY: NEW MEXICO AND RAMSEY COUNTY

Agency	New Mexico			Ramsey County		
	Total Monthly Food Stamp Program Cost	Total Monthly Cash Program Cost	Total Monthly EBT System Cost	Total Monthly Food Stamp Program Cost	Total Monthly Cash Program Cost	Total Monthly EBS System Cost
Local Agency/EBT Project[1]	27,623	7,628	35,251	37,966	40,009	77,975
State Agency[1]	2,611	592	3,203	570	336	906
State and Local Agency Total	**30,234**	**8,220**	**38,454**	**38,536**	**40,345**	**78,881**
EBT System Vendor[1]	33,284	6,461	39,745	36,033	16,338	52,371
FNS						
Field Agency[2]	1,779		1,779	1,323		1,323
Regional Agency[2]	270		270	1,432		1,432
National Agency[2]	3,557		3,557	2,230		2,230
FNS Total	**5,606**	**n.a.**	**5,606**	**4,985**	**n.a.**	**4,985**
Total, All Agencies	**69,124**	**14,681**	**83,805**	**79,554**	**56,683**	**136,237**

n.a. = not applicable

Notes:

1. Actual EBT system costs reported. These figures do not exactly equal the product of per-case-month costs and caseloads (reported in Exhibit B-17) because different caseloads were used for different time periods.

2. FNS costs represent actual EBT costs plus allocated share of costs common to the EBT and coupon systems, as calculated using total cost per case and latest food stamp caseload.

Exhibit B-17

CASELOAD AND TRANSACTION DATA FOR EBT DEMONSTRATIONS

	New Mexico		Ramsey County	
	FS	AFDC	FS	Cash Programs
Cases (Percent of sum)	22,516[1] (74.7%)	7,642[2] (25.3%)	18,129[1] (58.7%)	12,729[1] (41.3%
POS transactions (Percent of sum)	201,283[3] (93.3%)	14,383[3] (6.7%)	150,856[1] (94.1%)	9,374[1] (5.9%)
Total transactions (Percent of sum)	204,377[3,4] (83.5%)	40,389[3] (16.5%)	150,856[1] (74.8%)	50,754[1] (25.2%)
POS transactions per case	8.9	1.9	8.3	0.7
Total transactions per case	9.1	5.3	8.3	4.0

[1] July 1992.

[2] June 1992.

[3] May-July 1992 average.

[4] Total FS transactions includes claims payments and backup transactions.

Exhibit B-18

MONTHLY FOOD STAMP CASELOADS USED IN ADMINISTRATIVE COST ANALYSIS

State/Other Unit	Baseline		Post-Implementation	
	Caseload	Period[1]	Caseload	Period[1]
New Mexico				
State (Coupon only)	50,181	(July-Dec. 1989)[2]	57,444	(June 1992)[3]
Bernalillo County	13,041	(July-Dec. 1989)	22,516	(July 1992)
Southeast Bernalillo County Office	4,455	(July-Dec. 1989)	8,227	(June 1992)[4]
Doña Ana County (Las Cruces) Office	3,267	(July-Dec. 1989)	5,885	(June 1992)
Minnesota				
State (Coupon only)	93,719	(FY 1989)	103,864	(July 1992)
Ramsey County	14,180	(FY 1989)	18,129	(July 1992)[5]
Duluth Office	4,797	(Sept. 1989 - March 1990)	5,149	(July 1992)
St. Louis County	8,018	(Sept. 1989 - March 1990)	8,581	(July 1992)
FNS				
Albuquerque Field Office	36,727	(July 1989)	56,708	(June 1992)
St. Paul Field Office	82,107	(July 1989)	114,961	(June 1992)
Southwest Regional Office	1,020,876	(FY 1989)	1,475,000	(FY 1992)
Midwest Regional Office	1,511,555	(FY 1989)	1,850,000	(FY 1992)
Nation	7,212,379	(FY 1989)	9,950,000	(FY 1992)

Note:
1 These are the latest caseloads used. For costs that represented earlier time periods, the caseloads during those periods were used, as noted below.
2 For baseline New Mexico State non-labor costs, caseload used was 49,368 (July 1988-June 1989 average).
3 For State non-labor coupon system costs in New Mexico, caseload used was 56,713 (April 1991-February 1992 average).
4 AFDC caseload used for Southeast Bernalillo County was 2,181 (June 1992).
5 For costs measured in the June 1992 Ramsey County time study, the June 1992 food stamp caseload (18,310) and cash caseload (12,636) were used. These costs include labor and indirect costs for eligibility workers, EBT Specialists, and income maintenance clerks.

Exhibit B-19

INDIRECT COST RATES USED IN ADMINISTRATIVE COST CALCULATIONS

Site and Type of Direct Cost	Baseline Indirect Cost Rate	Post-Implementation Indirect Cost Rate
New Mexico		
Local agency eligibility workers and clerks	48.0%	50.3%
State mail issuance workers	22.4%	52.4%
State mail issuance non-labor direct costs (excluding equipment depreciation)	22.4%	n.a.
EBT Project Director and Assistant	n.a.	70.2%
Ramsey County		
Local agency eligibility workers and clerks	59.1%	32.1%
St. Louis County		
Local agency eligibility workers and clerks	59.8%	38.8%
State of Minnesota		
State food stamp issuance and reporting personnel	$1,590 per staff year	$1,600 per staff year

n.a. = not applicable

Appendix C

NON-DEMONSTRATION STATE SURVEY OF ISSUANCE COSTS

In order to gain a better understanding of the representativeness of the administrative cost data collected for the demonstration sites, eight States were asked to provide information on their coupon issuance costs. While States routinely report their issuance costs to FNS by completing a quarterly Financial Status Report (SF-269), these data may be incomplete. In keeping with FNS' reporting guidelines, the reported costs are often limited to the direct costs of benefit delivery, excluding potentially significant issuance-related costs. Variation in the range of activities and cost objects included in reported costs adds to the difficulties in using SF-269 issuance costs for comparison purposes. The surveyed States were asked to identify the components of their reported issuance costs and to provide additional information on issuance-related activities and cost objects not routinely included in SF-269 issuance costs.

The eight States were selected by classifying all non-demonstration States as either Direct Mail, Authorization-to-Participate (ATP), or Direct Access,[1] according to the dominant coupon issuance system in each State. Within each group, States were then ranked according to the percentage of benefits issued by the dominant system. The sample universe for each issuance system included only States with a high percentage of their issuance from the dominant system, in order to gain a clearer sense of the reporting practices and costs associated with a given system of issuance. That percentage varied between issuance systems, with the cutoff adjusted to reflect natural breaks in the data.[2]

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[1] ATP States issue their benefits by mailing ATP cards indicating allotments to recipients, who redeem them for coupons at a food stamp office or other issuance site. Direct Access States issue benefits by sending allotment information or pre-counted coupon allotments to issuance sites, where recipients pick up their coupons. Both ATP and Direct Access States use direct mail as a secondary issuance method, generally for a small proportion of cases.

[2] States were included in the Direct Mail sample universe if they issued 90 percent or more of their food stamp benefits through that system. Cutoffs for the ATP and Direct Access sample universes were set at 95 and 75 percent, respectively.

Each sample universe was then divided into several groups, based on volume of issuance, and the median State from each group was sampled for the survey. Exhibit C-1 presents the sample universes for the three issuance systems and indicates the groupings used to determine the median States. In cases where a group contained an even number of States, one of the two middle States was selected, usually the one whose issuance most closely approximated the average of the group.

To illustrate, fifteen States issued 90 percent or more of their food stamp benefits through direct mail in FY 1991. These fifteen States were divided into three groups of five States each, as Exhibit C-1 indicates, and the median State of each group was sampled for the survey. In the second group, where the median State was New Mexico, a demonstration State, Kansas was selected instead. Although backup States were chosen for each of the sampled States, cooperation was secured from all the primary selections. National and regional FNS staff aided in evaluating the appropriateness of the selected States and in obtaining their cooperation. The sampled States for each of the issuance systems are indicated in boldface on Exhibit C-1.

Each sampled State agency was asked to complete a questionnaire specific to its dominant issuance system, which included queries on the issuance process used in the State, an itemization of costs included in the "issuance" category of the SF-269, and information on issuance-related activities not reported as such on the SF-269. Responses were collected through telephone interviews with State personnel knowledgeable about the issuance systems and costs in their States. All States were able to provide information on which elements were included in their reported costs and which were not. The level of detail to which some of those costs could be broken down varied, as did the amount of data that States could provide on the cost of additional activities and cost objects not included in reported costs.

Direct Mail Issuance

Reported Costs in Direct Mail States. As Exhibit C-2 indicates, reported issuance costs vary considerably among the 15 States that issue 90 percent or more of their Food Stamp benefits by direct mail, ranging from a high of $3.14 per case month in North Dakota to a low of $0.33 per case month in Wyoming in FY 1991. Issuance costs reported by the sampled States

Exhibit C-1

SAMPLE UNIVERSES FOR NON-DEMONSTRATION STATE SURVEY

	Number of Benefits Issued Through Dominant System	Proportion of Benefits Issued Through Dominant System
DIRECT MAIL ISSUANCE		
Arizona	137,526	100.0%
South Carolina	116,352	100.0
West Virginia	**104,541**	**100.0**
Oregon	96,983	94.4
Arkansas	93,834	100.0
Iowa	69,956	97.7
Kansas	**59,934**	**99.8**
New Mexico[1]	57,993	90.3
Maine	50,516	100.0
Nevada	26,655	95.8
Idaho	23,293	99.6
New Hampshire	20,124	100.0
Vermont	**18,701**	**90.4**
North Dakota	14,113	90.6
Wyoming	11,348	100.0
ATP STATES		
Louisiana	261,434	100.0
New Jersey	**172,783**	**98.2**
Massachusetts	172,135	100.0
Indiana	129,551	98.7
Connecticut	**69,907**	**100.0**
Rhode Island	33,837	100.0
District of Columbia	**32,044**	**100.0**
Delaware	15,202	100.0
DIRECT ACCESS ISSUANCE		
New York	714,939	92.0
Illinois	**393,267**	**85.4**
Florida	385,069	95.9
Michigan	347,133	85.1
Mississippi	186,998	100.0
Alabama	**156,620**	**84.1**
Colorado	75,611	79.8

Notes:

[1] Because the median State in this group is New Mexico, a demonstration State, Kansas was instead sampled for the survey.

Exhibit C-2

DIRECT MAIL STATES

	Monthly Average Participating Households	Issuance Cost From SF-269	Issuance Cost Per Case Month
North Dakota	15,575	$293,749	$3.14
South Carolina	116,352	1,491,926	2.14
New Hampshire	20,124	255,708	2.12
Vermont	**20,693**	**229,485**	**1.85**
Idaho	23,382	241,684	1.72
Oregon	102,768	1,019,462	1.65
New Mexico	64,212	606,133	1.57
Arkansas	93,834	858,034	1.52
Iowa	71,597	627,665	1.46
Maine	50,516	289,044	0.95
West Virginia	**104,541**	**562,413**	**0.90**
Nevada	27,827	112,563	0.67
Kansas	**60,067**	**234,636**	**0.65**
Arizona	137,526	419,590	0.51
Wyoming	11,348	22,663	0.33
Average			$1.41
Weighted Average[1]			$1.32

Notes:

[1] Weighted average is computed using caseload as the weighting factor.

Source: FY 1991 State Activity Report.

on their SF-269s fall in the middle of these extremes. Both West Virginia and Kansas are in the bottom third of reported issuance costs for direct mail States, with West Virginia, representing States with the largest direct mail issuance volume, reporting $0.90 in issuance costs per case month and Kansas, a State with medium issuance volume, reporting $0.65 in issuance costs per case month. Vermont, representing States with smaller issuance volume, was fourth highest in the sample of direct mail States, with a reported issuance cost of $1.85 per case month.

More recent data collected for the survey shows that reported issuance costs have increased in Kansas and West Virginia and decreased in Vermont for the period July 1991 to June 1992. Reported costs rose to $0.78 per case month in Kansas and $1.03 per case month in West Virginia, while falling to $1.33 per case month in Vermont. Updated figures for the other direct mail States are not available.

Composition of Reported Costs in the Sampled States. Exhibit C-3 lists the various cost objects for all issuance-related activities and identifies which of these are included in the issuance costs reported on the sampled States' SF-269s.

Reported issuance costs for the direct mail States have several elements in common. All three States include the cost of postage in their reported issuance costs. All three also include equipment depreciation and maintenance costs in their issuance costs. Reported costs for the three States capture the cost of labor for various activities involved in distributing the coupons to recipients, including labor involved in coupon mailing; alternate delivery (where applicable); managing the coupon supply; coupon mailing; returns and replacements; and compiling issuance reports (FNS-250, FNS-259, and FNS-46). Costs involved in ID-card issuance are excluded from reported costs in the surveyed States, with all three indicating that labor and supply costs related to ID-issuance are generally reported in the certification category on the SF-269 instead.

West Virginia includes the cost of creating and printing benefit and mailing documents[1] as an issuance cost; the other two States do not capture any data processing costs in their reported issuance costs.

[1] This refers to the task of posting already-allotted benefits to recipients' accounts and printing those benefit records.

Exhibit C-3

DIRECT MAIL STATES
COMPOSITION OF REPORTED COSTS

	Kansas	Vermont	West Virginia
Data Processing for:			
Creating the Issuance File	(1)		X
Printing Mailing & Allotment Docs.			X
FNS-250 Reporting	n.a.		n.a.
FNS-259 Reporting	n.a.		n.a.
FNS-46 Reporting	n.a.		n.a.
Equipment	X	X	X
Labor for:			
Issuing ID			
Creating Issuance File			
Printing Allotment & Mailing Docs.			X
Mailing Coupons	X[2]	X	X
Handling Alternate Delivery	X[2]	n.a.	n.a.
Managing Coupon Supply	X[2]	X	X
Managing Coupon Mailing	X[2]	X	X
Managing Returns & Replacements	X[2]	X	X[3]
FNS-250 Reporting	X[2]	X	X
FNS-259 Reporting	X[2]	X	X
FNS-46 Reporting	X[2]	X	X
Postage	X[2]	X	X
Rent	X[2]		X
Security	X		
Shipping/Delivery Fees	X[2]	n.a.	n.a.
Supplies			
Blank IDs			
Blank Allotment & Mailing Docs.	X		X

n.a. = not applicable

Notes:

[1] A blank space indicates that while the cost object is applicable to the State's issuance process, its cost is not included in reported issuance costs.

