CREDIT CARD FRAUD PREVENTION: A SUCCESSFUL RETAIL STRATEGY

by

Barry Masuda

Loss Prevention, Tops Appliance City, Inc.

Abstract* *Substantial losses from credit card fraud are forcing retail industry executives to reevaluate the effectiveness of their ability to prevent this type of crime. In 1992, management at Tops Appliance City Inc. decided to reassess its own fraud prevention program in an attempt to prevent future losses. An analysis of the Tops' problem pointed out the need to differentiate legitimate from illegitimate patrons when they attempted to transact a sale. Program initiatives led to the development of a highly successful profile utilizing criteria that were predicated upon purchase traits and the exchange of fraud-related intelligence data with regional departments of the U.S. Postal Inspector's Office and the U.S. Secret Service. Substantial decreases in credit card fraud losses were achieved at Tops, though attempts remained high. Implications are that merchant-based credit card fraud prevention can be effective, but an industry-wide effort will be necessary to reduce credit card fraud overall*

In 1991, Visa and Mastercard reported membership losses of half a billion dollars (Gartner Group Ras Sources, 1992). These figures exclude losses accumulated by all the other major credit issuers, such as General Electric Capital and Sears. The total annual cost of credit card fraud in the United States is estimated to be a staggering $1 to $2 billion. Nationally, credit card fraud interdiction is characteristically limited to the crisis management of worst-case situations, with little effort spent on the development of preventive measures. Excuses for the failure of the credit card industry to stop the hemorrhaging of losses abound: Public law enforcement cries it is too busy fighting high priority crimes; bank issuers blame merchants for being careless; and merchants

Address for correspondence:: Barry Masuda, Tops Appliance City, Inc., 45 Brunswick Avenue, Edison, NJ 08818 U.S.A.

point their fingers at everyone else, citing lack of support. This article maintains that the key to preventing aedit card fraud is for members of the retail industry to act locally but think globally. For those who implement programs predicated upon this premise, remarkable successes can be achieved.

CREDIT CARD FRAUD AT TOPS APPLIANCE CITY

Tops Appliance City, Inc. is a retailer specializing in consumer electronics and appliances whose primary markets are in New Jersey and New York. Its superstores average 80,000 square feet of selling area to accommodate a wide variety of products, and its advertising jingle "Forget about it!" challenges customers to try and find better deals elsewhere. Tops is profitable because it sells popular products in high volume. Each superstore has 10 to 15 cashier stations to process sales and two merchandise pickup locations where inventory is released to customers. Checkout lines are long, cashiers frenetic, and salesmen eager. Not surprisingly, Tops is a magnet for anyone with stolen or counterfeit plastic: In 1991 Visa and Mastercard reported losses totaled in excess of $300,000, and approximately $800,000 in losses were reported for Tops' in-house card (which is financed by General Electric Capital). At the beginning of 1992, Tops' loss prevention management committed its resources to the reduction of fraud and its effect on business operations. Since Tops' patrons used credit cards for one of every two transactions, the potential for growth in credit card fraud, in light of the national trend, posed an unacceptable threat.

An analysis of the problem revealed that Tops' credit card frauds fell into four categories: true name; non-receipt or lost or stolen; telephone order or mail order; and counterfeit. *True name fraud* refers to new credit card accounts successfully opened by individuals possessing a victim's "true name" identification, i.e., driver's license. The true identification was either obtained as a secondary objective in the commission of a more aggressive offense or as the primary target of a lesser crime. These frauds were perpetrated most heavily with the Tops in-house card. *Non-receipt fraud* is made possible when a perpetrator intercepts credit cards that are in transit between the credit issuer and the authorized account holder. Stolen cards are then used to obtain merchandise or cash. This form of fraud accounted for most of the bank card losses. Most retailers, as does Tops, offer 800 telephone number shopping services. In *telephone order or mail order frauds*, orders are charged to an account holder's "bill to" address but delivered to an illegitimate "ship to" destination. The person perpetrating the fraud tenders **a** credit card number that he or she is not authorized to use; generally, the card has not been physically lost or stolen, but the account numbers have been obtained. If the fraud is not identified and stopped by a trained clerk, the stolen order will remain undetected until the bill arrives approximately 30 days later. Sometimes, if the charged amounts are modest and the account holder fails to carefully review his or her statement, the fraud may never be discovered. *Counterfeit* credit cards represented a relatively new variant of fraud at Tops. Legitimate stolen account numbers are professionally embossed onto fake cards at clandestine plastic factories and then "activated." Organized Asian gangs are responsible for committing most of the counterfeit fraud. They tend to be more technologically oriented than other criminal entrepreneurs and have recently surged eastward in the direction of the North American Atlantic coast to infiltrate lucrative retail markets.

