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THESIS

THE IMPACT OF SELECTED MODIFICATIONS TO THE DEFENSE INVESTIGATIVE SERVICE CREDIT REPORT ACQUISITION PROCESS

by

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The Impact of Selected Modifications
to the Defense Investigative Service
Credit Report Acquisition Process

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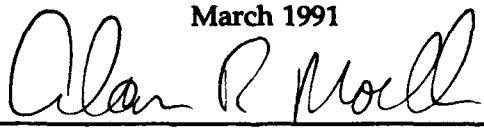
Author: 

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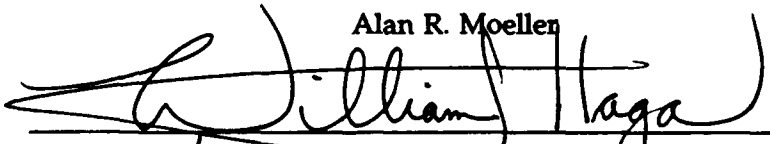
Approved by: 

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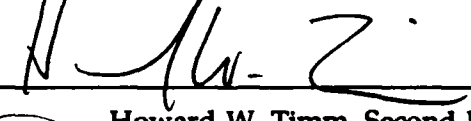

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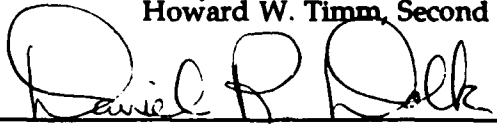

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ABSTRACT

This thesis examines whether it is necessary to manually enter credit history inquiry information instead of using similar information in DIS data bases when processing credit report requests pertaining to DoD security clearance applicants. Although the precise applicant addresses are not currently contained in these data bases, the identities of the DIS field offices requested to gather information at those locations is available. The research used actual security clearance applicant information which was submitted to a national credit vendor in two formats. The first format used the applicant's full address information while the second substituted the full address with a general delivery address and the regional DIS office ZIP code that would provide investigative coverage for the applicant's address.

The results of the study showed that the credit reports obtained from TRW with the general delivery address and the regional DIS office ZIP code were of the same quality as those obtained in the current procedure. Therefore, it appears that manually entering the inquiry information may not serve a useful purpose.

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TABLE OF ABBREVIATIONS

APO	Army Post Office
ASAP	Automated Strategic Application Processing System
CBM	A subsidiary of Equifax, the "middleman" in the current procedure to obtain credit reports
DIMS	Defense Investigative Management System
DIS	Defense Investigative Service
DISCO	Defense Industrial Security Clearance Office
DISNET	Defense Investigative Service Network
DMDC	Defense Manpower Data Center
DoD	Department of Defense
FPO	Fleet Post Office
FY	Fiscal Year
HUD	Department of Housing and Urban Development
PERSEREC	Defense Personnel Security Research and Education Center
PIC	Personnel Investigations Center
PR	Periodic Reinvestigation
SCI	Sensitive Compartmented Information
SSN	Social Security Number
TRW	One of the three largest credit vendors
ZIP	Zone Improvement Plan

I. INTRODUCTION

A. BACKGROUND

Security clearances are big business. In a typical year, the Defense Investigative Service (DIS) processes 750,000 applications for new security clearances or Periodic Reinvestigations (PR). The DIS accomplishes this requirement through its 343 offices across the United States and overseas. More than 3000 special agents and industrial security representatives investigate, inspect, advise and assist in security administration at a cost of $ 165 million. [Ref. 1:p. 6] This equates to a lot of time, expense and effort, and for what purpose? This is done for the protection of United States' security. It ensures that those individuals granted access to sensitive material will keep these secrets safe from any who would steal them. After all, it is not the security of the vault that keeps our nation's secrets safe. Rather, it is the trustworthiness of the men and women who have been granted access to our secrets who keep those secrets secure.

The security clearance investigation process is important and time-intensive. Often, a military unit or industrial firm will have personnel on hand who are ready to go to work, but cannot for lack of a security clearance. This results in

frustration for the uncleared individuals and imposes greater work loads on those who are handling those individuals' duties. For unit commanders or industrial managers, the wait can also be very frustrating. They may have all the authorized people they require, with all the right skills, yet for lack of the right clearances, they may be "short-handed". Greater efficiency in the processing of security clearances would be a blessing for all concerned. Why does it take so long to process a security clearance application?

Here's how the current investigative system works. An individual who requires a security clearance submits a packet of personal information through the unit or industrial firm requesting the clearance to the Personnel Investigations Center (PIC). This personal information includes such items as previous addresses, previous employers, the names and addresses of family members and character references. Also included are details of any arrests, medical and financial history, and credit references. PIC does not directly verify the credit information provided by the applicant. It employs CBM, a subsidiary of the Equifax Corporation, as a middleman to get credit reports from commercial credit vendors. PIC provides the middleman with a copy of the Personnel Security Questionnaire (PSQ). This is the form that the applicant filled out to request a security clearance. The addresses that must be used in the credit search are manually highlighted by a clerk at PIC to simplify identification by

the CBM processor. Since most applicants report several addresses for the places they have lived and worked, this may be a long list. To make matters worse, a clerk at CBM must manually enter each list of complete addresses into the computer. Thus, it is a slow process and it is easy to make mistakes.

The middleman takes this list of addresses and decides, using an automated system, which of three national credit vendors to use to get the credit reports. These credit vendors are not equally strong throughout the nation. The middleman has a listing that shows which vendor has the best credit information in each sub-region of the country. So, CBM makes the decisions and parcels out the addresses to the vendors that will provide the best information. When all of the reports for an applicant have been received, they are consolidated and returned to PIC. PIC verifies the reports and codes them, based on the quantity of derogatory information. The case controller at PIC reviews the total packet for each applicant and makes a decision as to which issues need further investigation.[1] These issues are forwarded to DIS, along with enough personal information to conduct the field investigation. This system works, but is it

[1] For financial issues, the PIC looks for any indicators of excessive indebtedness, recurring financial difficulties, or unexplained affluence. Financial issues are only one of sixteen categories of adjudication criteria applied during the PIC review. The specific adjudication criteria for financial issues is in Appendix A.

the most efficient way? Or, is there some other way to get the same quality of information quicker and at less cost?

Whenever a background investigation is initiated, a case controller at PIC enters into the Defense Investigative Management System (DIMS) computer the identifiers of the DIS field offices initially tasked with performing investigative actions on that case. Those actions might entail interviewing the subject, conducting a neighborhood check, interviewing someone listed as a reference, or performing some other related task.