[2] Kansas has a self-contained mail Food Stamp issuance unit which performs these tasks, but due to reporting practices in the State, only 40 percent of the cost of this unit is charged to issuance, with the remaining 60 percent charged to "other."

[3] State return and replacement labor in West Virginia is reported as an issuance cost, while local replacement labor is reported as a certification cost.

Exhibit C-4 details the costs included in reported issuance figures for the three States.[1] Postage and labor costs constitute the bulk of the reported costs in the three States, making up 93 percent of the reported costs in Kansas and 96 percent of the reported issuance costs in both Vermont and West Virginia. The cost of equipment lease, maintenance and depreciation represents the bulk of the costs reported as "other" direct costs for the non-demonstration States. Higher postage and labor costs in Vermont contribute to its relatively high reported issuance cost, in comparison to the other surveyed States. While Kansas' reported costs are comparatively low, Kansas regularly reports 60 percent of the costs of food stamp issuance in the "Other" category on the SF-269. The addition of this 60 percent to the 40 percent which is reported increases Kansas' issuance cost to $1.96 per case month.

Costs Not Included in Reported Issuance Costs. Reported costs for each of the three States exclude potentially significant costs, such as local office costs and indirect costs. These include the costs involved with ID issuance (a task performed locally in Kansas and West Virginia) and other local activities, including labor costs for the creation of allotment documents, alternate delivery and local replacement activities in West Virginia. A more precise analysis of the components included in Vermont's reported issuance figure is made difficult by the cost allocation plan that the State uses to ascribe costs to various food stamp functions.[2]

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[1] States were often unable to break costs down to the level of detail presented in Exhibit C-3. For example, while a given State indicated that the labor cost of certain activities was captured in the reported issuance costs, actual cost figures were not broken down by activity. For this reason, the figures in Exhibit C-4 often capture the total cost of a given cost object (labor, data processing, etc.) for a variety of the tasks indicated in Exhibit C-3.

[2] Several States in the sample, including Vermont, use cost allocation systems that variously ascribe costs to the Food Stamp Program or to food stamp issuance. Figures obtained through such cost allocation plans should be used cautiously when making comparisons between States because they may result in a disproportionately high or low allocation to issuance depending on the specific organizational structure or cost allocation scheme of each State. As an example, because indirect cost allocation is often based on agency staff costs, the cost allocated to issuance will appear to be greater when issuance activities are handled by agency staff, than if the activities are performed by private vendors.

Exhibit C-4

DIRECT MAIL STATES
BREAKDOWN OF REPORTED COSTS

	Kansas Cost Per Case Month[1,2]	Vermont Cost Per Case Month[1]	West Virginia Cost Per Case Month[1]
Mail Issuance Unit			
Labor	$0.25	$0.41	$0.18
Equipment and Other Direct Costs	0.14[3]	0.05[4]	0.03[5]
Postage	1.57	0.87	0.81
Total Reported Cost	**$1.96**	**$1.33**	**$1.03[6]**

Notes:

[1] Data cover the period 7/91 to 6/92.

[2] These figures represent the costs associated with the State's food stamp issuance unit. Due to reporting practices in Kansas, only 40 percent of the costs associated with that unit are reported as issuance costs, with the remaining 60 percent reported in the "Other" category on quarterly SF-269 reports. For this analysis, the full cost of the mail issuance unit will be used for comparison purposes.

[3] Costs of equipment leasing and maintenance, security and supplies are included in the cost reported for "other direct costs" in Kansas.

[4] Vermont's "other direct costs" reported as issuance consist solely of equipment depreciation costs.

[5] Equipment, data processing, and supply costs are included in the cost reported for "other direct costs" in West Virginia.

[6] Items may not sum exactly to total because of rounding.

None of the three States include indirect costs in their reported costs, although Vermont estimated that 20 percent of the indirect costs charges allocated to the Food Stamp Program in the State could be attributed to issuance.

Comparison to Reported Issuance Costs in Other Direct Mail States. As noted earlier, postage constitutes the bulk of the reported costs in each of the surveyed States, representing 65 percent of the reported issuance cost in Vermont, 79 percent of the reported cost in West Virginia, and 80 percent of the reported issuance cost in Kansas. Because postage is generally a substantial and easily isolated cost in direct mail States, postage costs are likely to make up the majority of reported costs in other direct mail States as well.

While labor represents the majority of the remaining reported costs, some labor, particularly at the local level, was still excluded from reported costs in all three States. This pattern is likely to be seen in other direct mail States as well. While all three direct mail States 'surveyed had centralized issuance systems, it might be expected that States with county-based issuance systems would include more local labor costs in their reported issuance costs in order to capture the direct cost of benefit delivery, as required by FNS. It is likely, however, that issuance costs in States with either kind of issuance system, centralized or county-based, would exhibit similar patterns in terms of which activities' costs are included in reported costs and which are not.

Given the limited data processing costs captured in the reported costs of the surveyed States, it is unlikely that reported costs in other direct mail States incorporate data processing costs to any significant extent. Responses from the sampled States indicate that such costs are generally reported in the "ADP Operations" category on the SF-269, rather than as issuance costs.

In general, based on the available issuance cost data that can be compared, coupon issuance costs in the two demonstration sites are somewhat lower than costs in Kansas (once indirect costs and "other" State costs are excluded from the demonstration sites' costs) but higher than costs in either Vermont or West Virginia. (See Chapter 2, Section 2.10, for further discussion of this comparison.)

ATP Issuance

Reported Costs in ATP States. As reflected in Exhibit C-5, reported issuance costs for ATP States[1] in FY 1991 range from a high of $3.56 per case month in Indiana to a low of $0.98 per case month in Connecticut. Reported issuance costs also vary substantially among the three States chosen for inclusion in the survey. Connecticut and New Jersey, representing the medium- and larger-sized ATP States respectively, have the lowest reported issuance costs, with reported costs of $1.04 per case month in New Jersey and $0.98 per case month in Connecticut. On the other hand, the District of Columbia, representing ATP States with smaller issuance volume, ranks near the top of the ATP States, with a reported issuance cost of $3.55 per case month.

Data collected for the survey indicate that issuance costs reported on the SF-269 have increased in Connecticut since the information reported in the FY 1991 State Activity Report, increasing from $0.98 to $1.43 per case month for the period July 1991 to June 1992. More recent data on reported issuance costs were not available for the District of Columbia or New Jersey.

Composition of Reported Costs in the Sampled States. While reported issuance costs are higher for the District of Columbia than for either Connecticut or New Jersey, D.C.'s reported costs also include more issuance-related activities and cost objects than the other States, as indicated in Exhibit C-6. Nearly all issuance-related activities are included in D.C.'s reported costs, except for the labor and supply cost of issuing identification cards and the cost of labor for creating and printing benefit documents. In contrast, reported issuance costs in Connecticut and New Jersey are largely limited to the costs of those governmental units or vendors who directly deliver food stamps to recipients, excluding the costs of data processing, equipment, and coupon storage. The variation in the components of the reported issuance costs among D.C., Connecticut and New Jersey suggest that the difference in reported costs can be at least partially

[1] "ATP States" is used here to refer to those States that issued 75 percent or more of their food stamp volume using either regular ATP or direct delivery ATP issuance systems in FY 1991.

Exhibit C-5

ATP STATES

	Monthly Average Participating Households	Issuance Cost From SF-269	Issuance Cost Per Case Month
Indiana	131,278	$2,802,642	$3.56
District of Columbia	**32,044**	**682,029**	**3.55**
Louisiana	261,434	3,273,564	2.09
Delaware	15,202	146,493	1.61
Rhode Island	33,837	309,434	1.52
Massachusetts	172,135	1,385,442	1.34
New Jersey	**176,008**	**1,094,577**	**1.04**
Connecticut	**69,907**	**410,529**	**0.98**
Average			$1.96
Weighted Average[1]			$1.89

Notes:

[1] Weighted average is computed using caseload as the weighting factor.

Source: FY 1991 State Activity Report.

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Exhibit C-6

ATP STATES
COMPOSITION OF REPORTED COSTS

	Connecticut	District of Columbia	New Jersey
Coupon Storage Fees	n.a.	X	n.a.
Data Processing for:			
Creating Issuance File	(1)		
Printing ATPs		X	
Processing Cancelled ATPs		X	
Reconciling Cancelled ATPs with Files		X[3]	
FNS-250 Reporting		X	n.a.
FNS-46 Reporting			
Equipment		X	
Labor for:			
Issuing IDs			
Creating Issuance File			
Printing ATPs		X	
Mailing ATPs		X	
Managing Coupon Supply	X	X	
Storing Coupon Supply			
Shipping Coupons to Issuance Agents	n.a	X[4]	n.a.

attributed to reporting practices rather than solely to differences in the actual cost of issuance activities.

Exhibit C-7 reflects the breakdown of reported issuance costs in the three ATP States. Issuance contracts comprise all of New Jersey's reported issuance costs. The bulk of Connecticut's reported issuance costs are in issuance fees (71 percent) and postage (15 percent). The District of Columbia's reported costs are driven by $2.23 per case month in labor costs, which make up 66 percent of the reported costs and cover a broad range of cost objects and issuance-related activities. As Note 3 on Exhibit C-7 indicates, only a portion of the "other" direct costs were actually charged to issuance in the District of Columbia; these kind of differences in reporting practices among the three States make further comparison difficult.

Costs Not Included in Reported Issuance Costs. Neither Connecticut nor New Jersey include local issuance costs in their reported costs. This is a particularly significant exclusion for New Jersey, because postage and other costs for distributing ATPs are incurred at the local level. New Jersey's reported costs also fail to capture the cost of any State-level activities, such as coupon management, again excluding potentially significant costs. Data processing is regularly excluded from reported issuance costs, with neither Connecticut nor New Jersey reporting any data processing costs as issuance-related. While D.C. does include data processing in their issuance costs (included in the "non-specified, non-labor costs" category), they were unable to identify the specific amount of data processing costs within that figure.

Comparison to Reported Costs in Other ATP States. The experience of the three States suggests that reported issuance costs for other ATP States are likely to include fees paid to issuance agents and possibly postage, while substantial variation in the inclusion of other costs can be expected. Reported issuance costs in other ATP States can be expected to exclude data processing, and labor and supply costs involved in issuing IDs and creating and printing benefit documents. The magnitude of data processing costs for issuance activities in ATP States is likely to depend on the extent to which data processing is used for issuance activities and the organizational structure of data processing activities in each State. For example, some States have data processing units devoted solely to activities related with income maintenance programs, driving up costs per case month, while others have a single State data processing

Exhibit C-7

ATP STATES
BREAKDOWN OF REPORTED COSTS

	Connecticut Cost per Case Month[1]	District of Columbia Cost per Case Month[2,3]	New Jersey Cost per Case Month[2]
State Issuance			
Data Processing			
Labor	$0.18	$2.33	
Supplies	0.01		
Indirect Costs		0.21	
Coupon Storage & Distribution			
Local Labor			
Shipping/Delivery Contracts		0.03	
Storage Fees		0.02	
Non-Specified Non-Labor Costs		0.49	
Issuance Contracts	1.02	0.34	$1.04
Postage	0.22	0.12	
Total Reported Cost	**$1.43**	**$3.55[4]**	**$1.04**

Notes:

[1] Data cover the period 7/91 to 6/92.
[2] Data cover the period 10/90 to 9/91.
[3] In the District of Columbia, labor and indirect costs are allocated to food stamp issuance on the basis of quarterly time studies. The percentage allocated to food stamp issuance varied each quarter, ranging between 29 and 38 percent of total Food Stamp Program costs. In FY 1991, direct costs were mistakenly multiplied by this time study proportion. Consequently, the breakdown of individual figures for the direct costs (delivery contracts, storage fees, issuance contracts and postage) are understated by approximately two-thirds. In addition, Food Stamp issuance costs include a significant amount (approximately half of the non-personnel costs) that could not be specifically identified.
[4] Items may not sum exactly to total because of rounding.

center, potentially spreading the costs over a wider range of activities and lowering the cost per case month.

Direct Access Issuance System

Reported Costs in Direct Access States. As Exhibit C-8 indicates, reported costs for the States classified as direct access[1] again showed considerable variation, ranging from a high of $3.82 per case month in Colorado to a low of $0.79 per case month in Illinois, the State sampled to represent States with larger issuance volume. Alabama, representing States with smaller issuance volumes, had a reported issuance cost of $1.89 per case month, $0.21 more than the weighted average of $1.68 per case month for the group.

Data collected for this survey indicate that reported issuance costs have increased in both Illinois and Alabama since the FY 1991 State Activity Report. The reported issuance cost increased to $1.02 in Illinois during the period July 1991 to June 1992 and to $1.91 in Alabama for the period August 1991 to July 1992.

Composition of Reported Costs in the Sampled States. Exhibit C-9 identifies the components included in the reported issuance cost for each of the sampled direct access States. Alabama's reported costs include the labor costs for various issuance-related tasks, with an additional cost allocation to food stamp issuance for indirect costs. Illinois' reported costs include fees charged by issuance agents in Illinois (largely banks and currency exchanges) and the cost of State labor for managing the coupon supply, delivering the coupons to issuance agents, and FNS-250 reporting.

As shown in Exhibit C-10, Alabama's reported labor costs and Illinois' reported labor costs differ substantially, again suggesting that some of the difference in the reported cost of issuance may be due to reporting practices rather than actual cost differentials.