The average value of a credit card fraud transaction at Tops is $962.93 (Masuda, 1992). Table 1 illustrates the percentage breakdown of losses in these four categories as well as the numerical frequency associated with each type of fraud.

From the outset it became clear that preventive strategies would require different but interdependent approaches designed to:

1. shut down opportunities for obtaining credit with false identification;
2. prevent the sale of merchandise to individuals using stolen credit cards; and
3. increase the risks for credit card thieves who chose Tops as a place to do business.

A review of the in-house loss prevention program underscored the fact that, insofar as credit card fraud prevention was concerned, efforts

Table 1: Credit Card Losses by Type of Fraud

Tops Appliance City, *Inc.,* New Jersey, 1991

Type of Fraud	Losses ($)	Percent
True Name	$737,000	65
Non-Receipt/Lost or Stolen	340,000	30
Telephone/Mail Order	45,000	4
Counterfeit	11,000	1

were sporadic and lacked coordination with external agencies. To some extent, these half measures were influenced by the economics of the problem: Though credit card fraud losses at Tops were extensive, ultimate costs were born, for the most part, by the banks and the housecard credit lender. Three conclusive findings were reached:

1. Given the historical reality of previous losses, many fraudulent credit card users were passing through the Tops' point-of-sale undetected.
2. Stolen credit-card numbers in circulation and general operating habits of known frauds were not disclosed to Tops' Management by the banks or public law enforcement agencies.
3. No system was in place to identify, apprehend and prosecute fraudulent credit card transactors.

Though a wide variety of merchandise was purchased with fraudulent cards, the overwhelming products of choice were camcorders and video cassette recorders (VCRs). Both products are readily convertible on the street to cash and represent an almost liquid commodity. If one were to accept the notion that the ultimate goal of thieves is to obtain cash or its equivalent, then such popular consumer products arguably represent the logical targets of thefts and scams. Statistically, this fact was destined to play an important role in the determination of a profile that would trigger loss prevention's response in the future. The ability to identify a fraud in progress was thought to be the fundamental element upon which the success of the Tops' program would depend.

PROGRAM DESIGN

By definition, credit card fraud is a flexible crime unobstructed by geography. It exploits a 30-day window of opportunity (the monthly billing cycle), wherein a perpetrator can transact a single purchase for the full value of the card's credit limit or make several purchases for lesser amounts. Each transaction requires only a few minutes to complete and, except for an undecipherable scribble (the forged account holder's signature), leaves no trace. Further complicating the problem is the fact that the modus operandi of credit fraud varies. Depending on the method employed, a card may not even have to be physically possessed by an offender.

The failure of public law enforcement and private industry to outflank credit card crime stems from their inability to alter the following basic facts:

1. The impact of plastic fraud on society is impersonal, and offenders enjoy a low profile.
2. Discovery takes several weeks.

3. It is difficult to determine prosecutorial venue.
4. It is difficult to establish an immediate victim.
5. It is even more difficult to identify a pattern of offenses stemming from one criminal foray that would justify costly investigative and prosecutorial initiatives.
6. Other than the United Postal Service's SCAT (Stop Credit Card Abuse Theft) program, begun in April 1990, public law enforcement has not sponsored or coordinated any local, regional or national anti-fraud initiatives.

Resisting the urge to accept the belief that each method required a mutually exclusive preventive strategy, all 1991 credit card incidents at Tops were examined in the hope that common threads would emerge. Three did: fraud suspects failed to bargain for lower pricing; they almost always purchased specific products in multiples; and they were never able to furnish vehicle registration or car insurance identification that corresponded with the surname imprinted on the credit card that had been tendered for payment.

These observations enabled loss prevention to acquire two proactive advantages: the first, and most important, was the development of a rationale for profiling frauds prior to the completion of a sales transaction; and the second was the ability to deny the release of merchandise to a fraud suspect if he or she had been able to pass through the point of sale (a cashier station) undetected. Essentially, the Tops program stated: Let's trade useful information among the participants in a timely manner, let's analyze it as soon as it becomes available, let's act on it, and, then, let's prosecute.