Often, the PIC case controllers use an automated scoping guide, which is available to them through their computer terminal. The scoping guide displays the identifier of the DIS field office that provides coverage to any ZIP code that is keyed into it. In addition to providing case controllers with field office identifiers, the computer program also enables them to verify that they correctly entered ZIP codes by displaying the names of the cities corresponding to the ZIP codes entered, which can then be compared to the names of the cities listed on the applicant's PSQ.

As noted above, the field office identifiers are entered and stored on the DIMS computer. Given that there are in excess of 250 DIS field offices spread throughout the entire United States, it is reasonable to assume the locations of the DIS field offices tasked with investigating a particular person's background will closely approximate those areas where

that person has lived, worked, attended school, or is currently residing. Consequently, the current data entry process offers two potential mechanisms for reducing the credit report acquisition costs and time delays associated with data entry. First, if case controllers were required to enter all ZIP codes corresponding to field office taskings into the scoping guide (even those for which they already knew the field office identifier), a program could be written to capture that set of ZIP code information. Second, the field office information currently captured by the DIMS computer could be used to create ZIP code approximations for each applicant. The second alternative would require no additional information to be keyed into the system.

B. PURPOSE

The primary research question that this thesis seeks to answer is: "Is credit data acquired on a sample of DoD security clearance applicants of the same quality if Defense Investigative Service Office address surrogates are used instead of the full address information listed by the applicant on the Personnel Security Questionnaire?" A subsidiary question to be addressed is whether to switch from the current practice of keying in complete address information.

C. DISCUSSION

This thesis considers two major cost reduction strategies in its search for answers to the questions above. The first strategy seeks to reduce the amount of information that must be transcribed from the applicant's packet. It is believed that in most cases it may be sufficient to just supply credit vendors with the regions where the applicant lived, coupled with the applicant's name, social security number (SSN) and date of birth. All of this information is stored in the DIMS computer. Therefore, why not provide that information electronically to the middleman instead of sending all of that information to CBM on paper? If there is no loss in the quality of the information, then PIC has realized a gain in productivity. Instead of having to send hard copies of the applicant's PSQ to CBM after underlining all the addresses for which a credit check is required, PIC could supply virtually all of that information directly from the DIMS database. This would speed up the processing time for PIC. It would eliminate the transportation time and allow for the direct transfer of information from PIC to CBM. It would also speed up processing for the middleman and reduce the likelihood of error by eliminating the keypunch operation.

The second strategy to be explored in this thesis concerns the possible elimination of the middleman altogether. There are three national credit vendors-- TRW in Orange, California, CBI-Equifax in Atlanta, Georgia and Trans Union in Chicago.

These national credit vendors maintain more than 400 million records on 160 million individuals [Ref. 2]. They receive credit data updates from the 200 local credit bureaus affiliated with them. The national vendors add this credit information to their centralized computers. Given that there are only three national credit vendors, and that the credit report acquisition system is highly automated, it may be relatively easy to completely automate the credit acquisition process used by DIS, reducing the need for purchasing credit reports from a middleman. This would further speed up processing times while realizing a cost savings. This in turn might result in a faster turn around time on each security clearance investigation, providing even further savings. Therefore, if one assumes the clearance case outcome in some instances is delayed as a result of having to wait for credit report results, operational units may benefit from this change because assigned personnel could go to work more quickly in the positions for which they trained.

D. THESIS OUTLINE

The remainder of the thesis is organized as follows: Chapter II presents a review of the literature, highlighting some of the significant changes in policy that have occurred in the security clearance business. It also examines some of the work that has been done by other scholars in the area of credit history reporting and evaluation. Chapter III presents

a description of the sample data and the methods used to analyze the credit history reports provided by the credit vendors. Chapter IV details the results of the analysis, while Chapter V discusses the results and interpretations. Chapter VI presents conclusions of the study, recommendations, and areas for further study.

II. LITERATURE REVIEW

A. ESPIONAGE--UNITED STATES UNDER ATTACK

Espionage is not a new business. It has been around for thousands of years. The Bible contains references to the twelve spies who were sent into the land of Canaan ahead of the Jewish nation, to see what kind of land it was and to determine the strength of its people and cities [Ref. 3]. Espionage still continues to this day. It has been particularly prevalent during the period following World War II that has come to be known as the "Cold War." In the early 1960's, there were ten well-publicized espionage cases. These include the defections of Mitchell and Martin (1960), the Soviet collaboration of Jack Dunlap (1963), and the arrests of Johnson, Mintkenbaugh, and Butenko (1964), and Whalen (1966). There was a period of relative calm from 1968 to 1975, but it was in reality only the eye of the hurricane. From 1975 to 1989, there was a renewed flurry of espionage cases that left the United States' security community reeling. The public media and unclassified sources reported that 83 individuals were charged with espionage against the United States in that time period [Ref. 4:p. 181].

The collective damage to national security by these spies is much greater than the general public might suspect.

Although the Department of Defense may never be able to fully assess the damages, it can conclude that:

- U.S. military plans and capabilities have been seriously compromised;
- U.S. intelligence operations were gravely impaired;
- U.S. technological advantages have been overcome in some areas;
- U.S. diplomatic secrets were exposed to the scrutiny of our adversaries; and
- Sensitive aspects of U.S. economic life were subject to constant Soviet monitoring. [Ref. 4:p. 5]

B. COMBATTING THE ESPIONAGE ATTACK

Congress, concerned at the severe damage that was being done to national security by these spies, held hearings on the matter of shoring up security procedures [Ref. 5] [Ref. 6]. The security clearance process was singled out for special examination because of the role that former and present U.S. governmental, military and contractor personnel played in the all of the recent espionage cases [Ref. 7:p. 1]. On June 25, 1985, Secretary of Defense Caspar W. Weinberger established the Department of Defense Security Review Commission, more commonly referred to as the Stilwell Commission. This occurred shortly after the arrests on charges of espionage of Michael Walker, an active duty Navy petty officer, and three retired Navy members--John

and Arthur Walker, and Jerry Whitworth. Secretary Weinberger tasked the commission to "conduct a review and evaluation of Department of Defense security policies and procedures." He also asked it to "identify any systemic vulnerabilities or weaknesses in DoD security programs...and make recommendations for change." [Ref. 8:p. 113] The commission reviewed current policies and programs. It heard testimony from senior military leaders. It also interviewed selected industry officials whose companies held classified defense contracts and received written statements from other corporate officials. The commission's final report focused on ways to ensure the DoD security system permitted only trustworthy persons within it. One of the findings concerned improving the quality and frequency of background investigations. The commission made three recommendations to correct this finding:

- Expand the investigative scope for a SECRET clearance to include a credit check of the subject and written inquiries to past and present employers.
- Intensify the behavioral science research to improve the background investigative process and the effectiveness of subject interviews.
- Reduce the backlog of reinvestigations for TOP SECRET and Sensitive Compartmented Information (SCI) to manageable levels within four years and develop a plan to conduct periodic reinvestigations of all persons holding SECRET clearances and above by 1995. [Ref. 8:p. 9]

The commission also recommended improving the adjudication process for making security clearance determinations. It

found there was a wide variance among the military services and defense industry in making clearance determinations. Many adjudicators had not received adequate training and had been ruling on the basis of vague criteria. Thus, there was an inconsistent application to a given set of investigative findings. The commission recommended making the adjudicative standards more precise and recommended that all adjudicators receive standardized training.