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[1] "Direct Access States" refers to States that issued 75 percent or more of their food stamp volume through direct access, direct delivery or over-the-counter issuance systems in FY 1991.

Exhibit C-8

DIRECT ACCESS STATES[1]

	Monthly Average Participating Households	Issuance Cost From SF-269	Issuance Cost Per Case Month
Colorado	94,756	$2,169,025	$3.82
New York	776,868	10,849,483	2.33
Alabama	**186,280**	**2,117,730**	**1.89**
Florida	401,529	4,047,310	1.68
Mississippi	186,998	1,549,428	1.38
Michigan	408,086	2,492,927	1.02
Illinois	**460,331**	**2,189,236**	**0.79**
Average			$1.84
Weighted Average[2]			$1.68

Notes:

[1] "Direct Access" includes all issuance classified as "direct access," "direct delivery," and "over-the-counter."

[2] Weighted average is computed using caseload as the weighting factor.

Source: FY 1991 State Activity Report.

Exhibit C-9

DIRECT ACCESS STATES
ELEMENTS OF REPORTED COSTS

	Alabama	Illinois
Coupon Storage	(1)	X
Data Processing for:		
Creating the Issuance File		
Transmitting the Issuance File		
Verifying Recipient Identity		n.a.
FNS-250 Reporting		
FNS-46 Reporting		n.a.
Equipment		X[2]
Indirect Costs	X	
Issuance Contracts	n.a.	X
Labor for:		
Issuing ID		
Creating and Transmitting Issuance File		
Managing and Distributing Coupons	X	X
Verifying Recipient Identity	X	X[2]
Issuing Coupons	X	X[2]
Oversight of Issuance Agents		
FNS-250 Reporting	X	X
FNS-46 Reporting	X	
Shipping/Delivery Fees		
Supplies		

n.a. = not applicable

Notes:

[1] A blank space indicates that while the cost object is applicable to the State's issuance process, its cost is not included in reported issuance costs.

[2] The cost of these elements is included in fees paid to issuance agents, which are a part of Illinois' reported issuance costs.

Exhibit C-10

DIRECT ACCESS STATES
COMPOSITION OF REPORTED COSTS

	Alabama Cost per Case Month[1,2]	Illinois Cost per Case Month[3]
State Issuance Coupon Storage & Distribution Data Processing Labor Postage Supplies and Equipment	$1.62	$0.12[4]
Issuance Contracts		0.91
Indirect Costs	0.29	
Total Reported Cost	**$1.91**	**$1.02**

Notes:

[1] Data cover the period 8/91 to 7/92.

[2] Alabama figures were developed by inflating figures compiled for the 1990 Cash-Out Demonstration Project by a proportion equal to the difference between FY 1990 reported issuance cost per case month and FY 1991 reported issuance cost per case month.

[3] Data cover the period 7/91 to 6/92.

[4] Caseload for Illinois labor includes direct mail caseload.

Costs Not Included in Reported Issuance Costs. Reported costs for the direct access States lack significant issuance-related costs. Nearly seventeen percent of the issuances in Alabama were issued by direct mail and not direct access in FY 1992, and postage costs for mailing these benefits is a local cost that is not included in Alabama's reported costs. Data processing costs are excluded in the reported costs for both Alabama and Illinois. Supplies and equipment used in issuance activities performed by State and local personnel are also omitted, although the cost of supplies and machines used in the direct delivery of benefits is presumably covered in the contracts with issuance agents in Illinois. Both States exclude the cost of any labor or data processing for ID issuance or allotment file creation and transmission.

Comparison to Reported Costs in Other Direct Access States. The results of the Alabama and Illinois surveys suggest that reported costs do exclude significant resource costs. With the variation in form that direct access issuance systems can take, it is likely that the elements and magnitude of reported costs will vary significantly across the sample of direct access States. Differences between Alabama and Illinois clearly reflect some differences in reporting practices, and may also reflect differences in the actual cost of running a County versus a State-administered program, or rural versus urban programs.

CONCLUSIONS

The comparison of reported costs in the non-demonstration States and the demonstration sites indicates that there is considerable variation in the costs of certain issuance activities and cost objects, even among States using the same issuance system. Reporting practices between the States also differ considerably, so that reported issuance costs are unlikely to represent comparable sets of activities and cost objects. Valid comparisons require not only an analysis of the elements included in a given State's reported costs, but also requires further analysis of resources not included in those reported costs.

Appendix D

DATA SOURCES AND METHODS FOR ESTIMATES OF COUPON ISSUANCE COSTS IN WASHINGTON STATE

Although the Washington State EBT demonstration was canceled before the system could be fully developed, baseline data on the administrative costs of the State's coupon issuance system were collected. Exhibit D-1 presents a summary of the state and local costs of administering Washington State's coupon issuance system, which is a combination of the ATP and direct mail systems. Federal-level costs are not included in the Washington State estimates.

Community Service Office (CSO) Labor Costs

The primary data sources on labor costs at the local level were time studies conducted in January and February of 1990 in the Olympia and Vancouver CSOs. In each time study, CSO eligibility and clerical workers completed daily time logs, recording time spent on issuance-related activities.

The cost per case month figures detailed in Exhibit D-1 represent a weighted average of costs at the two offices. Clerical costs have been adjusted to reflect the differences between the sample offices and statewide averages in terms of the proportion of ATPs redeemed at county offices and the proportion of issuances by mail.

State-Level Costs

The principal sources of state-level data on administrative costs were in-person interviews conducted in June 1989 with Washington State personnel involved in issuance activities. In the interviews, respondents were asked to describe the process by which tasks related to issuance or redemption were accomplished, what staff and other resources were used, and the cost of those resources. Complete indirect cost data were not available prior to the termination of the EBT demonstration and are not included in the estimate in Exhibit D-1.

Costs per case month were obtained by using the monthly average caseload for the period of October 1988 to September 1989. Family Independence Program (FIP) participants (whose food stamp benefits are included in cash benefit checks) were not included in this caseload

Exhibit D-1

COUPON ISSUANCE COSTS IN WASHINGTON STATE

	Cost per Case Month[1]
Local Agency Costs	
Clerical Labor[2,3]	$1.43
Eligibility Worker Labor[3]	0.32
LOCAL AGENCY TOTAL	1.75
State Agency Costs	
Armored Car/Other Security	0.10
Data Processing	0.03
Equipment and Supplies	0.01
Issuance Fees	0.49
Labor	0.14
Other	0.03
Postage[4]	0.41
STATE AGENCY TOTAL	1.21
TOTAL ISSUANCE COST	**$2.96**

[1] All state costs have been adjusted for inflation by dividing original costs by .884, representing the change in the Consumer Price Index from 1989 to 1992.

[2] Clerical costs were adjusted to reflect the difference between the sampled offices and statewide averages in terms of the percent of ATPs redeemed by county offices and the percent of issuances by mail.

[3] Clerical and eligibility worker figures are a weighted average of the costs for the Olympia and Vancouver offices.

[4] Postage includes regular and certified mail, express mail and UPS costs for ATP, ID and coupon delivery.

figure. State costs were adjusted for inflation by dividing all costs by .884, representing the change in the Consumer Price Index from 1989 to 1992.

Comparability to Other ATP States

Washington issues the majority of its food stamp benefits through the ATP system, and the issuance cost indicated in Exhibit D-1 is generally comparable to the revised issuance costs obtained for the ATP States in the non-demonstration issuance cost survey detailed in Appendix C. The figure for Washington State is likely to be more complete and precise than those obtained for the surveyed States, however, as it includes data from all cost centers except indirect costs, and measures local costs more precisely through the use of the time studies.

Appendix E

DATA SOURCES FOR ANALYSES OF EBT IMPACTS ON RETAILERS

Data used for the retailer analyses presented in Chapter 4 were collected from two primary sources: interviews with retailers participating in the EBT demonstrations and observations of transactions at checkout counters. This appendix describes these data sources and the methods used to collect data.

Retailer Interviews

Retailer opinions and perceptions and data on all but checkout counter cost components were collected from the same retailers over the course of two waves of in-store interviews. The first interview wave, which was conducted between October and December 1989, collected data related to retailer costs and opinions under the food stamp coupon system. A total of 139 retailers were interviewed during the first wave of data collection; 72 retailers in New Mexico and 67 in Ramsey County.

The same sample of retailers was contacted for a followup interview that gathered information on EBT participation costs and perceptions. These interviews were conducted after the EBT systems had been implemented, during the late spring and early summer of 1992. Retailer attrition between the interview periods, however, reduced the post-implementation sample to 87 stores -- 44 stores in New Mexico and 43 in Ramsey County. Of the 58 stores that dropped out of the sample, 9 stores refused to be interviewed, 30 stores had gone out of business, and 13 stores no longer participated in the Food Stamp Program.[1] The final disposition of the baseline and post-implementation samples is presented in Exhibit E-1. The baseline response rates were 92.3 percent in New Mexico (i.e., 72/78) and 90.5 percent in Ramsey County. The respective post-implementation response rates were 88.0 percent and 93.5 percent.

[1] Given the longitudinal design of the retailer analysis, we could not replace the stores that did not exist or were not participating in the EBT demonstration at the time of the post-implementation interviews.

Exhibit E-1

FINAL DISPOSITION OF BASELINE AND POST-IMPLEMENTATION RETAILER SAMPLES

	New Mexico		Ramsey County	
	Baseline	Post-Implementation	Baseline	Post-Implementation
TOTAL SAMPLE	91	72	83	67
TOTAL ELIGIBLE	78	50	74	46
Completed	72	44	67	43
Refused	6	6	7	3
Language barrier	0	0	0	0
Located, no contact	0	0	0	0
TOTAL INELIGIBLE	13	22	9	21
Out of business	3	12	2	18
No FS participation	4	10	1	3
Other	6	0	6	0

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Exhibit E-2

RETAILER SAMPLE DISTRIBUTION BY STORE TYPE

	New Mexico				Ramsey County				All Stores			
	Sample		Population		Sample		Population		Sample		Population	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Store Type												
Supermarket	15	34.1	35	15.2	9	20.9	43	16.3	24	27.6	78	15.8
Grocery Store	11	25.0	54	23.5	14	32.6	85	32.2	25	28.7	139	28.1
Convenience Store	7	15.9	78	33.9	12	27.9	108	40.9	19	21.8	186	37.7
Other Store	11	25.0	63	27.4	8	18.6	28	10.6	19	21.8	91	18.4
Total	44	100.0	230	100.0	43	100.0	264	100.0	87	100.0	494	100.0

Source: Minneapolis Computer Support Center reports of retailer redemption activity.

Exhibit E-2 presents the distribution of the post-implementation retailer sample, by store type, relative to the retailer population in both sites. The original sample was designed to include an equal number of stores (12) in each store type and site combination. This led to an overrepresentation of supermarkets and an underrepresentation of convenience stores, relative to the population, which was exacerbated in the final sample by uneven attrition rates between data collection periods. Convenience stores dropped out of the sample at a much higher rate than other store types.

Grocery stores and other store types are represented in the sample in roughly the same percentages as they exist in each site's retailer population.

Overall, the post-implementation samples contain 19 percent of the Bernalillo County retailer population (44 of 230 stores) and 16 percent of the Ramsey County retailer population (43 of 264 stores).

Checkout Counter Observations

The analysis of EBT system impacts on stores' checkout costs is based on data collected during two waves of checkout counter observations in each demonstration site. Baseline data were collected in October 1989. Post-implementation data were collected in March-May 1992.

For each wave of data collection, trained observers with stopwatches stood at checkout counters and recorded a number of characteristics about each purchase transaction. Characteristics included the start and end time of each transaction, the number of items purchased, the dollar amount of the purchase, how the purchase was paid for, who bagged the groceries, and any unusual circumstances associated with the purchase that might prolong transaction times (such as produce weighing or price checks). During the post-implementation observations, unusual circumstances peculiar to an EBT purchase also were recorded. Exhibit E-3 shows an example of the checkout observation recording form.

The baseline sample consists of transactions recorded during 20 person-days of observations in each of the two sites. Each person-day of observation included 12 periods of observation, each lasting 30 minutes. All transactions at a single checkout lane during a 30-minute interval were observed and recorded. The post-implementation data were gathered during 60 person-days of observations at each site. For sampled stores with more than one

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Exhibit E-3

ENLARGED CHECKOUT OBSERVATION FORM FOR ONE TRANSACTION

RING BOX

Link #:_____ 1 6/
7/1

START ORDER:
_____ : _____ 8 11/

No Groceries ☐ 12/
Price Checks ☐ 13/
Produce Weighing ☐ 14/
Other (SPECIFY) ☐ 15/

_____

Items _____ 16 18/
EST 19/

$_____ 20 24/
EST 25/

PAYMENT BOX

Cash ☐ 26/
Check ☐ 27/
FS Coupons ☐ 28/
Other Coupons ☐ 29/
WIC Voucher ☐ 30/

Non-EBT Debit Card
No cash back ☐ 31/
Cash back ☐ 32/

EBT Debit Card
Food Stamp EBT ☐ 33/
Cash Assistance EBT ☐ 34/
Can't determine ☐ 35/
Cash back ☐ 36/
Cash only ☐ 37/

Can't Determine Debit Card Type
No cash back ☐ 38/
Cash back ☐ 39/

SEND DEBIT:
_____ : _____ 40-43/

BAGGING/RECEIPT PRINTING BOX

Cashier Bags ☐ 44/
Customer Bags ☐ 45/
Other Bagger ☐ 46/
No Bagging ☐ 47/

Number of Customers in Line: _____ 48-49/

START PRINT:
_____ : _____ 50-53/

END ORDER:
_____ : _____ 54-57/

UNUSUAL CIRCUMSTANCES BOX: NON-DEBIT CARD RELATED

Bottle Return ☐ 58/
Check Approval at Checkout Counter ☐ 59/
Cashier provides purchase item ☐ 60/
Items Returned ☐ 61/
Items not bought ☐ 62/
Ringing Error ☐ 63/
Cashier uncertain ☐ 64/
Extra Long ☐ 65/
Multiple Transactions ☐ 66/
Other (SPECIFY) ☐ 67/

_____

SECOND EBT TRANSACTION BOX

SEND DEBIT:
_____ : _____ 68-71/

START PRINT:
_____ : _____ 72-75/

CD2
7/2

UNUSUAL CIRCUMSTANCES BOX: DEBIT CARD RELATED

Balance Check ☐ 8/
PIN or ID Problem ☐ 9/
Bad Card ☐ 10/
Insufficient Funds ☐ 11/
Entry Error ☐ 12/
Store Sign-on ☐ 13/
Cashier uncertain ☐ 14/
Slowdown ☐ 15/
System down ☐ 16/
Card re-swipe ☐ 17/
Store equipment problem ☐ 18/
Manual transaction ☐ 19/
Went to service desk ☐ 20/
Next customer taken ☐ 21/
Went to another line ☐ 22/
Other (SPECIFY) ☐ 23/

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Exhibit E-4

DISTRIBUTION OF OBSERVATION STORES BY SITE, DATA COLLECTION WAVE AND STORE TYPE[a]

Wave	New Mexico			
	Supermarkets	Grocery Stores	Convenience Stores	Total
Baseline	7	7	6	20
Post-Implementation	7 (2)	7 (1)	6 (4)	20 (7)

Wave	Ramsey County			
	Supermarkets	Grocery Stores	Convenience Stores	Total
Baseline	7	7	6	20
Post-Implementation	7	7	6 (2)	20 (2)

Notes:

[a] The numbers in parentheses in the post-implementation rows represent how many new stores were sampled to replace stores that could not be revisited.