Six strategic initiatives were emphasized:

1. Training
2. Profiling
3. Procedural Safeguards
4. Networking
5. Rewarding of employees
6. Prosecution of offenders

Though some initiatives were shared with law enforcement and the banks, Tops was responsible for exerting the effort that kept them all going. Everyone's cooperation was vital, but the success of the program was dependent upon the continuous identification of perpetrators and the coordination of their prosecutions by Tops loss prevention employees.

Training

Cashiers and salespersons have to be able to identify behavior that correlates with credit card fraud if preventive measures are to be successful. Experienced postal inspectors, U.S. Secret Service agents, and Tops' investigation personnel conducted a series of seminars that were also videotaped and shown to newly-hired employees on a regular basis. Public law enforcement's contribution provided insights into how credit cards were stolen or counterfeited, though their main thrust was limited to card recognition based upon physical discrepancy only. Non-receipt fraud, however, was resistant to detection by physical inspection alone. To interdict this method of fraud, additional information (i.e., profiling) was required.

Profiling

Catching someone in an act of credit card fraud is dependent upon a practical understanding of what makes fraud transactions dissimilar from those that are legitimate. This is best accomplished by means of profiling. For instance, legitimate Tops' customers are conscious of product features and desire good purchase values. They hope to obtain the most for the least. A fraud transactor does not share these drives. Cost is irrelevant, and merchandise that is easily convertible to cash is preferred. Though each shopper may look identical, each one's purchase profile is different.

Tops' Director of Investigations, Scott Barefoot, in a personal communication to the author, explains the advantages of profiling further:

> The most effective deterrent to credit card fraud is employee education and awareness. If sales associates are taught and understand how to "profile" credit card frauds, a significant reduction in fraudulent transactions will be seen. Profiling is not based on physical characteristics, but on buying and behavioral trends. These buying and behavioral trends can be developed at any retail establishment by tracking and compiling statistics on known fraud losses which have previously occurred. Similarities will begin to emerge which will allow the loss prevention executive to target certain types of merchandise as being characteristic purchases of the fraud shopper. Additionally, it is possible to estimate the approximate time of day and the days within a week and their relation to the beginning and the end of a month when the fraud shopper will strike.

Absent the criteria against which baseline customer behavior can be measured, identification of fraud transactors becomes speculative. Additional traits supportive of a profile are:

1. When fraud shoppers are ready to buy, their attitude will change and they will become eager to transact the sale quickly.
2. Fraud shoppers will always attempt to purchase merchandise that is easily re-saleable on the streets. Of this merchandise, the fraud will usually buy the most expensive piece in the line.
3. The fraud shopper will make multiple purchases of the same item (e.g., two televisions, two VCRs).
4. When the credit card is presented at the point of sale, it may be in the fraud shopper's hand and not in a purse or wallet. It will be in some way isolated from the fraudster's valid identification.
5. Fraud shoppers will attempt to shop during peak sale times. They like a busy atmosphere when sales associates and cashiers are preoccupied with other customers.
6. Fraud shoppers will purchase items that they can take with them. They will avoid items that must be delivered.

When customers fitting the profiles appear, loss prevention personnel discretely follow suspects to determine if others are working in consort with them, the method or location of any transportation at their disposal, and the number of the suspected fraudulent credit card. Having identified collaborators, the location of a getaway car, and whether or not the credit card is genuine, nothing is left to chance by the time a subject enters the payment stage of the sales transaction. If the card is fraudulent, a series of procedures are then set in motion, the ultimate goal of which is the arrest and prosecution of the offender.

An initiative similar to profiling was implemented by the Barclaycard fraud investigation department in Great Britain. Their approach focused on the post-transaction review of account activity. The Barclaycard system was designed to identify accounts, prior to a cards being reported as stolen, whose behavior was indicative of fraud. This initiative success achieved a success rate of about 1 in 20, and represented a significant improvement over previous attempts at differentiating fraudulent from non-fraudulent account activity (Levi, Bissell, and Richarson, 1991). The Tops' strategy, however, was targeted directly on the transaction itself. It was designed to enable the retailer to identify a fraud transactor, prevent a loss, and create an opportunity for apprehension.