The Defense Investigative Service took heed of these recommendations as well as others made by the commission. All Background Investigations conducted for Top Secret clearances now include credit checks. These are conducted in the 50 states, the District of Columbia and Puerto Rico and overseas (where APO and FPO addresses are provided) at all places where the applicant has resided, been employed, or attended school for 6 months or more. These credit checks focus on financial responsibility. Credit information is also checked for instances of unexplained affluence. At least three supervisors or co-workers who have knowledge of the subject's activities in the work environment are interviewed. At least one employment reference at the current place of employment is always interviewed (except individuals attending military basic training, or other military training schools lasting less than 90 days). [Ref. 9:p. 113]

It was not just the Stilwell Commission that got DIS concerned about the lengthy processing times required for

security clearances. This has always been a concern at DIS. The director of DIS, John Donnelly, calls timeliness and quality the cornerstones of the agency's services [Ref. 1:p. 1]. However, DIS is not solely responsible for the lengthy investigative times. DIS is constrained by several other federal agencies and components that are involved in the process. The Federal Bureau of Investigation, the Department of State, the various military investigative elements and the Directorate for Industrial Security Clearance Review, Defense Legal Services Agency all play a role in the responsiveness to requests for security clearances. In FY 88 and FY 89, the processing times for security clearances were 91 and 102 days, respectively [Ref. 1:p.9]. Budget cuts in FY 88, and the subsequent loss of some experienced investigators contributed to the longer processing time noted in FY 89.

The frustration felt by employees awaiting security clearances has resulted in at least one false claim suit against a major defense contractor. Among other charges in the suit, the plaintiffs contend that some employees engage in personal business and recreational activities on company time while waiting for the security clearances that will allow them to perform their jobs. [Ref. 10:p. 113] The salaries that these individuals draw are ultimately charged to the government as a part of the defense project expense. Across the defense industries, that can amount to millions of dollars annually [Ref. 10:p. 113].

DIS has recently incorporated automated information systems to improve processing times for clearances. In October 1988, a DIS system went into effect that allows the forms required to initiate security clearances from industry to be sent electronically rather than by mail. That system alone can shave eight to ten days off the time for obtaining a clearance. DIS has also moved all of its automated records from a Defense Logistics Agency computer to one that is owned by DIS. Additionally, DIS uses a portion of the DISNET, an agency-wide communications system, to transmit investigative leads between investigators and PIC. [Ref. 1:pp. 1-2] The Defense Industrial Security Clearance Office (DISCO) implemented the Stilwell Commission recommendation to grant interim clearances where possible. The results speak for themselves. More than 84% of the interim clearances requested were granted, most within 5 days. Of the interim clearances granted, only .06% were later withdrawn after further investigation. The savings to industry, and ultimately the government was more than $ 182 million. [Ref. 1:p. 15]

With the help of this technology and the interim clearance procedure, by late FY 89, DIS eliminated the backlog of TOP SECRET Periodic Reinvestigations. However, DIS also implemented the SECRET Periodic Reinvestigation Program for individuals who had not been the subject of an investigation for six years. As a result, DIS was inundated with another 20,000-30,000 case openings, [Ref. 1:p. 10] creating another

investigative backlog. However, on the positive side, this new policy of Periodic Reinvestigation announces clearly that security clearances are not permanent. The Harper Committee stated that the real "...risks commence after a clearance is granted...." [Ref. 11:p. 87] In fact, Periodic Reinvestigations help to reemphasize that managers, co-workers and every cleared individual share a responsibility to be alert for, and report, behavior or activities that would indicate questionable loyalty or trustworthiness. It is that kind of prompt and complete reporting that just might preclude a future act of espionage. If this procedure had been implemented a few years sooner, many espionage cases may have been avoided or detected earlier. The Stilwell Commission pointed out that in every recent case, the individual(s) involved displayed behavior that should have caused the loss of security access [Ref. 8:p. 44].

DIS has provided more definitive guidelines for its adjudicators to apply when there is derogatory information on an applicant. This, along with improved training, has brought more consistency in the way adjudicators apply these guidelines in determining security clearances.

C. ONE INDICATOR OF TRUSTWORTHINESS--CREDIT HISTORY

This thesis focuses on credit history and the impact it has on the granting of a security clearance. This does not mean that it is always the most important consideration for an

investigator. Credit reports are one of many indicators used in the decision making process. Experienced investigators such as Dale Chouteau, a HUD auditor in Chicago, know that in many cases "...[credit reports] come up clean, even when we know there are problems." [Ref. 12] The House Select Committee on Intelligence also noted the difficulty of determining the possibility of espionage "...based on lifestyle alone, even when investigations and reinvestigations are conducted properly" [Ref. 13:p. 11], yet "failure to consider [financial information] in security investigations is a serious security flaw." [Ref. 7:p. 15] Thus, credit histories are still considered one of the indicators of trustworthiness regularly used by businesses [Ref. 14:p. 11] and the DIS. Credit histories describe personal financial behavior:

> It tells you two things about a person: how promptly he pays his bills and his general level of personal expenditure. The first tells something about his responsibility; the second, when correlated with his stated level of income, may or may not indicate possible conflicting interests [Ref. 15:p. 92].

Euske and Ward explored the use of available financial data to improve the screening of individuals for positions of trust [Ref. 16]. This is an important area of investigation with respect to the granting of a security clearance. In the past few years, there have been a number of espionage cases that achieved national publicity. In each of these, there was a common denominator that motivated these

spies to betray their nation--money [Ref. 17]. Rosa [Ref. 18], Allen and Polmar [Ref. 19:p. 282] corroborate this. The Euske and Ward report focused on the use of credit reports, banks, list brokerage information and airline reservations as a series of progressively finer screens used to get an accurate financial profile. These financial profiles are used to identify the two types of individuals that could pose a security risk: those with financial difficulties and those with unexplained financial resources. Individuals who are under financial duress may be tempted to turn to espionage to escape their money woes. Individuals who are living beyond their means may be receiving money from illegal activities, or may soon find themselves in financial difficulty. In either case, these individuals are at risk to national security. Euske and Ward reviewed the use of the Automated Strategic Application Processing System (ASAP), by Fair, Isaac. This system would automate the process of interpreting credit reports through a decision support system to arrive at a "good risk/bad risk" decision. Euske and Ward also discussed the way in which an expert system can simulate the investigative expert's logic. It can analyze the patterns in the applicant's file that are significant from the expert's perspective. The primary emphasis in ASAP and personnel security financial expert systems is to spend less time on trivial and straightforward cases. This would give the

investigators and adjudicators more time to focus on the cases where potential threats have been identified. Euske and Ward also commented on credit scoring models. In credit scoring, the information provided by the applicant is assigned numerical weights to quantify it, then those scores are compared to a standard for a preformulated decision. The objective of credit scoring is to increase process efficiency and effectiveness by replacing human interactive decision making involved in each application (i.e., the judgmental method) with a preformulated decision process [Ref. 20:p. 17] [Ref. 21]. Chhikara, however, issues a warning concerning the use of credit-scoring models. Most of these available now focus on default rates for a single point in time. He advises that basing decisions on the dynamic, multi-period nature of credit leads to better results. [Ref. 22]