Exhibit E-5

NUMBER OF PURCHASE TRANSACTIONS IN ANALYSIS SAMPLE

	New Mexico[b]				Ramsey County[b]			
	SM	GS	CS	Total	SM	GS	CS	Total
Baseline Sample								
FS coupon	189	132	52	373	79	194	75	348
Other	1,331	1,225	1,148	3,704	1,146	585	1,112	2,843
Total	1,520	1,357	1,200	4,077	1,225	779	1,187	3,191
Post Implementation Sample								
FS coupon	73	63	8	144	43	58	19	120
FS EBT*	831	326	126	1,283	187	351	164	702
CA EBT*	16	15	3	34	2	8	7	17
Other	3,456	2,697	2,799	8,952	3,309	1,549	2,098	6,956
Total	4,376	3,101	2,936	10,413	3,541	1,966	2,288	7,795
Total Sample								
FS coupon	262	195	60	517	122	252	94	468
FS EBT*	831	326	126	1,283	187	351	164	702
CA EBT*	16	15	3	34	2	8	7	17
Other	4,787	3,922	3,947	12,656	4,455	2,134	3,210	9,799
Total	5,896	4,458	4,136	14,490	4,766	2,745	3,475	10,986

Notes:

* EBT transactions involving both food stamps and cash assistance are listed only as food stamp EBT transactions to avoid doublecounting.

[b] SM = Supermarkets; GS = Grocery Stores; CS = Convenience Stores.

Exhibit E-5 presents greater detail on the distribution of observed transactions. The final analysis sample excludes a number of transactions that were observed but not used in the analysis. All transactions involving vouchers for the Women, Infants and Children (WIC) program were excluded because such transactions require a lengthy payment process matching WIC vouchers to specific food items. In addition, several of the sampled convenience stores were combination food/gasoline stores, and any transaction that included a gasoline purchase was excluded. Finally, any transaction that did not include any purchased grocery items was excluded. Examples include transactions in which lottery tickets were the only item purchased and instances in which the customer purchased a money order or had a check cashed without purchasing anything.

Appendix F

RETAILER ANALYSIS PROCEDURES

The analysis of system impacts on retailers presented in Chapter 4 consists of three components: the analysis of retailer perceptions and preferences; the analysis of checkout productivity; and the analysis of other retailer participation costs. Appendix E outlined the data sources that underlie these analyses. This appendix provides additional information about the analytic procedures that were used to generate the evaluation results presented in Chapter 4.

The evaluation's analysis of retailer perceptions and preferences is generally direct. Perception and preference data presented in Chapter 4 are simple frequencies of retailer interview responses. The analysis of retailer costs is more complex, particularly the analysis of checkout productivity. This appendix, therefore, focuses on estimated retailer participation costs and the methods used to develop these estimates.

Retailer Participation Costs

Food retailers' costs to participate in the Food Stamp Program are defined as the dollar value of labor and non-labor resources used on program related activities. Exhibit F-1 identifies the components of retailers' participation costs under both the EBT and paper food stamp coupon systems.

Specific methodologies for estimating each cost component were presented in Chapter 4. In some cases, component cost is the amount of time employees spend on a task multiplied by the wage rate of the relevant employees. Thus, for example, reshelving cost is computed as the amount of time store employees spend reshelving items not bought by food stamp customers multiplied by the wage rate of the employees. Checkout counter, handling, training, and reshelving cost components contain labor elements only.

Other cost components do not contain a labor element but depend on the frequency and value of an event. Float costs, for example, are determined by the amount of time between a food stamp sale and funds availability, and the value of the time as measured by an interest rate. Space cost depends only on the amount of retailer space occupied by store equipment and the estimated rental value of the space.

Exhibit F-1

RETAILER COST ELEMENTS IN THE COUPON AND EBT SYSTEMS

Coupon System Costs	EBT System Costs
Checkout Costs	Checkout Costs
Handling and Reconciliation Costs	Handling and Reconciliation Costs
Training Costs	Training Costs
Accounting Error Costs	Accounting Error Costs
Float Costs	Float Costs
Reshelving Costs	Reshelving Costs
Other Fee Costs	Other Fee Costs
	Space Costs

Where:

Checkout Costs	=	the amount of cashier time required to process each sale, multiplied by cashier wages.
Handling and Reconciliation Costs	=	the amount of time required to count, bundle, cancel and deposit food stamp coupons and reconcile the store's bank account, or the amount of time required to reconcile the EBT account, multiplied by the relevant wage.
Training Costs	=	the amount of time required to instruct new hires in Food Stamp Program regulations and the proper procedures for handling food stamp coupons or EBT transactions, multiplied by the relevant wage.
Accounting Error Costs	=	the dollar value of permanent losses, if any.
Float Costs	=	the number of days between the time a food stamp sale is transacted and the time that amount is credited to the store's account, multiplied by a daily interest rate.
Reshelving Costs	=	the amount of time required to reshelve merchandise which was returned by food stamp customers, or which has been left at the checkout counter because food stamp customers were unable to pay, multiplied by the relevant wage.
Other Fee Costs	=	fees paid by retailers for food stamp coupon deposits or paid by retailers for EBT terminals or communications, or other EBT services.
Space Costs	=	the amount of space occupied by EBT equipment, multiplied by the cost of space per square foot per month.

Imputed Data

Certain data items were imputed when retailers did not provide a direct response. We imputed employee wages most frequently, although handling and reshelving times and activity frequencies, fringe benefits, and space costs were also imputed. Imputed values for all items except space costs are based on the average or median reported value among all stores of the same store type and site combination. A median value was used when fewer than five retailers reported a value in a particular store type and site combination.

The value of EBT terminal space in New Mexico is based on conversations with commercial realtors in Bernalillo County and imputed for all retailers in the New Mexico sample. Although we tried the same approach in Ramsey County, our efforts were unsuccessful. We therefore estimated Ramsey County commercial space value as being 19 percent higher than in New Mexico. The 19-percent factor represents the difference in average rental costs between the two sites, as reported by the Census.

Changes in Wage Levels Between Data Collection Periods

Four of the retailer cost components are composed of labor elements only -- handling and reconciliation, training, reshelving, and checkout productivity. EBT-coupon differences in the costs of these elements, therefore, are due to the combined effect of pre/post changes in overall level of effort and pre/post changes in wage levels. The analysis attempts to isolate changes in level of effort that result from the replacement of coupons by EBT by holding constant exogenous changes, such as the number of monthly hires.

We considered using wage levels that were reported during the baseline collection of coupon data for the analysis of EBT costs. This approach was rejected, however, when a review of employee types in the two data sets (pre and post) resulted in a low number of matches at the store level. We also considered using the coupon data to compute average wages by employee type across stores, and then using these averages to estimate EBT costs. This approach also was rejected, however, because we believed it would seriously weaken the statistical strength of the longitudinal research methodology by eliminating store-by-store wage differentials.

To account for exogenous changes in wage levels between the two data collection periods, we adjusted the relevant baseline (coupon) cost estimates by the pre/post percentage

change of wage levels of checkout clerks, averaged among stores of the same type and location. Thus, for example, we adjusted the coupon handling costs of grocery stores in New Mexico by the average percentage change in the wages of checkout clerks in New Mexico grocery stores. We used checkout clerk wages as the source of the adjustment factors because these data were the most complete source of store-level wage information from both data collection periods.

Standardizing EBT and Coupon Costs

For each demonstration site, Chapter 4 presents average monthly costs and cost per $1,000 of redemptions. Standardizing average monthly costs by redemptions generates cost estimates that are comparable among stores. Standardized estimates were also weighted by the product of two measurements: average monthly food stamp redemptions and a measure of sample representativeness. Weighting by average monthly redemptions removes from the estimates any distortion that may be caused by the scale of food stamp redemptions. The use of a sampling weight increases the representativeness of estimated costs across the four store types within a given site. Sampling weights were computed as the ratio of the population of stores in a given store type and site combination to the number of stores in the sample.

Non-standardized estimates, such as average monthly costs, are computed as the arithmetic mean across all stores in the analysis subgroup, weighted by sample representativeness. In order to approximate the estimate for a typical store, sampling weights are the only weights used for non-standardized estimates.

Cost per $1,000 of benefits redeemed is defined as the arithmetic mean (weighted by redemptions and sample weights) of individual standardized costs. Thus, the analysis computes a standardized cost estimate at the individual store level and then averages the individual standardized costs across all stores in the analysis subgroup.

The effect of the EBT system on store costs is computed as the weighted average of store-level differences between EBT and coupon standardized costs. Computing differences at the store level takes advantage of the correlation that exists between coupon and EBT costs within a given store. We estimate a correlation coefficient of 0.57 between coupon and EBT

costs among all stores. The correlation coefficients among New Mexico and Ramsey County retailers are 0.58 and 0.56, respectively.

Tests for Statistical Significance

Several assumptions form the basis for the tests for statistical significance on EBT-coupon differences presented for the non-checkout cost measures in Chapter 4. As mentioned, cost per $1,000 of benefits, the primary measure of retailer participation costs, is a weighted average of individual store-level standardized participation costs. The weight used for each store is that store's average monthly food stamp redemption volume. Because cost per $1,000 of benefits is a measurement of average cost, we assume that this estimate is distributed normally with a mean and standard deviation.

Standardized costs are weighted by average redemption volume to eliminate distortions that may be caused by differences across stores in the scale of food stamp redemptions. The process of weighting, however, corrupts the computation of standard errors, which are the estimate of the standard deviation of a statistic, and consequently generates unreliable estimates of statistical significance, as measured by the t statistic.

The analysis avoids the distortion of weighting and still maintains the assumptions that underlie weighting by computing statistical significance on the difference between the natural logarithms of the unweighted standardized estimates. Testing statistical significance on the natural logarithms of standardized cost estimates has the effect of testing percentage differences between estimates rather than absolute differences. By testing the percentage difference between standardized costs, the statistical tests account for differences in costs caused by the scale of food stamp redemptions. This same assumption prompted the use of weighting in the computation of standardized costs.

Checkout Counter Costs

The analysis of EBT system impacts on checkout costs proceeded through the following six steps:

1) Based on purchase transactions observed during the baseline and post-implementation waves of checkout observations, regression

models were specified to estimate the incremental time (compared to cash) required for food stamp coupon transactions and food stamp transactions using a site's EBT system. Separate models were fit to data collected from supermarkets, grocery stores, and convenience stores at each demonstration site.

2) Using the characteristics of a "typical" food stamp EBT purchase (by store type and site) and the estimated coefficients from the regression models, three average transaction times for the purchase were estimated assuming the transaction had been paid for with cash, with food stamp coupons, and with the EBT system.

3) Using the average times estimated in Step 2, average checkout costs for the "typical" food stamp EBT purchase using cash, food stamp coupons, and the EBT system were calculated based on cashiers' average hourly wage rates.

4) Based on information about the average purchase amount of a typical food stamp EBT purchase (by store type and site), the number of transactions required to reach $1,000 of food stamp redemptions was estimated.

5) Retailers' costs to handle $1,000 of food stamp sales at the checkout counter were estimated by multiplying the average cost per transaction by the number of transactions required to buy $1,000 of food.

6) To account for the possibility that some of the extra costs associated with food stamp coupon and EBT transactions is unproductive time, the estimated costs were reduced by a factor related to cashier wait time following a food stamp transaction.

The following sections present further detail on Steps 1, 2, and 6 above. Steps 3 through 5 are fairly straightforward and are explained in Chapter 4. This section of the appendix then concludes with an explanation of the weighting procedures used to average checkout cost impacts across store types and across sites.

Basic Regression Estimates

To determine the impacts of an EBT system on checkout costs, the first step taken was to determine the influence of payment method on the time it takes to complete a transaction. If transaction time differed only by payment method, this task could be easily completed by comparing large numbers of observations that differed only in the form of payment. Transaction

times are influenced by many other factors, however, most of which bear little relation to payment form. For example, transaction time is most directly influenced by the number of items purchased. In addition, transaction time is likely to be shortened if someone other than the cashier bags the groceries. Similarly, events such as produce weighing or price checks contribute to the length of a transaction. Because of the large number of factors that determine transaction time, regression analysis is most suited to disentangle the contributions of the major elements. In this context, the variation of the dependent variable (i.e., total transaction time) is seen as the sum of contributions from explanatory variables (such as the number of items purchased, the payment method, or the presence of price checks), each multiplied by an estimated coefficient.