Procedural Safeguards

Profiling serves as an early warning system. It provides the opportunity for the preliminary clearance of suspected frauds or the time to prepare for those that are in progress. Spontaneous confrontations with insensate drug users and other desperate persons should be avoided. Retail stores are intended to be peaceful environments designed to influence people to make positive purchase decisions. Anything that disrupts that atmosphere is counterproductive and will become quickly unpopular with management. The establishment of a rational set of fraud response procedures eliminates the risks associated with spontaneous confrontations and tailors conduct to satisfy the basic criteria of prosecution.

After a profile has been reported to loss prevention the following initial steps are taken:

1. A video surveillance photo of the suspect(s) is taken.
2. The suspect's progress through the store is closely monitored.
3. Relevant data are researched as they become available, such as vehicle registration, credit card status, etc.
4. Local police are called if the card is confirmed as fraudulent.
5. Postal authorities are faxed a photo of the suspect(s), his or her vehicle registration number, and the number of the fraudulent credit card.

If the suspect reaches a cash register, loss prevention personnel simulate a "shift change" and literally replace the cashier. Once the fraudulent card is offered for payment, two security employees engulf the "patron" as the "cashier" declares that there is a problem with the card. Then the "patron" is taken into police custody. Subsequently, if available, the subject's vehicle is searched or impounded.

Networking

The importance of maintaining positive relationships with public law enforcement agencies cannot be overemphasized. Of all the strategic initiatives, this one is probably the most challenging since it involves the intersecting of egos, conflicting priorities, time and manpower constraints, imprecise cutoffs of responsibility, issues surrounding accountability and reliability, ad nauseam.

Central to the Tops' theoretical approach to fraud prevention is its notion that real interdiction begins at the point of sale. It is a difficult point to make with police hierarchies, however, most of whom believe that they alone possess a monopoly in the area of crime prevention.

Good relations with local authorities are necessary to maintain adequate support for the physical arrest function at the local level, but federal assistance is vital if preventive intelligence is to be a reliable part of the program. The Tops' approach emphasizes the trilateral exchange of intelligence with postal authorities and the secret service. When an individual(s) is apprehended by local police at the direction of Tops, the store's Loss Prevention Manager (who has verified a card as stolen with an issuing bank) faxes a copy of an incident summary, the suspect's photograph, and any credit card(s) used to the Newark Postal Inspector's Office. There, U.S. Postal Service and Secret Service agents are able to review incoming data to determine whether known shipments of stolen cards have hit the streets and what the people look like who are passing them.

Conversely, as federal authorities become aware of the unlawful interception of credit card shipments, they report to Tops, by fax, intelligence alerts that are quickly posted at all cashier stations. The convergence of all this timely data makes arrests proceed more smoothly, forecloses (for the most part) obstacles of prosecution, and develops investigative leads for Tops, local police, and the U.S. Postal Inspector and Secret Service. (One of the most frustrating experiences for any law enforcement agency is to learn that an opportunity to interrogate a target of an inquiry was lost because he or she was released from the custody of another jurisdiction simply because the left hand had no idea what the right was doing).

Bank fraud investigators are another very important element of any interdiction network. They possess a wealth of information, will assist in prosecutions, and offer cash rewards far in excess of the $50 dollar threshold authorized by Visa and Mastercard.

Rewards

Cashiers and sales employees are not altruistic. Both work hard to earn a living. Taking the time to discern subtle differences in a patron's behavior requires the dangling of a carrot, especially if the identification of a fraudulent transactor means the loss of a commission. A positively rewarded sales force can mean the difference between a successful or unsuccessful prevention program. The motivational tool is simple: Cash for cards.

For every recovered credit card issued under the Mastercard or Visa logo, First Data Resources of Omaha, NE pays a $50 reward directly to a merchant's employee. This payment amount is uniform, regardless of the type of card abuse—lost or stolen, non-receipt, overdrawn, etc. An additional, and less well-known fact is that some banks offer their own supplementary reward programs. For the seizure of a stolen credit card and the arrest of a perpetrator, rewards of up to a $1,000 are payable. The Tops' reward-recovery side of the program has worked so well that it has been able to allocate substantial funds (from those rewards in excess of $50) to offset the costs of continuing education for loss prevention department personnel. In 1991, Tops applied for and redistributed to its employees over $8,000 in cash rewards. By November of 1992, over $18,000 in rewards had been claimed, of which, approximately $5,000 was paid out to employees in the form of tuition reimbursements. Obviously, management's commitment to prevention does not depend upon the enjoyment of financial windfalls, but its ability to exploit such untapped resources lends credibility to the overall worthwhileness of the program.