The research of Euske and Ward is focused on the right things. Automation can improve processing times by eliminating much of the manual, error-prone tasks. However, savings can also be realized by reducing the quantity of fruitless information that needs to be hand-keyed into the system before being provided to the credit vendor. This study examines the strategy of replacing the complete address information that is provided to the credit vendor for each applicant with a general delivery address corresponding to the field offices that would provide investigative coverage for

the applicant's address. If the quality of information received is no less than under the current method, all of the data inquiries could be submitted electronically from existing data files, as opposed to having administrative personnel reenter this data. This leads to swifter processing times for the credit vendor, the PIC and DIS as well. Therefore, savings in time, effort and money are achieved for all concerned. Equally important, military units and industrial firms might be able to receive quicker clearances for their personnel.

The Defense Manpower Data Center (DMDC) and the Defense Personnel Security Research and Education Center (PERSEREC) look for ways to improve the credit report acquisition process. Their investigative research has already brought to light changes that lower the cost per individual applicant while simultaneously increasing the amount of credit information obtained [Ref. 23]. How is this possible?

First, they proposed reducing the redundancy in buying credit reports by including prior addresses along with the current address of the applicant. Previously, CBM submitted a separate request for credit information for each address on the applicant's form. This is not necessary. The credit vendor can accept multiple addresses in its credit file search procedure at no additional charge.

Second, they suggested the use of an interactive purchasing decision component. By using this component, DIS can eliminate the indiscriminate purchase of multiple credit reports. For example, suppose the first credit report lists all current and prior addresses. Then it is unlikely that significantly more information can be obtained with a second credit report purchase. DMDC and PERSEREC offered an analysis that documented some surprising savings. DIS could save up to $ 5 million in the next four and a half years simply by adopting these two suggestions.

The savings are certainly impressive. Yet there may still be room for improvement. Can DIS send all its requests for credit histories electronically from existing data? Can DIS eliminate the middleman and purchase credit reports directly from the vendors while still maintaining the same quality of information? If the quality of information received is no less, then DIS achieves additional savings without diminishing the thoroughness required for background investigations.

III. METHODOLOGY

A. DESCRIPTION OF THE SAMPLE

During February 1991, the CBM office in Houston, Texas provided PERSEREC with inquiry data on all subjects they received during a given day from the PIC for credit report processing. This constituted a quota sample of 1103 records of actual in-progress investigations. Some of the applicants' names appeared as duplicates on the original tape because some of the individuals changed their names[2], and because of the requirement that the PIC must request credit information covering all places where the applicants have resided, been employed, or attended school for 6 months or more. These duplicate entries were eliminated to simplify comparisons. After the duplicate entries were eliminated, there were 860 unique subject records remaining.

There was no attempt to focus on any particular category of applicant (i.e., contractor personnel, civilian employees, active duty military, or Reservists), neither was there any attempt made to focus on a particular region of the country. In fact, addresses for 49 of the 50 states (Delaware was not represented), Puerto Rico and the District of Columbia are

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[2] Usually these were females who changed their names after marriage or divorce.

contained in the data sample. (See Table I.) The ages for the applicants ranged from a low of 18 to a high of 71. The mean age was 36.8, with a standard deviation of 12.5. Approximately 82% of the sample was male and 18% was female[3]. Among the types of inquiry information submitted to TRW for the purpose of this study were various subject identifiers such as full name, address, social security number, previous address, and age.

B. LIMITATIONS OF A QUOTA SAMPLE

Quota samples should not be confused with random samples. Quota samples may contain a certain number of items with a given characteristic, as determined by the decision maker, or they may include all the cases starting from a given point and continuing until the desired sample size has been collected [Ref. 24:p. 16]. Quota samples offer two advantages over random samples. They are easy to collect and are generally less expensive. These advantages often increase in importance when one must rely on another organization for the data. Along with these advantages comes a significant limitation. Because the data is obtained from a relatively small slice in time, there is a possibility that the data are

[3] Applicant gender was not stated in the data from CBM. The subjects' first name and their spouses' first name were examined in an attempt to derive this variable. Some of the applicant names were not clearly identifiable as male or female and there was no other information in the record to make an accurate determination.

TABLE I

DISTRIBUTION OF CLEARANCE APPLICANTS AMONG THE UNITED STATES

STATE	#	%	STATE	#	%
Alaska	5	0.6	North Carolina	20	2.3
Alabama	12	1.4	North Dakota	4	0.5
Arkansas	5	0.6	Nebraska	13	1.5
Arizona	13	1.5	New Hampshire	7	0.8
California	142	16.5	New Jersey	22	2.6
Colorado	19	2.2	New Mexico	7	0.8
Connecticut	8	0.9	Nevada	4	0.5
Washington DC	11	1.3	New York	79	9.2
Florida	41	4.8	Ohio	27	3.1
Georgia	18	2.1	Oklahoma	5	0.6
Hawaii	14	1.6	Oregon	1	0.1
Iowa	4	0.5	Pennsylvania	11	1.3
Idaho	3	0.3	Puerto Rico	2	0.2
Illinois	15	1.7	Rhode Island	8	0.9
Indiana	16	1.9	South Carolina	7	0.8
Kansas	9	1.0	South Dakota	2	0.2
Kentucky	6	0.7	Tennessee	6	0.7
Louisiana	6	0.7	Texas	50	5.8
Massachusetts	13	1.5	Utah	7	0.8
Maryland	56	6.5	Virginia	80	9.3
Maine	5	0.6	Vermont	1	0.1
Michigan	4	0.5	Washington	31	3.6
Minnesota	2	0.2	Wisconsin	6	0.7
Missouri	18	2.1	West Virginia	3	0.3
Mississippi	7	0.8	Wyoming	3	0.3
Montana	2	0.2	TOTAL	860	100

not representative of the whole population. Although there is nothing about the data in this study that would indicate they are not representative of the whole population, the reader should be aware of this limitation.