Separate regression models were estimated for supermarkets, grocery stores and convenience stores in each site. The dependent variable in each model is total time to complete a single transaction, beginning with ringing up the groceries and ending with presenting the bagged groceries or change to the customer, whichever occurred last. If the last step of an EBT transaction was the printing of the EBT system receipt, this step defined the end point of the total transaction.

Exhibit F-2 lists the basic set of explanatory variables used in the regression analyses.[1] The forms of payment are the main explanatory variables of interest. Two variables indicate the use of food stamp coupons, either by themselves or in conjunction with cash. Five variables are used to indicate an EBT payment. Together, these five variables cover EBT transactions applied against a food stamp account or a cash assistance account (alone or in conjunction with cash) and a transaction involving EBT debits against both a food stamp and a cash assistance account.

Some debit card transactions were observed but not included in the analysis sample. Transactions involving commercial debit cards were excluded for several reasons. First, there were only a few commercial transactions observed. Second, transaction times using a commercial debit card are not necessarily of equal length to an EBT transaction because the transaction is processed by a different system. Finally, transaction times with commercial debit

[1]A copy of the checkout observation form is presented in Appendix E.

Exhibit F-2

EXPLANATORY VARIABLES IN THE REGRESSION ANALYSIS

Variables Indicating Form of Payment (all indicators)

Constant (represents payment in cash)

Food stamp coupons only
Food stamp coupons and cash

EBT card for food stamp benefits only
EBT card for food stamp benefits, plus cash
EBT card for cash assistance benefits only
EBT card for cash assistance benefits, plus cash
EBT card for both food stamp and cash assistance benefits

Check written, alone or in conjunction with other payment method
Manufacturer's or store coupons used

Variables Involving the Number of Items Purchased

Number of items purchased
Number of items purchased, when only cashier does bagging
Number of items purchased, when no bagging takes place

Events During Ringing (all indicators)

Price checks
Produce weighing
Express lane observation
No bar code scanner used
"Penny candy" transaction (average price per item less than 10 cents)

Variables Indicating Problems or EBT-specific Procedures (all indicators)

Ringing problem (non-EBT)
Other non-EBT-related problem
Extra long transaction (observer noted transaction was unusually long, but no specific problem noted)
Client used EBT system to check remaining balance
Backup EBT transaction required
Presence of any other problem with EBT system

Other Variables (all indicators)

A series of variables identifying store in which transaction was observed
Transaction observed in post-implementation survey

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cards are not of direct interest to the evaluation of EBT system impacts on checkout productivity.

In some situations the observer could not determine whether the card being used was an EBT card or a commercial debit card. These transactions also were excluded to ensure that the estimated coefficients for an EBT transaction accurately portray the effects on transaction times of using an EBT card.

Finally, there were a few transactions in which the observer could identify that an EBT card was being used, but could not determine whether the transaction was being applied against a food stamp or cash assistance account. Again, these transactions were dropped from the analysis because of the uncertainty surrounding how they should be classified.

The final payment form variables indicate whether the customer used a check to pay for all or part of the final bill and whether manufacturers' or store coupons were used.

Variables involving the number of items are included in the model because of their strong influence on transaction times. The number of items is treated both as an individual (covariate) variable and in combination with whether the cashier or no one bagged groceries. This specification is satisfactory because the corresponding interaction terms (between number of items alone and in combination with the two bagging outcomes) provide incremental slopes against the overall slope represented by the number of items coefficient.

Events during ringing are represented by variables indicating price checks or produce weighing. Also included are variables indicating that the observation occurred in an express lane, that no bar code scanner was used, and whether the average price per item was less than 10 cents. This last variable is referred to as a "penny candy" transaction, although there is no way of knowing what was really being purchased.

The next set of variables indicates unusual events that would tend to increase transaction times. The first variable indicates that the cashier had problems ringing up the groceries being purchased, whether or not the transaction involved the EBT system. The second variable indicates the presence of any other recorded non-EBT-related event. These events, which are listed in the "unusual circumstances box: non-debit card related" of the checkout observation form (see Exhibit E-3 in Appendix E), include bottle returns, check approvals at the checkout

counter, cashier going to pick up an item for the customer, items being returned by the customer, and others.

If an observer thought that a transaction was taking an unusual amount of time to complete but there was no identifiable reason for the extra time, he or she indicated that the transaction was unusually long on the recording form. This could occur with an EBT or a non-EBT transaction. Thus, the third variable indicates that the observation was unusually long.

The final three variables within this set all pertain exclusively to EBT transactions. The first variable indicates that the client used the EBT system to check his or her remaining balance (either food stamp or cash assistance account). The second variable indicates that a manual, backup transaction was required to complete the purchase. The final variable indicates whether there was any other problem with the EBT purchase. Possible problems include a client having trouble remembering his or her PIN, a damaged EBT card, and a client having insufficient benefits in his or her account to pay for the groceries. A full list of potential EBT problems that an observer could record is found in the "unusual circumstances box: debit card related" portion of the recording form (see Exhibit E-3 in Appendix E).

The final set of variables in the regression models is a list of indicators identifying the store at which the observation occurred and whether the observation occurred in the post-implementation observation period. In each model, one store is left out of the list. The influence of that store on checkout times is captured in the constant term of the model.

With this specification, the constant term represents a problem-free baseline transaction at the "excluded" store that:

- involved only cash as a payment form;
- had no price checks or produce weighing;
- did not occur at an express lane;
- used a bar code scanner; and
- had an average price per item greater than 10 cents.

The only exception to this is in the convenience store models and the grocery store model in Ramsey County. None of the observations in these stores involved a bar code scanner, and this variable therefore was left out of model specification.

The results of the regression analysis for the three major store types in each demonstration site are presented in Exhibits F-3 and F-4.[1] The store identifier variables in the models (e.g., Store A, Store B, ...) identify specific stores in which transactions were observed, but each label is generic. That is, Store A in the supermarket sample is not the same store as Store A in the grocery store sample.

Several estimated coefficients in each model are shaded. This shading indicates that ten or fewer observations within that store type exhibited the characteristic defined by the explanatory variable. As an example, only four observations in New Mexico supermarkets involved a combination food stamp and cash assistance EBT transaction.

Because of small sample size, the values of the shaded coefficients should be interpreted

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Exhibit F-3

REGRESSION MODELS FOR TOTAL TRANSACTION TIME (IN SECONDS): NEW MEXICO STORES

Explanatory Variable	Supermarkets	Grocery Stores	Convenience Stores
Constant (represents payment in cash)	16.7**	31.0**	24.3**
Food Stamp (FS) coupon only	10.7**	11.8**	8.0**
FS coupons and cash	27.3**	26.0**	30.3**
EBT, FS only	20.6**	15.0**	24.1**
EBT, FS and cash	29.8**	21.8**	65.5**
EBT, cash assistance (CA) only	32.4**	26.9**	52.6**
EBT, CA and cash	82.6**	39.5	47.9**
EBT, FS and CA	67.4**	52.0**	50.0**
Check written	26.0**	29.2**	27.2**
Other coupons used	19.9**	19.6**	13.1
Number of items	2.7**	3.8**	3.9*
Items, only cashier bagging	0.7**	0.8**	-1.2
Items, no bagging	-1.5**	-2.5**	-3.2*
Price checks	49.1**	31.6**	14.7+
Produce weighing	7.8**	8.5**	-6.4
Express lane	-7.2**	—	4.6
No scanner	5.2	-3.3+	—
Candy purchase	4.0	-18.8**	-9.2**
Ringing problem (non-EBT)	32.5**	31.8**	20.5**
Other problem (non-EBT)	18.1**	9.7**	10.3**
Extra long transaction	46.2**	47.9**	27.7**
EBT balance check	26.6**	72.5**	29.3**
EBT backup transaction	83.3**	-6.9	—
Other EBT problem	64.6**	31.5**	40.1**
Store A	16.4**	-4.9**	-7.7**
Store B	13.3**	-1.3	4.0**
Store C	5.5**	-9.6**	9.1**
Store D	1.2	-5.9**	-5.6**
Store E	2.6	-14.4**	-5.3**
Store F	11.6**	-8.1**	-16.2**
Store G	4.5*	6.4**	-16.0**
Store H	-0.3	—	12.9**
Store I	—	—	-11.7**
Wave 3	9.4**	-0.6	-1.3
Adjusted R^2	.79	.70	.48
Mean of dependent variable	77.4	53.7	22.8
Std. Dev. of dependent variable	73.1	48.6	21.6
Total number of transactions (pre and post)	5,896	4,458	4,136
Number of FS coupon transactions	262	195	60
Number of EBT transactions	847	341	129

Notes:
** statistically significant at the 1-percent level
* statistically significant at the 5-percent level
+ statistically significant at the 10-percent level
estimated coefficient is based on 10 or fewer observations
— no observations with this characteristic

Source: Baseline and post-implementation checkout observation surveys.

Exhibit F-4

REGRESSION MODELS FOR TOTAL TRANSACTION TIME (IN SECONDS): RAMSEY COUNTY STORES

Explanatory Variable	Supermarkets	Grocery Stores	Convenience Stores
Constant (represents payment in cash)	3.7	17.5**	13.5**
Food Stamp (FS) coupon only	30.3**	14.1**	8.4**
FS coupons and cash	38.8**	22.8**	21.3*
EBT, FS only	31.2**	33.6**	30.5**
EBT, FS and cash	-8.4	51.9**	31.0**
EBT, cash assistance (CA) only	88.2*	40.2**	20.3+
EBT, CA and cash	—	45.7*	32.7
EBT, FS and CA	108.6*	34.8*	40.8+
Check written	15.5**	20.9**	19.3**
Other coupons used	12.2**	8.0+	5.3
Number of items	2.7**	2.8**	3.7**
Items, only cashier bagging	0.1	1.2**	1.8**
Items, no bagging	-1.1	-2.6**	-1.1**
Price checks	7.6*	33.3**	12.5*
Produce weighing	3.1	13.1**	—
Express lane	-3.6	—	—
No scanner	-18.3*	—	—
Candy purchase	-28.1	-18.1*	-8.0+
Ringing problem (non-EBT)	59.9**	21.3**	13.2**
Other problem (non-EBT)	36.9**	10.3**	18.1**
Extra long transaction	88.3**	70.2**	64.2**
EBT balance check	63.1	32.3**	58.9**
EBT backup transaction	—	131.5**	322.9**
Other EBT problem	50.2**	68.7**	57.1**
Store A	33.4**	19.9**	2.2
Store B	-13.8**	13.0**	0.9
Store C	23.7**	16.9**	1.8
Store D	158.4**	2.8	0.8
Store E	83.9**	3.1	2.4+
Store F	61.9**	10.1**	11.9**
Store G	—	—	1.7
Store H	—	—	2.9
Store I	—	—	—
Wave 3	-6.8**	0.4	2.5*
Adjusted R^2	.69	.67	.56
Mean of dependent variable	105.7	57.8	34.5
Std. Dev. of dependent variable	111.9	54.8	35.5
Total number of transactions (pre and post)	4,766	2,745	3,475
Number of FS coupon transactions	122	252	94
Number of EBT transactions	189	359	171

Notes:
** statistically significant at the 1-percent level
* statistically significant at the 5-percent level
+ statistically significant at the 10-percent level
estimated coefficient is based on 10 or fewer observations
— no observations with this characteristic

Source: Baseline and post-implementation checkout observation surveys.

A second reason for retaining observations with rare characteristics is to be able to maintain a more similar model specification across all store types in both sites. In some instances, however, this was not possible. If no observations in a sample exhibited a specific characteristic, that variable was dropped from the model specification.

The regression models for supermarkets explain more of the variation in the dependent variable (as indicated by values of the adjusted R^2) than the models for grocery stores, and the grocery store models explain more variation than the convenience store models. One reason for this pattern in explained variation is that the total transaction times for supermarket purchases are more variable than transaction times for grocery store purchases, and grocery store transaction times are more variable than convenience store transaction times. (The mean and standard deviation of each model's dependent variable is shown at the bottom of the exhibits.)[1] In general, regression models tend to have higher R^2 values when the dependent variable exhibits greater variation; there is more opportunity for the models' variables to "explain" differences in the dependent variable.

The explanatory variables of most interest in Exhibits F-3 and F-4 are those identifying payment method and the variables indicating an EBT balance check, an EBT backup transaction, and the presence of any other EBT-related problem. With one exception (transactions involving both cash and a food stamp EBT account in Ramsey County supermarkets), all the estimated coefficients for transactions using food stamp coupons or the EBT system are positive, and most are statistically significant. Thus, transaction times are longer when either food stamp coupons or an EBT system are used. There is also variation in these coefficients across store types and sites. While some of this variation may be due to small sample sizes, variation occurs even within categories of payment method in which sample size is not a problem.

We have no ready explanation for why estimated coefficients vary across store types or sites. The variation across combinations of payment method, however, does follow expected patterns. For example, transactions involving both an EBT payment and cash generally take longer than transactions involving only an EBT payment. Similarly, coupon transactions in which cash is tendered as well take longer than transactions using only food stamp coupons.

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[1] This pattern of variation in total transaction time reflects a similar pattern in size of purchase.

To facilitate the comparison of the estimated coefficients for coupon and EBT transactions, the coefficients are repeated in Exhibit F-5, along with the calculated differences in estimated coefficients for analogous payment methods. As shown in the exhibit, even when the impacts of EBT system problems are ignored, food stamp purchases using an EBT system almost always take longer, on average, than purchases using coupons, and many of the differences are statistically significant. This result is not surprising because transaction times for EBT purchases include time spent swiping the card through the POS terminal's card reader, entering the PIN, entering the purchase amount on the POS terminal's keyboard, waiting for the system to authorize the transaction, and waiting for the EBT receipt to be printed.