Prosecution

Ultimately, the time and effort spent trying to identify fraud at the point of sale will be squandered if management is not committed to the prosecution of all offenders. Credit card fraud abusers are habitual by nature and will return, again and again, to a risk-free environment. It is worth noting that aggressive prosecution may be met with some initial resistance if the frequency of apprehension is high. Prior to adopting profiling, Tops did not require a regular police response. This changed once offenders were identified. The demand for local police assistance increased to such an extent in one jurisdiction that its patrol division almost refused to respond to further calls for service until members of their detective bureau insisted that they cooperate.

The coordination of individual cases is another area of responsibility that falls most heavily upon the retailer. For the prosecutorial initiative to be effective, cases must be won. If witnesses fail to appear, if the recollection of facts is foggy, if local prosecutors are not made aware in advance of the program's existence, defendants will be set free and the program will suffer. Tops' loss prevention unit has implemented its own witness contact procedures and reduced the need to involve non-loss prevention employees by simulating "shift changes." The prosecution of offenders becomes thorny if too many witnesses are involved. Each one represents an opportunity for an aggressive defense attorney to discredit. Prosecutors are usually overwhelmed with cases and have little time to fully grasp the details of every case they try to advance. Though many will try, their tendency is to avoid those that are poorly prepared. A well-managed uniform prosecution strategy minimizes the chances of technical acquittals and maintains credibility with prosecutors and the criminal justice community. Of more than 100 cases prosecuted so far, Tops has not lost one.

RESULTS

Prior to the implementation of the program's preventive strategies, Tops had sustained extensive losses as a direct result of credit card fraud.

Table 2: Reported Incidents of Attempted Credit Card Frauds

Tops Appliance City, Inc., New Jersey, 1991-92

	Total Attempts
1991	47
1992	118

These losses were not associated with either high rates of arrest or the identification of fraudulent transactors. Simply put, Tops could not differentiate its legitimate from its illegitimate customers.

Enabling employees to identify fraud transactors was a critical element of the program's design, yet it would be very difficult to assign any weights to each of the six strategic initiatives. Because the program's design was comprehensive, and the initiatives interrelated, it would be impossible to envision a similar outcome if one of them had been omitted. Instituted alone, each initiative probably had little influence on the prevention of credit card fraud; implemented together, their total impact was obviously greater than the sum of their individual effects. The profile's ability to identify fraudulent transactors achieved a "hit rate" of one in three.[1]

Table 2 illustrates the change in the number of reported credit card fraud incidents at Tops for 1991 and the first ten months of 1992. Credit card fraud losses for the same period are shown in Table 3. As will be seen from Tables 2 and 3, the reporting of credit card fraud increased in 1992 , while credit card fraud losses decreased.

The number of fraud incidents reported for 1992 was more than two-and-a-half times greater than the number reported for 1991. On the other hand, losses sustained by the Tops' proprietary card decreased 78%, from just over $800,000 in 1991 to $170,000 for the first ten months of 1992. In addition, reported Visa and Mastercard losses at Tops decreased 90%, from $313,000 in 1991 to nearly $40,000 for the first ten months of 1992. (The incidence of check and money order frauds also dropped dramatically between 1991 and 1992. Though these crimes were not specifically targeted, the program's emphasis on the

Table 3: Credit Card Fraud Losses

Tops Appliance City, Inc., New Jersey, 1991-92

	Tops Card	Visa/Mastercard	Total
1991	$808,000	$313,000	$1,121,000
1992	$170,000	$ 30,700	$ 200,700

interception of fraud transactors at the point of sale most likely deterred this type of criminal activity.)

The program's goals, as dictated by the originally conceived preventive strategies, were designed to:

1. Enable employees to identify credit card fraud transactors,
2. achieve substantial reductions of credit card fraud losses, and
3. prevent future credit card fraud attempts by increasing the perception of risk.

Goals number one and two were clearly achieved. Goal number three was not. It is interesting to note that as management witnessed a reduction in losses associated with this crime, it continued to experience a high rate of attempts to commit credit card fraud at Tops. Though Tops Appliance City stores are now well established as an inhospitable environment for anyone who chooses to shop there with a fraudulent credit card, this crime remains a frequently reported incident by loss prevention employees.