C. PROCEDURE

Following the normal processing of security clearance applications for credit information, PIC sent photocopies of portions of the applicants' PSQs to CBM for processing. The addresses that needed to be covered by CBM were highlighted on those documents by the PIC case controllers. That information was hand keyed into computer files by CBM staff in Baltimore, Maryland. Then CBM transmitted that data electronically to its office in Houston, Texas. At this point, there were two changes to the normal processing procedure. First, CBM sent a copy of the inquiry data to PERSEREC which was used to conduct this study. Second, CBM suspended the normal processing of the subjects until PERSEREC provided confirmation that it had received credit data from each of the three credit vendors using that inquiry data. Receiving the computer tape from CBM was ideal for this study, since it provided actual case data for analysis and allowed full electronic manipulation to put the data into the format required by TRW. Yet, it also imposed a responsibility. Since these were actual in-progress investigations, the data

had to be gathered without undue delay. Computer automation provided the necessary speed.

When PERSEREC received the computer tape from CBM, it transferred the data into its computer system. The data was screened by a computer program to eliminate any duplicate applicant records. This screening reduced the number of applicant records from 1103 to 860 (from 1.3/subject to 1.0/subject). This screened data was saved to a file on the computer disk, retaining the original address information on each applicant as it was provided by CBM. This new file was run through two additional computer programs. The first converted all of the specific applicant address information into general delivery address information[4], changed the applicants' original ZIP codes with that of the closest DIS field office ZIP codes, and placed the data into the format required by TRW for processing. This was saved as a second file to the computer disk. The second program reformatted the correct address information into standard TRW inquiry records.

These two new files were transferred back onto separate computer tapes, verified for accuracy and readability, then shipped to TRW by overnight express mail. Once TRW and the

[4] Normally, TRW uses the string "44444 G" to indicate a general delivery address in the appropriate field of the applicant record. For this study, TRW requested the string "00000 M" to be used instead.

other national credit vendors[5] acknowledged that they had successfully completed processing the credit history requests, PERSEREC notified CBM so that their processing of these records, which had been held in suspense, could be initiated without further delay using CBM's current procedures for acquiring the credit reports. The results of CBM's credit search were returned to both PIC and PERSEREC, but were not analyzed as a part of this study.

TRW reported that they processed the two computer tapes following normal procedures. The compiled credit reports were transferred back onto computer tape, then returned to PERSEREC by overnight express mail. This provided PERSEREC with two separate files containing credit reports for the same set of security clearance applicants. The final step in the study subjected the two files of credit reports to a number of statistical analyses and computer matching algorithms. Would the use of the general delivery DIS regional office ZIP codes provide the same quality of credit reporting as that provided by the applicant's actual address?

D. METHODS OF ANALYSIS

As previously noted, TRW returned two separate computer tapes to PERSEREC once it had completed the search for credit

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[5] Although this study only addresses the credit reports acquired from TRW, credit histories were also obtained from Trans Union and CBI on the same applicants. The results from those analyses will be reported in later PERSEREC and DMDC reports.

histories. The first tape contained all of the credit histories that were compiled in the normal manner, using complete address information. The second tape contained all of the credit histories that were compiled using the experimental method, substituting the DIS office ZIP code surrogates in place of the applicants' full addresses. Each tape was run with an analysis program developed by DMDC that automatically scanned each applicant's credit report. Several of the variables monitored whether the applicants had derogatory information contained in their credit history since these would be examined more closely by the PIC to see if there was sufficient derogatory information for it to be considered an issue case. If so, these files would be referred to DIS field offices for further investigation. (See Appendix B.)

The DMDC analysis program provided the following information:

- The number of bankruptcies, charge offs, account closures and collection actions, even if the account showed a zero balance.
- The sum of the balances over-due in all of the delinquent accounts.
- The number of bankruptcies listed in the Public Record section.
- The number of judgments listed in the Public Record section.
- The number of liens listed in the Public Record section.

- The total score for the applicant as computed by the DMDC credit report scoring method. (See Appendix C.)

- The number of positive, negative and non-evaluated trade items[6] in each credit report.

- The TRW Gold Score[7].

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[6] Trade items are the individual accounts and elements of credit standing that appear in each credit report. TRW divides these into three categories. Positive trade items report that the applicant's account is free of derogatory information. Negative trade items indicate derogatory information in the account. Non-evaluated trade items are those accounts that are too new to determine whether it should be classified as positive or negative.

[7] The TRW Gold Score is an indicator of future credit risk. A high Gold Score indicates a high degree of credit risk.

IV. FINDINGS

The original computer tape received from CBM contained 1103 records of actual in-progress investigations. After eliminating the duplicate entries, there remained records on 860 unique applicants that were provided to TRW for credit reports. TRW achieved a high success rate for finding credit reports in the two tapes it returned to PERSEREC. The tape of credit reports that was obtained by using complete address information on each applicant contained credit histories on 856 of the applicants (99.53% success rate). The tape of credit reports that was obtained by using DIS office ZIP codes in lieu of the complete address contained 857 credit histories (99.65% success rate).

The derogatory information contained in the two tapes was nearly identical for each applicant. (See Table II.) There was one less credit report in the computer tape that was obtained by using complete address information. Because the missing file was one that contained a significant amount of derogatory information, it accounts for lower values in four of the seven cells in the Complete Address column that reflect a number different than that shown in the DIS ZIP column. An examination of the data revealed that CBM omitted that subject's street name when entering the data. This error resulted in the full address inquiry not being processed by

the TRW system. However, the DIS ZIP code version ran without difficulty because it was not based upon street names.

Table II reflects only absolute numbers of derogatory items that were reported in the entire computer tape. It does not indicate the level of agreement between the credit reports.

To get an accurate indication of the differences in each pair of credit reports, the values of several dependent variables were compared.[8] By subtracting the DMDC score for the complete address credit report from the DMDC score for the DIS ZIP code credit report, the resulting value provides a measure of consistency. If the difference was zero, the two credit reports matched exactly. If the difference was a positive number, then the DIS ZIP credit report contained more derogatory information than did the complete address credit report. If the difference was negative, then the DIS ZIP credit report had less derogatory information than did the complete address credit report. Table III provides the results of this analysis.

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[8] In the following analyses of DMDC scores, the credit report in the DIS ZIPS tape that had no matching report in the complete address tape was discarded. Also, one applicant's credit report listed an unknown amount for overdue accounts. Since an accurate DMDC score could not be obtained for this vague information, the credit report was not scored. It appears as the entry on the first line of the table.