The time differences shown in Exhibit F-5 cannot, by themselves, give a clear picture of the magnitude of the overall impact of an EBT system on checkout productivity, compared to cash purchases or purchases using food stamp coupons. The overall impact will be influenced not only by the individual coefficients, but by the relative frequency of different payment methods and the frequency and impacts of EBT-related problems. After a discussion of the types of EBT-related problems observed in New Mexico and Ramsey County, we return to this question and estimate the overall impact of using coupons or the EBT system on retailers' checkout costs.

EBT Problem Transactions and Balance Checks

The previous section described the regression analyses which provided estimates of the incremental time of a payment method relative to a cash purchase. These incremental times, however, are not sufficient for estimating the impact of an EBT system on average total transaction times. For instance, they do not incorporate the impacts of EBT system problems or balance checks on transaction times.

As shown in the regression models in Exhibits F-3 and F-4, transactions in which the client checks his or her EBT balance last 27 to 73 seconds longer, on average, than similar transactions without a balance check. If a manual backup transaction needs to be performed, the average additional time can be well over one minute. If other problems occur, the purchase transaction is prolonged by an average of 32 to 69 seconds.

Exhibit F-5

DIFFERENCES IN ESTIMATED FOOD STAMP EBT AND COUPON COEFFICIENTS
(Seconds per Transaction)

New Mexico	Supermarkets	Grocery Stores	Convenience Stores
EBT, Food Stamps (FS) Only	20.6**	15.0**	24.1**
FS Coupons Only	10.7**	11.8**	8.0**
Difference	9.9**	3.2	16.2**
EBT, Food Stamps and Cash	29.8**	21.8**	65.5**
FS Coupons and Cash	27.3**	26.0**	30.3**
Difference	2.5	-4.2	35.2**
EBT, FS and Cash Assistance	67.4**	52.0**	50.0**
FS Coupons and Cash	27.3**	26.0**	30.3**
Difference	40.1**	26.0*	19.7*

Ramsey County	Supermarkets	Grocery Stores	Convenience Stores
EBT, Food Stamps (FS) Only	31.2**	33.6**	30.5**
FS Coupons Only	30.3**	14.1**	8.4**
Difference	1.0	19.5**	22.1**
EBT, Food Stamps and Cash	-8.4	51.9**	31.0**
FS Coupons and Cash	38.8**	22.8**	21.3*
Difference	-47.2*	29.2**	9.6
EBT, FS and Cash Assistance	108.6*	34.8*	40.8+
FS Coupons and Cash	38.8**	22.8**	21.3*
Difference	69.8	12.1	19.4

Notes: ** statistically significant at the 1-percent level
* statistically significant at the 5-percent level
\+ statistically significant at the 10-percent level
▒ estimated coefficient is based on 10 or fewer observations

Source: Exhibits F-3 and F-4.

It is clear that balance checks and EBT-related problems can add substantially to total transaction times, a concern retailers voiced when the two systems were being developed. The variation in estimated impacts across stores is not necessarily surprising. Some problems can be fairly minor (e.g., having to reswipe a card through the terminal's card reader), while other problems can be quite time consuming. Thus, the variation in average impact across store types and sites can be due to the particular mix of problems encountered.

This section of the analysis examines the relative frequency of EBT balance checks and EBT problems in New Mexico and Ramsey County. The analysis is not performed at the level of store type due to the limited number of observed problems. In combining the frequency of events across store types, we have weighted the frequencies within each store type to control for variation in the likelihood of observing a food stamp EBT transaction across store types.

Exhibit F-6 presents the percentages of food stamp EBT transactions in each demonstration site in which EBT-related problems or balance checks were observed. Overall, the likelihood of observing a balance check or EBT problem was quite similar in both sites. Of the 1,283 food stamp EBT transactions observed in New Mexico, 13.9 percent involved a balance check or one or more problems. In Ramsey County, 15.9 percent of the 702 EBT transactions had a balance check or experienced one or more EBT problems.

EBT problems may be caused by system malfunctions, incorrect store procedures, or client procedures. The exhibit indicates the specific problems which observers recorded and how they are classified.

The most noteworthy aspect of the figures in Exhibit F-6 is their similarity across the two demonstration sites. In both sites, most problems are caused by problems with the system, its equipment (i.e., the POS terminal and the card reader, PIN-pad and receipt printer attached to the terminal), or the client's EBT card. Client procedures are the next most common source of problems, with store procedural problems being relatively infrequent.

None of the specific problems listed in the exhibit occurred very often. The most common problem was having to reswipe the EBT card through the card reader, followed (in Ramsey County) by clients forgetting their PINs.

Exhibit F-6

PERCENTAGE OF FOOD STAMP EBT TRANSACTIONS IN WHICH PROBLEMS OR BALANCE CHECKS WERE OBSERVED[a]

Problem	New Mexico	Ramsey County
System/Equipment/Card		
– equipment problem	1.6%	1.1%
– system inaccessible[b]	1.2	0.2
– card reswipe	3.6	5.5
– damaged card	0.8	0.8
– slowdown	1.3	2.8
– backup transaction	1.3	0.4
– client sent to another lane	0.1	0.4
Subtotal[c]	7.7	9.0
Store Procedures		
– terminal sign-on	0.0%	0.0%
– cashier confused	0.3	1.2
– entry error	0.7	2.0
– next customer taken	0.3	1.1
– client sent to service desk	0.0	0.0
Subtotal[c]	1.3	4.0
Recipient Procedures		
– insufficient balance	2.2%	2.2%
– balance check	2.7	2.6
– forgot PIN	2.3	4.2
Subtotal[c]	6.7	8.1
Non-specified Problem	0.6%	0.1%
TOTAL ALL PROBLEMS[c]	13.9%	15.9%
Number of food stamp EBT transactions	1,283	702

Note:
[a] Percentages based on weighted frequencies of problem EBT transactions in supermarkets, grocery stores and convenience stores. These percentages simply reflect the frequency that the problem or event was observed, and are not intended to be used as measures of system performance. Other measures, such as number of minutes of system availability, more accurately reflect the performance of the systems.

[b] Indicates that some part of the system (e.g. communication, host computer, etc.) is not available to process a transaction on-line.

[c] Indicates percentage of transactions in which one or more of the problems in the category were observed. Percentages do not add to subtotal or total level because of the occasional presence of more than one problem in a given transaction.

The exhibit reveals some interesting facts about store operations and client behavior. First, the observers never recorded an instance in which a cashier had to sign the POS terminal onto the system before handling an EBT transaction. This implies that cashiers in both demonstration sites were consistent in signing on at the start of the day or shift, thus saving time when clients wished to use the system. Second, problems with system access were relatively infrequent during the days of observation, affecting less than one percent of all transactions across the two sites. Third, even problems with slow response times affected only 1.3 percent of the New Mexico EBT transactions and 2.8 percent of the Ramsey County transactions. This is significant given that the observations occurred over the busiest food stamp shopping days of the month, when system slowdowns due to increased volume would be most likely to occur.

From 2.6 to 2.7 percent of food stamp clients in both sites performed a balance check in the checkout lane during a purchase transaction. While clients are encouraged to save time in the checkout lane by checking their balances elsewhere, a few clients take advantage of the systems' ability to provide balance information at the POS terminal. Finally, 2.2 percent of clients in both sites tried to complete a food stamp purchase with insufficient benefits left in their accounts. This rate seems reasonably low and indicates that most clients are able to keep track of their remaining balances.

Estimating Average Total Transaction Times for the Typical Food Stamp EBT Transaction, Using Different Payment Methods

To estimate system impacts on average transaction times, we define a "typical" food stamp EBT purchase transaction. This transaction simply reflects the average characteristics of all observed food stamp EBT transactions. Exhibits F-7 and F-8 show the characteristics of a "typical" food stamp EBT transaction, by store type and for all stores in each site. Values in the exhibit reflect the mean value of that variable across all food stamp EBT transactions. For example, in New Mexico, food stamp EBT purchases in supermarkets averaged 20.9 items and required produce weighing in 34 percent of the transactions. Payment form entries describe the relative frequency with which each payment form appears. Thus, 73.5 percent of food stamp EBT purchases in supermarkets used only the EBT card, another 21.9 percent combined an EBT payment with cash, and 4.6 percent involved debits against both food stamp and cash assistance EBT accounts.

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Exhibit F-7

PROFILE OF THE TYPICAL FOOD STAMP EBT TRANSACTION IN NEW MEXICO[a]

	Supermarkets	Grocery Stores	Convenience Stores	All Stores[b]
FS coupons only	0.0	0.0	0.0	0.0
FS coupons and cash	0.0	0.0	0.0	0.0
EBT card, FS only	0.735	0.905	0.889	0.827
EBT card, FS plus cash	0.219	0.074	0.063	0.129
EBT card, CA only	0.0	0.0	0.0	0.0
EBT card, CA plus cash	0.0	0.0	0.0	0.0
EBT card, FS and CA	0.046	0.021	0.048	0.043
Check written	0.008	0.006	0.0	0.004
Other coupons used	0.024	0.003	0.0	0.010
Number of items	20.900	7.190	5.135	11.942
Items, only cashier bagging	2.611	4.387	3.381	3.199
Items, no bagging	0.128	0.083	1.754	0.853
Price checks	0.016	0.003	0.0	0.007
Produce weighing	0.342	0.132	0.0	0.159
Express lane	0.047	—	0.0	0.019
No bar code scanner	0.0	0.724	—	0.099
Penny candy	0.0	0.0	0.016	0.007
Ringing problem (non-EBT)	0.004	0.006	0.032	0.017
Other problem (non-EBT)	0.254	0.156	0.175	0.205
Extra long transaction	0.041	0.077	0.151	0.095
EBT balance check	0.028	0.018	0.032	0.028
Backup EBT transaction	0.016	0.003	—	0.007
Other EBT problem	0.096	0.120	0.167	0.131
Store A	0.0	0.077	0.0	0.010
Store B	0.111	0.0	0.0	0.046
Store C	0.134	0.083	0.0	0.067
Store D	0.138	0.209	0.0	0.086
Store E	0.073	0.313	0.214	0.169
Store F	0.0	0.193	0.373	0.194
Store G	0.093	0.117	0.103	0.101
Store H	0.249	—	0.079	0.139
Store I	—	—	0.167	0.075
Post-implementation observation	1.000	1.000	1.000	1.000
Number of observations	831	326	126	1,283

Notes: a Each entry gives the mean value for that variable over all food stamp EBT transactions in the particular store type. For indicator variables, the entry is simply a proportion. With the exception of the three "item" variables, all variables are indicator variables.

b Weighted average across all three store types.

— indicates that variable was excluded from regression model.

Exhibit F-8

PROFILE OF THE TYPICAL FOOD STAMP EBT TRANSACTION IN RAMSEY COUNTY[a]

	Supermarkets	Grocery Stores	Convenience Stores	All Stores[b]
FS coupons only	0.0	0.0	0.0	0.0
FS coupons and cash	0.0	0.0	0.0	0.0
EBT card, FS only	0.909	0.906	0.933	0.916
EBT card, FS plus cash	0.080	0.080	0.061	0.074
EBT card, CA only	0.0	0.0	0.0	0.0
EBT card, CA plus cash	0.0	0.0	0.0	0.0
EBT card, FS and CA	0.011	0.014	0.006	0.010
Check written	0.016	0.0	0.0	0.009
Other coupons used	0.134	0.009	0.006	0.078
Number of items	22.187	9.923	4.512	15.241
Items, only cashier bagging	2.455	5.120	2.994	3.011
Items, no bagging	0.096	0.177	0.598	0.253
Price checks	0.048	0.009	0.006	0.030
Produce weighing	0.176	0.128	---	0.118
Express lane	0.011	---	---	0.006
No bar code scanner	0.016	---	---	0.009
Penny candy	0.0	0.0	0.0	0.0
Ringing problem (non-EBT)	0.005	0.0	0.018	0.008
Other problem (non-EBT)	0.016	0.051	0.037	0.027
Extra long transaction	0.021	0.040	0.061	0.036
EBT balance check	0.016	0.046	0.024	0.023
Backup EBT transaction	---	0.003	0.012	0.004
Other EBT problem	0.096	0.142	0.238	0.144
Store A	0.449	0.034	0.0	0.257
Store B	0.219	0.182	0.0	0.150
Store C	0.011	0.0	0.128	0.043
Store D	0.070	0.333	0.0	0.089
Store E	0.064	0.177	0.165	0.110
Store F	0.171	0.214	0.104	0.158
Store G	---	---	0.274	0.079
Store H	---	---	0.274	0.079
Store I	---	---	---	0.0
Post-implementation observation	1.000	1.000	1.000	1.000
Number of observations	187	351	164	702

Notes: a Each entry gives the mean value for that variable over all food stamp EBT transactions in the particular store type. For indicator variables, the entry is simply a proportion. With the exception of the three "item" variables, all variables are indicator variables.

b Weighted average across all three store types.

--- indicates that variable was excluded from regression model.

In estimating the average transaction time for an EBT transaction, we multiplied the characteristics of the typical food stamp EBT transaction by the estimated coefficients from the corresponding regression model. This provides the average total time for the typical food stamp EBT transaction, which is shown in Chapter 4, Exhibit 4-5. To estimate the average total time for an identical transaction using food stamp coupons, we made two changes in the above procedure. First, we applied to "FS coupon only" the proportion of the sample that involved only a food stamp EBT debit. For "FS coupons and cash," we applied the total proportions of the sample that involved a food stamp EBT debit and cash or a combination food stamp EBT debit and cash assistance EBT debit. Thus, continuing the New Mexico supermarket example above, we assumed that 73.5 percent of the sample involved only food stamp coupons as the payment method and 26.5 percent of the sample (i.e., 21.9 percent plus 4.6 percent) involved coupons and cash. Second, we set to zero the proportion of transactions experiencing EBT problems, because such problems cannot occur when a client uses food stamp coupons. This process predicts the average time it would take to process a typical food stamp EBT transaction if food stamp coupons were used instead of the EBT card.