CONCLUSIONS

Credit card fraud, in an environment such as Tops, is a preventable crime. Moreover, interdiction need not be costly. The most important prerequisites of an effective program seem to be:

1. The development of a rational understanding of how the crime is accomplished (the why, at least for the retailer, is irrelevant).
2. The ability to accurately assess what differentiates credit card fraud transactors from non-frauds.
3. The establishment of a communications network with other connective external entities.
4. Commitment.

The most apparent conclusion to be drawn directly from the evidence presented in Tables 2 and 3 is that an inverse relationship exists between the number of credit card fraud incidents reported and credit card fraud losses. Though the reduction of actual losses is achievable, the ability to reduce the frequency of attempts to commit credit card fraud may be less so. When the program began, the first three months generated the greatest number of credit card fraud incidents. The following months experienced a drop in the rate, but reported fraud incidents remained relatively constant. This suggests that while credit card fraud losses (and related crimes such as check and money order fraud) are reducible within a limited environment, the ability of the program to influence society-at-large is uncertain. The evidence of sustained attempts to commit fraud at Tops implies that though successful interdiction can alter consequences, it does not necessarily alter behavior.

Regardless of the program's successes, its failure to reduce attempts to commit credit card fraud suggests that criminals had not chosen different careers nor had they elected to shop somewhere else. Though it is not possible to statistically verify (without referencing comparable regional credit card fraud activity within the industry) whether or not some criminals avoided Tops in favor of other merchants, it is nevertheless true that many criminals did not.

The potential for generating a diffusion of crime prevention benefits (Clarke, 1992; Masuda, 1992) should encourage other retailers to be aggressive. However, based upon the data received so far, benefits extend no further than the Tops welcome mat. The prevention program at Tops was specifically tailored to interdict a unique kind of theft, i.e., credit card fraud. Not many crimes, other than check or money order fraud, have similar modi operandi. Consequently, the potential for diffusion was limited from the onset. The potential for displacement (Clarke, 1992), however, was not restricted by the type of crime that the program was designed to prevent. As a matter of fact, it is perplexing that credit card fraud transactors within the community still persist in passing stolen and fake plastic at Tops.

Three conclusions, absent further data, may be drawn:

1. Within a controlled environment, credit card fraud prevention can be very effective.
2. Credit card fraud interdiction, when limited to a tightly controlled environment, creates no evidence of displacement that is detectable within the larger environment.
3. While the reduction of credit card losses within a limited environment seems also to provide some diffusion of benefits (in terms of reduction of losses from similar offenses of check and money order fraud), there is little evidence of any such benefits for the broader community.

Given that the benefits of the program have been limited strictly to Tops, that criminal attempts to commit fraud at Tops continue, and, that the incidence of successful retail credit card fraud has not decreased except at Tops (according to information received from day-to-day networking by loss prevention management), it follows that spotty industry-wide prevention will only help those merchants who help themselves. For prevention efforts to be truly effective, responsibility for prevention will have to be shared by all affected parties. If cooperative and coordinated measures are to be adopted throughout the industry, the first foot to step across the line must be a retailer's. Chasing card thieves after they have slipped through the point of sale is not a feasible interdiction strategy. Offenders must be identified and confronted the moment they tender a fraudulent piece of plastic for payment.

Successful strategies to prevent crime such as credit card fraud do exist and can work if management maintains clear-cut goals and supports their enforcement. Today's economic environment cannot continue to tolerate parasitic drains on its resources. The regionalization of coordinated credit card fraud interdiction initiatives would be a positive step toward the attainment of that goal.

NOTE

1. Projected losses from credit card fraud in 1992 were $230,000, stemming from 237 incidents. Since 118 frauds were interdicted, the "hit rate" equaled approximately 33%.

REFERENCES

Clarke, R.V. (ed.)(1992). *Situational Crime Prevention: Successful Case Studies.* Albany, NY: Harrow & Heston.

Gartner Group Ras Sources (1992). OAS: R-104-101, March 12, 1992.

Levi, M., P. Bissell and T. Richardson (1991). *The Prevention of Cheque and Credit Card Fraud.* Crime Prevention Unit Paper No. 26. London: U.K. Home Office.

Masuda, R (1992). "Discover the Possibilities: The Growing Problem of Credit Card Fraud." *Security Management* 36:71-74.