TABLE II

COMPARISON OF DEROGATORY INFORMATION REPORTED

DEROGATORY ITEMS	FREQUENCY OR $ AMOUNT	DIS ZIP	COMPLETE ADDRESS
BANKRUPTCIES	1	23	23
	2	3	3
JUDGMENTS	1	22	22
	2	3	3
	3	1	1
	4	2	2
	5	1	0*
LIENS	1	12	11*
	2	1	1
	3	2	2
OVERDUE ACCOUNTS	UNKNOWN	1	1
	< $ 50	10	10
	$ 50 - 99	8	8
	$ 100 - 1500	5	5
DEFAULTED ACCOUNTS WITH $ 0 BALANCE PAST DUE	1	53	53
	2	19	20
	3	7	6
	4 - 9	22	21*
	13 - 14	2	2
CHARGE OFFS OR COLLECTION ACCOUNTS WITH SOME BALANCE DUE	1	34	32*
	2	9	10
	3	5	5
	4 - 8	6	6

* Indicates that the single missing credit report affected this cell.

In nearly all of the cases, (98.5%), there was no difference in the two credit reports. In eight cases, the complete address tape contained more derogatory information, and in five cases, the DIS ZIP tape contained more derogatory information. The credit reports matched perfectly in identifying applicants with bankruptcies, judgments, and liens. The credit reports also agreed on the sum of the balances contained in overdue accounts. There were minor differences in two variables: defaulted accounts and charge-offs and collection accounts with some balance due. In the defaulted accounts reporting, there was a perfect match in 853 cases, (99.8%), and the DIS ZIP tape reported more derogatory information in 2 cases. In the charge-offs and collection accounts reporting, there was a perfect match in 854 cases,

TABLE III

COMPARISON OF MATCHING CREDIT REPORTS--NET DMDC SCORES

NET DMDC SCORE	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE FREQUENCY
----	1	----	----	----
-200	4	0.5	4	0.5
-100	2	0.2	6	0.7
-25	2	0.2	8	0.9
0	842	98.5	850	99.4
25	1	0.1	851	99.5
50	1	0.1	852	99.6
200	3	0.4	855	100.0

(99.9%), whereas the complete address tape reported more derogatory information in one case.

In a similar fashion to comparing DMDC scores obtained in the two files, the elements that would constitute an issue case for the PIC were also compared. The results of this comparison resulted in 855 perfect matches between the two tapes. Those reports that were considered issue cases in the DIS ZIP tape also qualified as issue cases in the complete address tape. The reverse was also true. Those credit reports that were not issue cases in the DIS ZIP tape were also not issue cases in the complete address tape, with one exception. In a single credit report, the DIS ZIP tape found more derogatory information than did the complete address tape and that was sufficient to push the applicant beyond the issue case threshold.

TRW included its own assessment of the credit records that it provided to PERSEREC. Each record was scored on the following four factors:

- Positive trade items--accounts that were in good standing.
- Non-evaluated trade items--accounts that were too new to be evaluated accurately.
- Negative trade items--accounts that were in poor standing.
- TRW Gold Score--a proprietary system of assessing credit risk.

The credit reports obtained with the DIS ZIP codes and with the complete address information were compared on each of

these four values by subtracting the score in the complete address information credit report from its respective score in the DIS ZIP code credit report. The results are displayed in Tables IV and V.

TABLE IV

COMPARISON OF TRADE ITEMS

TYPE OF TRADE ITEM	NET QUANTITY	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
POSITIVE	-2	2	0.2	2	0.2
	-1	9	1.0	11	1.3
	0	815	94.9	826	96.2
	1	23	2.7	849	98.8
	2	6	0.7	855	99.5
	3	3	0.3	858	99.9
	6	1	0.1	859	100.0
NON-EVALUATED	-1	2	0.2	2	0.2
	0	853	99.3	855	99.5
	1	3	0.3	858	99.9
	11	1	0.1	859	100.0
NEGATIVE	-1	2	0.2	2	0.2
	0	854	99.4	856	99.7
	1	1	0.1	857	99.8
	2	1	0.1	858	99.9
	16	1	0.1	859	100.0

Note that TRW calculated trade item values on the full file of 860 applicants. The applicant for which the complete address failed to find a credit report was excluded from this table.

TABLE V

COMPARISON OF MATCHING CREDIT REPORTS--NET TRW GOLD SCORES

GOLD SCORE DIFFERENCE	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
----	148	----	----	----
-50 - -99	5	0.6	5	0.7
- 1 - -49	5	0.6	10	1.4
0	40	5.6	50	7.0
1 - 49	310	43.4	360	50.6
50 - 99	346	48.5	706	99.3
100 - 149	3	0.3	709	99.7
150 - 199	2	0.2	711	100.0

The comparison of the trade items in Table IV reveal a consistency with the previous analyses. In each of the three categories of the trade items, the credit reports of the DIS ZIP code format performed slightly better at uncovering derogatory information than the complete address format. The TRW Gold Score difference in Table V showed a wider variance than did the DMDC scores. In ten credit reports, the complete address format was assessed a higher Gold Score than the DIS ZIP. In 701 credit reports, the DIS ZIP code format received the higher Gold Score. In the remaining 148 cases, TRW did not provide a risk assessment.

V. DISCUSSION OF THE FINDINGS

A. WHAT DOES IT MEAN?

The results of this study suggest that there is no difference in the quality of credit reports that are obtained from TRW with DIS office ZIP code surrogates in lieu of the applicant's full address information. In the data collected for this study, there was a perfect correlation for 842 of the 856 matching credit reports that were provided on the two computer tapes. In one case, only the request from the DIS office ZIP codes tape resulted in successfully obtaining a credit report. The complete address tape failed to locate a credit report. For those applicants whose files did not match perfectly, the DIS office ZIP code tape had mixed results. Sometimes it provided more, and other times fewer, items of derogatory information. Even though there were instances where it reported less, when it came to the critical point, issue cases, the DIS ZIP tape actually found one more than did the complete address tape.

The results of this study suggest that one step in the clearance investigation process can be made easier and quicker, while still maintaining the same level of thoroughness in the credit reports that are received. Instead of highlighting the pertinent addresses on the PSQ, the PIC

clerk can use a computer program to match each applicant's addresses to the appropriate DIS regional office, then submit this information electronically to CBM for faster processing. This provides faster processing at PIC and quicker delivery of the information to CBM since the information travels at the speed of light and there are no delays or expenses associated with making photocopies of the applicable PSQ pages. CBM also realizes several benefits from this electronic submission of requests for credit reports. The requirement to manually type in all of the applicant's name, SSN, age and addresses is eliminated, along with its inherent slowness and susceptibility to error.[9] Thus, CBM realizes greater efficiency and responsiveness, while reducing the chances of inserting errors into the process.