The same general procedure is used to estimate the average total time for the same typical EBT purchase if cash were used. To approximate a cash purchase, we eliminated all EBT card and coupon payment terms and set the proportion of transactions with EBT problems equal to zero. The influence of using cash only as the payment form is picked up in the constant term.

Reducing Estimated Checkout Costs per $1,000 of Benefits Redeemed to Account for Unproductive Time

Exhibit 4-7 in Chapter 4 presents estimates of the additional costs (compared to cash transactions) retailers incur to redeem $1,000 of benefits under the coupon and EBT payment systems. These costs arise because predicted total transaction time for a typical food stamp EBT purchase is greater when food stamp coupons or the EBT system is used to pay for the purchase than when cash is used.

Oftentimes, stores are not very busy and cashiers wait awhile before ringing up the next customer's groceries. In these situations the extra time required for a food stamp coupon or EBT purchase might not add to a store's operating costs because the extra time would simply reduce cashiers' unproductive wait time following the transaction. To estimate cost impacts that

are more clearly associated with cashiers' productive work time, we estimated a set of "reduced" cost impacts. Each reduced cost impact (by store type and site) equals the full cost impact presented in Exhibit 4-7 times the percentage of food stamp coupon or EBT transactions that are followed by less than a 20-second wait before the next customer is taken. Separate estimates of wait time following coupon and EBT transactions are used because, by affecting total transaction times compared to using food stamp coupons, a portion of an EBT system's impacts on store operations may be to reduce average wait time following a transaction.

Exhibit F-9 shows, by store type and site, the percentage of food stamp coupon and EBT transactions that are followed by another transaction within 20 seconds. The differences between average transaction times for food stamp coupon and EBT purchases do not appear to influence

[redacted]

systematic pattern. As shown in the exhibit, 62 percent of all food stamp EBT transaction are followed by another purchase within 20 seconds, compared to 61.2 percent of all food stamp coupon transactions.

The exhibit clearly shows, however, that supermarkets in the observation samples were

Exhibit F-9

PERCENTAGE OF FOOD STAMP COUPON AND EBT TRANSACTIONS THAT ARE FOLLOWED BY ANOTHER TRANSACTION WITHIN 20 SECONDS

	Supermarkets	Grocery Stores	Convenience Stores	All Stores[a]
EBT Transactions				
New Mexico	80.8	44.4	42.0	58.4
Ramsey County	76.0	56.1	45.6	64.2
Both Sites[a]	77.5	51.9	43.8	62.0
Coupon Transactions				
New Mexico	79.3	50.8	55.6	64.8
Ramsey County	68.8	40.9	49.4	59.0
Both Sites[a]	72.1	44.5	52.5	61.2

Note: [a] Weighted average.

Weighting Procedures

In addition to presenting analysis results for supermarkets, grocery stores and convenience stores in each demonstration site, we present average results for all three store types within each site and average results across both sites for each store type. In calculating these averages, we had to account for the fact that food stamp purchases were not observed with equal probability across store types or sites.

Our approach to calculating weights was to calculate the total dollar value of food stamp transactions observed (including both coupon and EBT transactions) within each store type in each site. The inverse of this value was then multiplied by the total monthly food stamp redemption volume of all stores in each site of the same type. Total monthly redemption volume data were obtained from the FNS Minneapolis Computer Support Center.

The calculated weights are shown in Exhibit F-10. The weights should be interpreted in the following manner. For supermarkets in New Mexico, the food stamp purchases observed represented 0.76 percent (or 1/131) of all food stamp dollars redeemed by supermarkets in Bernalillo County in a typical month at the time of the post-implementation observations. In contrast, food stamp transactions observed in New Mexico grocery stores represented 2.33 percent (1/43) of all food stamp benefits redeemed by grocery stores. Food stamp transactions observed in convenience stores represented 0.70 percent (1/143) of all convenience store redemptions. Thus, when averaging results across these three store types, more weight was given to results from supermarkets and convenience stores than from grocery stores. This adjusts for the fact that relatively fewer food stamp transactions were observed in supermarkets and convenience stores than in grocery stores.

The same basic procedure was used when averaging results for a given store type across the two demonstration sites. In general, more weight was given to estimated impacts in Ramsey County stores than in New Mexico stores because we observed a smaller proportion of food stamp sales in Ramsey County than in New Mexico.

Exhibit F-10

CHECKOUT OBSERVATION WEIGHTS

Site	Supermarkets	Grocery Stores	Convenience Stores	Total[a]
New Mexico	131	43	143	318
Ramsey County	286	76	147	509
Total[a]	417	120	290	827

Note: [a] Individual weights may not sum to the total due to rounding.

Appendix G

SAMPLE INFORMATION AND SUPPLEMENTARY ANALYSES OF EBT IMPACTS ON RECIPIENTS

This appendix contains technical information and supplemental analyses concerning the analysis of EBT impacts on recipients presented in Chapter 5. It includes four sections:

- disposition of all sampled cases in the baseline and post-implementation surveys;
- procedures and assumptions for the estimation of recipients' costs of participation;
- analysis of shared costs of program participation; and,
- recipients' experiences with the cash assistance programs on the EBT systems.

Sample Disposition

Abt Associates conducted baseline and post-implementation interviews with recipients in Bernalillo County, New Mexico, and Ramsey County, Minnesota. Random samples of active food stamp recipients were drawn in each site from caseload data tapes provided by the county or State. Food Stamp or EBT participants who had been receiving benefits for at least two months were eligible for the survey. Interviews were conducted both by telephone and in-person.

The baseline recipient interviews were conducted between September and December 1989. Exhibit G-1 shows the final disposition of all cases in each site. For the baseline survey, 85 interviews were completed in New Mexico and 87 in Ramsey County. The response rate (completed interviews as a percent of eligible cases) for the baseline recipient survey was 78 percent in New Mexico and 77 percent in Ramsey County.

Less than 10 percent of the total sample was ineligible in each site for the baseline survey: in New Mexico, 7 respondents had not received food stamps in the past two months and 4 had moved out of the county. In Ramsey County, 7 respondents were ineligible because they did not receive coupons in the past two months. Note that some of the cases listed as "cannot

Exhibit G-1

FINAL DISPOSITION OF SAMPLE CASES: BASELINE AND POST-IMPLEMENTATION RECIPIENT SURVEYS

	New Mexico		Ramsey County	
	Baseline	Post-Implementation	Baseline	Post-Implementation
TOTAL SAMPLE	120	120	120	120
TOTAL ELIGIBLE	109	95	113	95
Completed	85	73	87	71
Refusal	3	2	4	0
Language barrier	0	1	3	0
Located, no contact	9	0	0	5
Cannot locate	12	19	19	19
TOTAL INELIGIBLE	11	25	7	25
Screened out	7	8	7	8
Deceased/institutionalized	0	1	0	2
Not receiving food stamps per county/State records	0	12	0	15
Moved out of county	4	4	0	0

locate" also might have been ineligible for the survey; for example, they have moved out of the county or no longer receive food stamp benefits.

Exhibit G-1 also shows the final disposition of sample cases for the post-implementation recipient survey. Interviews were conducted between April and July, 1992. Interviewers completed 73 surveys in New Mexico, or 77 percent of the eligible cases. In Ramsey County 71 interviews were completed, or 75 percent of eligible cases. About 21 percent of the sample cases were found to be ineligible in the post-implementation wave of data collection. In New Mexico, 20 respondents had not received food stamps in the past two months, as determined by State records or with the screening questions in the interview. Another 4 recipients had moved out of the county and one was deceased or institutionalized. In Ramsey County a total of 25 cases were ineligible: 8 screened out, 15 were no longer receiving food stamps according to County records, and 2 were deceased or institutionalized.

Procedures and Assumptions for the Estimation of Recipients' Costs of Participation

There are two types of costs that recipients incur to participate in the Food Stamp Program: direct costs and time costs. Direct costs include the costs of transportation, babysitting fees, costs of post office boxes in the coupon mail issuance system, and the opportunity costs of lost and delayed benefits. In order to estimate recipients' costs of participation, we need to assume a value for three factors: the cost of driving a car (to the welfare office), the value of clients' time, and the cost of delayed benefits.

If a recipient traveled by car to the welfare office (e.g., to attend the EBT training session), the cost of driving was computed as $0.25 per mile multiplied by the number of miles driven, plus any expenses for parking and tolls. The federal mileage reimbursement rate, $0.25 per mile, is intended to approximate the cost of a driving a car, including gas, insurance, and "wear and tear."

Recipients spend time obtaining benefits and dealing with problems with their benefits in the Food Stamp Program. In order to compute a total cost of participation, we need to assume a dollar value for this time. Most recipients do not work, so that the time spent does not directly result in a loss of wages. Nonetheless, time spent participating in the Food Stamp Program does impose a cost on recipients. We measure this cost using the federal minimum

wage, $4.25 per hour. While the minimum wage may underestimate the wages of some food stamp recipients who work, it provides a measure of comparison of the cost of time across issuance systems. An alternative approach is to use the average wage of all recipients (including those who do not work) to measure the cost of time. We rejected this approach, however, because it implies that the value of time to recipients who are not working is zero. Using the minimum wage as the value of time emphasizes that the time recipients spend obtaining benefits and dealing with problems rather than on other activities has a non-zero opportunity cost.

Recipients also incur costs when problems lead to lost or delayed benefits. Lost benefits are valued at the total amount of benefits lost. For certain types of problems, however, the cost is a delay in getting the benefits rather than a loss. For example, if coupons are delivered late in the mail, the recipient incurs the cost of not being able to use the benefits for some period of time. We estimate the opportunity cost of delayed benefits as the amount of interest the recipient would have to pay to borrow that amount of benefits for the length of the delay. While recipients may not actually borrow money to replace delayed benefits, the interest represents the opportunity cost of forgoing benefits for the period of time. We use an 18 percent annual interest rate (a common rate on unsecured consumer credit such as credit cards) to calculate the opportunity cost of delayed benefits.

Occasionally, respondents did not know an answer or did not give an answer to a particular question. For example, respondents may not know the number of miles between their home and the welfare office, or how many coupons were stolen. In these cases we used the mean value reported by other respondents to impute a value for the missing data.

Several assumptions were made in the estimation of the opportunity costs of lost and delayed benefits. In general, if a recipient reported that a problem or error was never corrected, we counted the opportunity cost of that problem as the full loss of the benefits. There were two exceptions, however. In the case of respondents who reported that coupons arrived late in the mail or that coupons were not ready for pickup, we assume that these problems did eventually "get fixed," i.e., that the benefits arrived or were picked up after some delay. For example, we assume that the coupons were late in the mail (as reported) rather than assuming that the coupons never arrived (which is asked in a separate question). We used the mean number of days until

the problem was fixed reported by other respondents in computing the opportunity cost of the delay.

It should be noted that it is possible that recipients reported the same problem more than once in the surveys. For example, a respondent may have reported the same incident as a loss of coupons in the mail, and reported it again when asked if their coupons were ever lost or stolen after receiving them. We have no means of detecting and systematically correcting such double counting. The estimates of the opportunity costs of problems may overestimate the true cost if double counting of problems occurred.

Analysis of Shared Costs of Program Participation

The EBT systems in New Mexico and Ramsey County include cash assistance programs such as AFDC as well as the Food Stamp Program. As a result, if a recipient participates in more than one program on the EBT system, certain costs of participation are shared between the two programs. For example, for a recipient who participates in both the AFDC and Food Stamp Programs, the cost of getting the EBT card and training is a joint cost of participating in the AFDC and Food Stamp Programs.

Prior to the implementation of an EBT system, issuance for the Food Stamp Program is largely separate from issuance for cash assistance programs. Most of the costs of participation in the Food Stamp Program under the coupon issuance system are not shared costs. However, it is possible even under the coupon system that some costs might be shared across programs. For example, a recipient might make a trip to the welfare office to get replacement coupons and on the same visit, deal with a problem with her AFDC benefits.

In Chapter 5 of this report we present estimates of recipients' costs of participating in the Food Stamp Program under the coupon and EBT systems. We assume that recipients' costs are FSP participation costs and ignore participation in other programs. For example, in Chapter 5 the full cost of getting the card and training are counted as Food Stamp Program participation costs. This assumption provides the best comparison with the baseline participation costs, in which no information was collected on whether recipients' costs were shared across programs.

An alternative approach is to assume that, if a recipient participates in two programs on the EBT system, participation costs are split between the two. So, for example, half of the costs

of obtaining the card and training would be assigned to the Food Stamp Program, and half to the AFDC Program. Similarly, if a recipient makes a trip to the welfare office to get a replacement EBT card, half of the costs of that trip would be assigned to the Food Stamp Program. Exhibit G-2 presents recipients' costs of participating in the Food Stamp Program under the EBT system using the assumption of shared costs. (We did not collect information on other costs in the cash assistance programs that would allow us to separately estimate costs of participation in those programs.) Opportunity costs of lost and delayed benefits are the same under both approaches because they include problems with food stamp EBT benefits only.

In New Mexico, recipients' costs of participating in the Food Stamp Program under the EBT system are reduced only slightly under the assumption of shared costs. The reduction in costs is small in part because only about one-third of the recipients participate in the AFDC Program. (Costs to participate in the Food Stamp Program do not change under the assumption of shared costs for non-PA food stamp recipients.) Also, it turns out that the direct costs of fixing problems are the same under both approaches in New Mexico because none of the respondents using the EBT card for cash assistance incurred any direct costs for trips to the welfare office to deal with problems.

In Ramsey County, the assumption of shared costs lowers the estimate of food stamp participation costs by about 40 cents. The effect of this assumption is greater than in New Mexico because more recipients participate in multiple programs on the EBS system. About 52 percent of the respondents use the EBS card to access cash assistance benefits in addition to food stamp benefits.