B. COMPARATIVE PERSPECTIVE

The fact that there was a high correlation between the results obtained from the two methods in this study did not come as a great surprise. However, the fact that the correlation was virtually perfect did come as a surprise. This may be an indication of the degree to which TRW has enhanced its databases and the extent to which social security numbers are being used when reporting credit transactions. It

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[9] The missing credit report was due to a clerical error in typing the applicant's address manually. Examination of the original CBM tape reveals that the street name was omitted from that record.

appears TRW relies heavily on a state-of-the-art computer system and has developed sophisticated software that can both manage the wealth of data collected on each individual and retrieve it upon demand. Thus, this study began with an expectation of positive results. However, the extent to which this occurred was not anticipated.

A second surprise came in the high success rate of obtaining credit reports. TRW has different types of coverage throughout the United States. TRW defines these types as full file coverage (the most complete), independent credit bureau full file coverage (serviced by TRW) and TRW Autofile coverage. In this last category, TRW obtains its information from key national banks, retailers and finance companies. The geographical coverage of the input file contained applicants from every state in the union, save one. Therefore, there was some expectation that TRW would not have an even coverage for all of the states in the entire sample. The age of the applicant is an additional factor in the ability of a credit vendor to find a credit history. In previous credit studies conducted by DMDC, the success rates for obtaining credit reports ran about 80% for applicants 27 years or older. At age 22, the success rate declined to 70%. It fell to 50% for those at age 20 and hit rock bottom with just 10% success rates for 17 and 18 year olds. [Ref. 25] The sample file submitted in this study contained requests for credit reports on applicants ranging in age from 18 to 71, therefore

there was some expectation that similarly low success rates would be realized, especially for the younger applicants. In actuality, the success rate was 99.65%, regardless of the age of the applicant. This may be an indication of improvements that have been made by TRW (and the other credit vendors as well) to its database, its affiliated credit bureaus and to the sophistication of its search algorithms.

The missing credit report on the complete address tape was the third surprise. Logically, if credit information is obtained by submitting a ZIP code for the region that has responsibility for the full address, then the submission of the actual address should also result in a similar (if not identical) credit report. The fact that this did not happen in one instance led to a close scrutiny of the record. This record is the only instance where the original CBM tape omitted the applicant's street name. As a result, no credit history was found for the applicant. Normally, this would have resulted in wasted time, effort and expense. In this particular case, an unusual amount of derogatory information would have been left out of the PIC case controller's decision making process.

The final surprise came in the apparent discrepancy between the net differences in the DMDC score and net differences in the TRW Gold Score. In all of the other comparisons, there seemed to be an agreement that the DIS ZIP code format provided a quality of credit report that was the

equal of the complete address format, and in a few cases, the DIS ZIP code format was even better. Consultation with TRW revealed that the Gold Score evaluates the trade item status in the credit report in much the same way as the DMDC scoring method. However, it may go a step further and assesses additional points for such things as file variations and recent credit inquiries. The result is that Gold Scores tended to have a wider variance in value than did the DMDC scores on the same credit reports. As a check, the credit reports that reflected the widest differences in Gold Scores were compared, trade item for trade item, in the two formats. The findings were that the status of the accounts were identical.

It seems to be reverse logic that in providing less detail, i.e., the DIS office ZIP codes in lieu of the full addresses, the result is often a more detailed credit report. There are a number of possible explanations for this:

- The "00000 M" designator that was substituted for the standard "44444 G" code in the DIS inquiry statements may have provided some extra benefit in the search.[10]
- There may have been minor problems with CBM's full address information.

[10] A phone call to TRW confirmed that the 00000 M code is less restrictive in its search parameters. Therefore the chance of a credit report hit is greater. This might explain the high hit rate for the DIS ZIP tape, but it had no impact on the complete address tape, which had an equally high hit rate.

- There may have been minor problems with the way the data from CBM was formatted on the full address credit inquiry statements.
- In a few cases, information may have been obtained on subjects other than the actual applicant when using the DIS office ZIP codes.
- Counter to instructions, TRW may have run the full address inquiries first and enhanced the applicant's credit files during that run or took some other action that affected the outcome.
- Name, age, SSN and general region may be all that is needed to fully acquire credit information from TRW.

The evidence from the data seems to support the final possibility.

C. IMPLICATIONS

The major implication in this study is that less maybe better in this case. Providing a "00000 M" address to TRW in lieu of the applicant's specific address appears to result in credit reports that are just as good as those obtained with the complete address. In a couple of cases, the "00000 M" address provided more credit data, because that approach is less prone to inquiry statement errors.

The current procedure to acquire credit reports requires much more effort than may be necessary to get the information that DIS needs to make informed decisions in the issuance of security clearances. The applicable sections of the PSQs are transported to CBM, then turned over to other clerks who manually type the applicant's personal identifiers and

highlighted portions of inquiry information into the format used by CBM. For each credit request, the applicant's last name, first name, middle initial, current and prior addresses, SSN, age and several more data elements must all be entered and verified. Consider that this is repeated approximately 300,000 times a year, a typical year's worth of security clearance applications requiring credit checks, and one can begin to understand the true dimensions of this requirement.

The results of this study suggest an end to this manpower intensive workload. Instead of photocopying and manually highlighting the necessary fields on the PSQ that need to be checked by CBM, the computer at PIC could automatically electronically transmits the information that is needed to the middleman, or perhaps even directly to the credit vendor. The need for photocopying and transporting the PSQs to CBM can be bypassed completely by a system that measures delivery times in microseconds. The credit vendor's computer system compiles a credit profile from its database, then sends this report back through the computer network to the PIC. The PIC obtains the credit information it needs that is every bit as good as it gets with the present procedure but it does not have to wait as long. The PIC case controllers more quickly identify those applicants whose credit history suggests that they are worthy of a security clearance or who require further investigation. In either case, the result should be faster

results in processing applications at DIS and at reaching credit related decisions.

The calculation of the financial benefit of this automated procedure falls beyond the scope of this study. However, it does offer several direct benefits. The PIC would realize savings in photocopying and transport expenses by forwarding the PSQs electronically. The PIC would also require less personnel time involved with processing these documents. Additional savings would be realized by the middleman or credit vendor. By avoiding all of the manual input, there would be immediate savings in personnel costs. The quantity of terminals for data entry could be reduced, or perhaps eliminated. The firm would also achieve gains in productivity once the manual input ended. This would allow more transactions to be processed in a given period of time, which equates to more revenue generated in the same time frame. The benefits to the middleman or credit vendor should result in a lower contract price to the government for these services.

There is also an indirect benefit from this automated procedure. There would be a reduction in waiting time in financial issue cases for security clearance decisions. This would allow military units and industrial firms to put their people to productive use sooner, with potential savings that could run into the hundreds of thousands of dollars [Ref. 10:p. 113] [Ref. 1:p. 15]. This lowers employee costs in industry by minimizing non-productive time that employees

without security clearances are held on the payroll. Ultimately, the government benefits, chiefly by avoiding the non-productive man-hour charges that become a part of defense project expenses.

VI. CONCLUSION

A. ANSWERS TO RESEARCH QUESTIONS

This thesis began with a primary research question that sought to answer this: "Is credit data acquired on a sample of DoD security clearance applicants of the same quality if Defense Investigative Service Office address surrogates are used instead of the full address information listed by the applicant on the Personnel Security Questionnaire?" A secondary question it sought to address is whether or not to switch from the current practice of keying in complete address information. The results in this study are clear. Based on the credit reports obtained from TRW, the use of DIS office ZIP code surrogates provides virtually identical results as those provided by the current procedure of using complete applicant addresses. The evidence also indicates that at least as far as TRW is concerned, the process of manually keying in complete address information by the middleman is an unnecessary delay in the security clearance investigation procedure. It also adds a step in the sequence that can introduce errors that can reduce the quality of credit information obtained.

This study has taken another step toward the goal of reducing the processing times of security clearances, using

existing technology. It should not require additional investment in hardware. It simply takes existing systems and uses them in a way that brings about greater efficiency for all parties that are involved in the process. In doing this, there are also financial economies that can be realized. This is true for the security clearance investigators and the credit vendors, but it holds equally true for the industrial firm or military unit that ultimately benefits by being able to put its personnel to work quicker.

B. AREAS FOR FURTHER RESEARCH

This study certainly has not exhausted all of the research potential in this area of the security clearance process nor does it indicate that TRW is the credit vendor of choice for the direct purchase of credit reports. In addition, the study has not examined whether the relationships found in this study will hold for the other two national credit vendors. Further research is still required to examine whether similar results will be obtained from the other two major credit vendors, CBI-Equifax in Atlanta, and Trans Union in Chicago, as well as to see which of the three credit vendors provides the best quality of credit report in different regions of the country. Ongoing research at PERSEREC and DMDC incorporated the same list of applicants used in this study to CBI-Equifax and Trans Union in order to make direct comparisons between the three major credit vendors. In the present study, TRW reported no

derogatory information on many of the applicants. In many cases this may, in fact, indicate clean credit records. However, in some instances it may be that TRW simply did not have comprehensive credit information in the areas of the country where those applicants resided. By comparing the results obtained from the other two major credit vendors, the true nature of those "clean" credit records can be determined. It will also give an indication of which of the three major credit vendors provides the best nation-wide coverage.

Another direction of study that should be pursued concerns the true need for the services of CBM as a middleman in the process of acquiring credit reports. Presently, the middleman serves two primary functions--entering the applicant inquiry data into machine readable form and forwarding the requests for credit reports to the credit vendor who has the best coverage in the region where the applicant resided. However, if the quality of the credit report obtained directly from the best credit vendor is no less than that which is being provided through the services of the middleman, then further gains in efficiency and financial savings could be realized by eliminating the middleman from the process all together. The requests for credit reports could be transmitted electronically directly from the PIC to the credit vendor.

C. WRAP UP

Automation provides the key which unshackles personnel resources from the tedious, repetitive workload of years past. It can effectively and efficiently sort through the many routine security clearance packets that would otherwise occupy much of the DIS investigators' time. This gives the investigators the ability to focus on the few issue cases that require experienced human thought processes to make the decision that will best protect American security. This study has provided clear evidence that the credit data acquired on a sample of DoD security clearance applicants from one of the national credit vendors is of the same quality when DIS office address surrogates are used instead of the full address information listed by the applicant on the PSQ. In fact, in a couple of cases, more derogatory information was brought to light with the DIS office address surrogates than that obtained with the applicant's complete address. The quality was so good from this one vendor, it suggests the possibility of eliminating the middleman from the process, which would streamline the process and provide a positive financial impact on the security clearance procedure. However, until further research has been completed which addresses some of the issues noted above, this conclusion should be considered premature. Fortunately, it is anticipated that PERSEREC and DMDC will be able to resolve many of these questions during in the near future.

APPENDIX A

FINANCIAL ADJUDICATION POLICY

Basis: Failure to meet just and avoidable financial obligations voluntarily incurred.

Factors Which May Be Considered In Determining Whether to Deny or Revoke Clearance:

1. History of bad debts and unmanageable indebtedness.
2. Recent bankruptcy with continuing financial problems.
3. Indebtedness aggravated or caused by gambling, alcohol, drug abuse, or mental or emotional defects.
4. A history or pattern of writing checks not covered by sufficient funds.
5. Unfavorable judgments, liens, or repossessions.
6. Deceit or deception, embezzlement, or change of address without advising creditors.
7. Applicant's indifference to financial obligations or a stated intention not to meet these obligations in the future.
8. Financial mismanagement or irresponsible expenditures that exceed income or other assets.

Mitigating Factors:

1. Systematic efforts to satisfy creditors.
2. Favorable change in financial habits.
3. Stable employment record and favorable references.
4. Circumstances beyond the individual's control contributing to indebtedness; e.g., major illness, debilitation, decrease or cutoff of income, and indebtedness due to court order.
5. Business-related bankruptcy.

Reproduced from [Ref. 26:encl (3)]

APPENDIX B

TRW ACCOUNT STATUS COMMENTS [Ref. 27]

The specific account status comments that served as "flags" for issue cases were the following:

- Debt was included in or completed through Bankruptcy Chapter 13.
- Debt was included in or discharged through Bankruptcy Chapter 7,11,or 12.
- Unpaid balance was reported as a loss by the credit grantor.
- Credit line was closed because the account holder did not pay as agreed.
- Account was seriously past due and/or the account was assigned to an attorney, collection agency or credit grantor's internal collection agency.
- Account was delinquent 120 days past the due date.
- Account was delinquent 150 days past the due date.
- Account was delinquent 180 days past the due date.
- Credit grantor sold the collateral to settle defaulted mortgage.
- Any items of Public Record that involved Bankruptcy, Liens, Judgments or Suits.

APPENDIX C

DMDC CREDIT REPORT SCORING SYSTEM

Point Values of Negative Credit Information	
Points	**Type of Information**
1000	Bankruptcy
200	Current lien or judgment
200	Collection account, charge-off or repossession
100	Satisfied lien or judgment
100	Paid collection account, charge-off or repossession
100	Delinquency of 120+ days
50	Delinquency of 60 - 90 days
50	Paid delinquency of 120+ days
25	Paid delinquency of 60 - 90 days
25	Past due 30 days
10	Paid 30 days past due

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