Recipients' Experiences with the Cash Assistance Programs on the EBT Systems

While the primary focus of the recipient surveys was the Food Stamp Program, the post-implementation survey did ask recipients a number of questions about the cash assistance portion of the EBT systems. Specifically, we asked whether they preferred EBT or checks as the means of receiving their cash assistance benefits and about problems they may have encountered with the cash assistance part of the EBT system. The findings are shown in Exhibits G-3 and G-4 and are discussed for each site below.

Exhibit G-2

COMPARISON OF EBT COST ESTIMATES UNDER ALTERNATIVE ASSUMPTIONS OF SHARED COSTS[a]

	New Mexico		Ramsey County	
	Full Food Stamp Program cost	Shared cost[a]	Full Food Stamp Program cost	Shared cost[a]
Direct costs of obtaining benefits	$0.21 (0.22)	$0.19 (0.22)	$0.32 (0.34)	$0.22 (0.23)
Direct costs of fixing problems	$0.10 (0.60)	$0.10 (0.60)	$0.33 (1.93)	$0.28 (1.89)
Opportunity costs of lost and delayed benefits	$0.35 (1.83)	$0.35 (1.83)	$0.39 (2.22)	$0.39 (2.22)
Total direct costs	$0.66 (1.93)	$0.64 (1.35)	$1.04 (3.06)	$0.88 (3.01)
Time spent obtaining benefits and fixing problems (hours)	0.18 (0.52)	0.17 (0.53)	0.21 (0.49)	0.16 (0.46)
Value of time spent	$0.78 (2.22)	$0.71 (2.24)	$0.91 (2.09)	$0.66 (1.97)
Total costs	$1.44 (3.06)	$1.35 (3.06)	$1.95 (4.88)	$1.55 (4.65)

Notes: [a] Numbers are sample means. Standard deviations in parentheses.

[b] Shared cost estimates assume that any joint costs of participation are split evenly between the programs (for recipients participating in more than one program).

Exhibit G-3

RECIPIENTS' PREFERENCES FOR EBT VERSUS CHECKS IN CASH ASSISTANCE PROGRAMS

	New Mexico		Ramsey County	
	Number	Percent	Number	Percent
Prefer EBT	23	95.8%	27	87.1%
Prefer check	0	0.0	3	9.7
No preference	1	4.2	1	3.2

Note: * Among those who previously received checks.

Exhibit G-4

REASONS FOR PREFERRING EBT OR CHECKS (PERCENT OF RESPONDENTS)[a]

	New Mexico	Ramsey County
Prefer EBT card (Number of respondents)	(23)	(27)
Don't have to cash check	47.8%	51.9%
Easier, more convenient	39.1	40.7
Safer	26.1	14.8
Don't have to wait for mail or pick up check	21.7	18.5
Quicker	17.4	18.5
Easier to know balance	4.3	0.0
Less embarrassing	4.3	0.0
Others cannot shop with it	0.0	3.7
Other	4.3	7.4
Prefer check (Number of respondents)	(0)	(3)
ATMs sometimes out of cash	-	33.3%
Problems with machines	-	33.3
ATMs not wheelchair accessible	-	33.3

Note: [a] Percent of respondents who prefer each method. Percentages may sum to more than 100 because multiple responses per respondent were allowed.

New Mexico

In New Mexico, 25 of the 73 recipients surveyed (34 percent) said they had used the EBT card for cash assistance benefits during the six months prior to the interview. Of the 24 who had also previously received checks, 23 (96 percent) preferred the EBT card and one had no preference -- none preferred receiving a check to the EBT card. Many of the recipients said they prefer EBT because they do not have to make a trip and/or pay a fee to cash the check. Others also reported that EBT is easier, more convenient, and safer than checks.

Recipients reported few problems with the cash portion of the EBT system in New Mexico. None had trouble keeping track of their cash benefits, and none had ever had the wrong account debited. Most of the recipients had used an ATM, and none thought using the ATM was harder than getting cash from a cashier using a POS terminal. Two recipients did report a problem with ATMs: they felt that not being able to get out less than $10 or being able to get only multiples of $10 from ATMs caused some inconvenience. Overall, however, recipients had few complaints about the cash assistance portion of the EBT system and none preferred checks over EBT.

Ramsey County

Recipients in Ramsey County were also extremely positive about the cash assistance portion of the EBS system. Not quite half (46 percent) of the respondents had used the EBS system for cash benefits in the six months prior to the interview. Of the 31 recipients who had also received checks before using EBS, 27 (87 percent) preferred EBS and only 3 (10 percent) preferred checks (one recipient had no preference). Those who prefer EBS like not having to cash a check and feel that EBS is easier and more convenient.

Two of the three recipients who prefer checks cited problems with ATMs running out of cash and POS terminals not working as the reasons for preferring checks. Another recipient, who is in a wheelchair, prefers checks because he often cannot reach the ATM from his wheelchair.

Recipients reported few problems with the EBS system for cash assistance programs. Only one recipient (3 percent) had trouble keeping track of cash assistance benefits, and no one ever had benefits debited from the wrong account. Other problems reported included: not being

able to get out less than $10 or odd dollar amounts from ATMs, equipment not working, and having to pay a charge for "excessive" ATM transactions.[1] Overall, however, the incidence of problems appears to fairly low in the cash assistance programs on the EBS system and most recipients prefer EBS over checks.

[1] In Ramsey County, the first four ATM transactions each month are free. Thereafter, a charge of one dollar is imposed on each ATM transaction (that month). The New Mexico EBT system does not charge fees for any ATM transactions.

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Appendix H

SUPPLEMENTARY EXHIBITS FOR CHAPTER 5

Exhibit H-1

COUPON SYSTEM PROBLEMS REPORTED BY RECIPIENTS IN BERNALILLO COUNTY, NEW MEXICO

Problem	Number reporting problem	Percent reporting problem[a]	Number of incidents[b]	Average value of benefits involved
Mail delivery (Sample size = 80)				
Coupons late	27	33.8%	55	$140
Fewer benefits than expected	8[c]	10.0%	14	$37
Coupons lost or stolen in the mail	6	7.1%	7	$89
Coupons damaged in the mail	0	0%	0	0
Waiting for mail delivery of food stamps is a "big problem"[d]	14	17.5%	14	-
Coupon pickup (Sample size = 5)				
Fewer coupons than expected	2	40.0%	4	$98
Coupons not ready	3	60.0%	8	$133
Other problems (Sample size = 85)				
Coupons stolen	1	1.2%	1	$65
Coupons lost	1	1.2%	1	$226
Coupons damaged	1	1.2%	2	$70
Lost ID card	1	1.2%	1	--
Grocers' errors	9	10.6%	26	$7
Total - all problems (sample size = 85)	73	85.9%	133	--

Notes: [a] Percent of respondents (in subgroup) who reported at least one incident in the past 6 months.

[b] Total number of incidents in the past 6 months. Multiple incidents per respondent allowed.

[c] Excludes one respondent who reported multiple incidents of receiving fewer coupons than expected but who did not try to get the problem fixed (and said it never was fixed). This problem is not counted (and is considered to have a zero opportunity cost) because it is not clear the respondent was entitled to the amount of benefits expected.

[d] Respondents were asked whether waiting for mail delivery of food stamps is a big problem, little problem, or no problem for them. No information on the frequency of the problem is available.

Source: Baseline recipient survey.

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Exhibit H-2

COUPON SYSTEM PROBLEMS REPORTED BY RECIPIENTS IN RAMSEY COUNTY, MINNESOTA

Problem	Number reporting problem	Percent reporting problem[a]	Number of incidents[b]	Average value of benefits involved
Mail delivery (Sample size = 82)				
Coupons late	16	19.5%	31	$122
Fewer benefits than expected	1	1.2%	3	$101
Coupons lost or stolen in the mail	12	14.6%	14	$99
Coupons damaged in the mail	0	0%	0	0
Waiting for mail delivery of food stamps is a "big problem"[c]	8	9.8%	8	--
Coupon pickup (Sample size = 5)				
Fewer coupons than expected	0	0%	0	0
Coupons not ready	3	60.0%	4	$108
Other problems (Sample size = 87)				
Coupons stolen	2	2.3%	2	$86
Coupons lost	5	5.7%	8	$75
Coupons damaged	1	1.1%	1	$5
Lost ID card	5	5.7%	9	--
Grocers' errors	4	4.6%	6	$8
Total - all problems (sample size = 87)	57	65.5%	86	--

Notes: [a] Percent of respondents (in subgroup) who reported at least one incident in the past 6 months.

[b] Total number of incidents in the past 6 months. Multiple incidents per respondent allowed.

[c] Respondents were asked whether waiting for mail delivery of food stamps is a big problem, little problem, or no problem for them. No information on the frequency of the problem is available.

Source: Baseline recipient survey.

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Exhibit H-3

[redacted]

OLYMPIA & PIERCE SOUTH CSO, WASHINGTON

Problem	Number reporting problem	Percent reporting problem[a]	Number of incidents[b]	Average value of benefits involved
Mail delivery (Sample size = 77)				
Coupons or FCA card late	24	31.2%	45	$160
Fewer benefits than expected	1[c]	1.3%	2	$106
Coupons or FCA card lost or stolen in the mail	2	2.6%	4	$178
Coupons damaged in the mail	0	0%	0	0
FCA card damaged in the mail	1	1.3%	1	$109
Waiting for mail delivery of food stamps is a "big problem"[d]	7	9.1%	7	--
Coupon pickup (Sample size = 13)				
Fewer coupons than expected	1	7.7%	2	$106
Coupons not ready	1	7.7%	1	$230
Other problems (Sample size = 77)				
Coupons stolen	2	2.6%	2	$123
Coupons lost	1	1.3%	1	$182
Coupons damaged	2	2.6%	2	$14
FCA card stolen	2	2.6%	2	$120

Exhibit H-4

**PROBLEMS OF LOST AND DELAYED BENEFITS:
NEW MEXICO EBT SYSTEM**

	Number Reporting Problem	Percent Reporting Problem[a]	Number of Incidents[b]	Mean Amount of Benefits Involved
EBT card lost	6	8.2%	7	$182[c]
EBT card stolen	1	1.4	1	$182[c]
EBT card damaged	7	9.6	7	$182[c]
Benefits credited late	12	16.4	18	$132
Fewer benefits credited than expected	8	11.0	13	$25
Charged by store for groceries not bought	0	0	0	$0
Store deducted more than should have	3	4.1	3	$9

Notes: [a] Percent of all respondents. Sample size = 73.

[b] Number of incidents in the six months prior to the survey. Multiple incidents per respondent allowed.

[c] Mean food stamp benefit amount over entire caseload, March 1992.

Source: Post-implementation recipient survey.

Exhibit H-5

PROBLEMS OF LOST AND DELAYED BENEFITS:
RAMSEY COUNTY EBS SYSTEM

	Number Reporting Problem	Percent Reporting Problem[a]	Number of Incidents[b]	Mean Amount of Benefits Involved
EBT card lost	3	4.2%	5	$166[c]
EBT card stolen	2	2.8	4	$166[c]
EBT card damaged	3	4.2	6	$166[c]
Benefits credited late	9	12.7	15	$145
Fewer benefits credited than expected	4	5.6	8	$101
Charged by store for groceries not bought	2	2.8	2	$13
Store deducted more than should have	1	1.4	1	$14

Notes: [a] Percent of all respondents. Sample size = 71.

[b] Number of incidents in the six months prior to the survey. Multiple incidents per respondent allowed.

[c] Mean food stamp benefit amount over entire caseload, March 1992.

Source: Post-implementation recipient survey.

Exhibit H-6

NEW MEXICO -- DIFFERENCES BETWEEN USING EBT CARD AND FOOD STAMP COUPONS[a]

	Agree strongly	Agree somewhat	Neither agree nor disagree	Disagree somewhat	Disagree strongly	Don't know
Easier to know how much have left with EBT card	42.2%	29.7%	10.9%	14.1%	1.6%	1.6%
EBT cards get lost more	4.7	10.9	7.8	26.6	43.7	6.2
Coupons get stolen more	53.1	21.9	7.8	1.6	4.7	10.9
Quicker to pay for groceries with coupons	1.6	10.9	7.8	26.6	51.6	1.6
Treated better when pay with EBT card	14.1	20.3	37.5	9.4	15.6	3.1
Spend more of Food Stamp benefits on food with card	39.1	15.6	21.9	3.1	10.9	9.4
Can't sell benefits for cash as easily with EBT cards	57.8	15.6	7.8	3.1	1.6	14.1
Easier to have someone else shop for you with coupons	25.0	26.6	14.1	15.6	10.9	7.8

Note: [a] Percent of respondents who have used both coupons and EBT card.

Source: Post-implementation recipient survey.

Exhibit H-7

RAMSEY COUNTY – DIFFERENCES BETWEEN USING EBS CARD AND FOOD STAMP COUPONS[a]

	Agree strongly	Agree somewhat	Neither agree nor disagree	Disagree somewhat	Disagree strongly	Don't know
Easier to know how much have left with EBT card	38.1%	20.6%	17.5%	19.0%	4.8%	0.0%
EBT cards get lost more	6.3	1.6	4.8	31.7	46.0	9.5
Coupons get stolen more	47.6	20.6	9.5	6.3	4.8	11.1
Quicker to pay for groceries with coupons	9.5	7.9	15.9	15.9	49.2	1.6
Treated better when pay with EBT card	9.5	27.0	46.0	15.9	1.6	0.0
Spend more of Food Stamp benefits on food with card	25.4	25.4	22.2	6.3	11.1	9.5
Can't sell benefits for cash as easily with EBT cards	42.9	28.6	7.9	4.8	3.2	12.7
Easier to have someone else shop for you with coupons	22.2	28.6	15.9	11.1	12.7	9.5

Note: [a] Percent of respondents who have used both coupons and EBS card.

Source: Post-implementation recipient survey.