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GROWTH AND PROFITABILITY OF CREDIT CARD BANKING

A Paper By

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GROWTH AND PROFITABILITY OF CREDIT CARD BANKING

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On several occasions during the last four years, I have attempted to assess the progress of credit card banking. In the Spring of 1967, the Federal Reserve undertook a comprehensive examination of trends and developments with respect to this aspect of banking activity that was then newly emerging. The results of the inquiry were published by the Federal Reserve in the Summer of 1968. I was the Board member most closely identified with that study.<sup>1/</sup>

In that initial effort, a Federal Reserve System Task Force examined in some detail the implications of the growth of bank credit cards for consumers, merchants, the banking system, bank supervision, and the management of monetary policy. That report was one of the first carefully documented sources of information about bank credit cards.

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\* Member, Board of Governors of the Federal Reserve System.

I am grateful to a number of persons in the Federal Reserve System for assistance in the preparation of this paper. At the Board, Mr. John L. Stone had overall supervision of the staff work, and he coordinated the informal survey of bank credit card profitability conducted by the Federal Reserve Banks in August of this year. Mr. David Seiders had principal responsibility for the analysis of the responses, including the computer-based econometric assessment of the principle factors influencing the profitability of bank credit cards. Mrs. Katharyne Reil helped with the statistical analysis of credit card trends, with particular emphasis on the data obtained from the credit card supplements to the Call Report.

1/ See Bank Credit-Card and Check-Credit Plans, July, 1968.

However, in this rapidly changing field (in which a number of newly-adopted banking practices were vigorously debated), it was clearly desirable to have a periodic review of trends and developments.

With this objective in mind, and with the help of the Federal Reserve Banks, I made another review of the bank card situation in the Summer of 1969. The aim was to determine whether developments subsequent to the 1968 study warranted any change in the earlier assessment. The 1969 review included an analysis of growth trends in bank credit cards, a survey of mailing procedures used in launching new credit card plans, and a study of bank examination reports to determine the extent to which State member banks were following the guidelines on credit card operations suggested by the Board as a result of the Federal Reserve's 1968 study. The conclusions of that review were summarized in a paper which I presented in Seattle in September, 1969.<sup>2/</sup> Earlier this year, I took another look at credit card trends.<sup>3/</sup> I was particularly interested in the banks' profit and loss experience with bank credit cards. I also wanted to know their response to Federal legislative and regulatory restrictions affecting bank credit cards. To obtain information on

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<sup>2/</sup> "New Horizons in Credit Card Banking", remarks before the Seattle Clearing House Association, September 23, 1969.

<sup>3/</sup> "Bank Credit Cards: The Record of Innovation and Growth", a paper presented at the Annual Seminar of the Puerto Rican Bankers Association, San Juan, Puerto Rico, March 26, 1971.

profit and loss experience, a supplement was added to the Call Report for December, 1970. To assess the banks' reactions to Federal statutory and regulatory changes, the Federal Reserve Banks were asked to make an informal canvass in their respective districts.

It is evident that the bank credit card is still effecting significant modifications in the techniques of commercial bank lending to consumers. The network of banks issuing credit cards has matured considerably as most areas of the country have been covered. At the same time, a majority of credit card banks have been linked in a nationwide interchange through participation in one of the national credit card systems. Consequently, no one can doubt that the credit card has found a secure place as an instrument of bank lending.

On the other hand, some banks continue to suffer to a considerable extent from a number of problems which first emerged a few years ago when the bank credit card was being introduced on a large scale. Among these were the heavy fraud losses incurred in the distribution of cards. Moreover, aside from fraud, many banks have found operating losses (including credit losses) to be significantly larger than expected. So, I thought that, in the current review of bank credit card trends, it might be useful to focus particularly on the profitability of bank credit cards. To this end, the Federal Reserve Banks were asked last August to make an informal survey of a modest sample of card-issuing banks in their districts to check on their experiences with the operation of their credit card plans with reference to credit charge-offs, fraud losses, and profitability

(or loss). In addition, to keep abreast of growth trends, a supplement on bank credit cards was added to the Call Report for December, 1970, and another is planned for December of this year.

Information from these sources has been used in the present paper. The results of the analysis are presented below, but the highlights might be summarized here:

- At the end of last June, there were \$3.9 billion of bank credit outstanding under bank credit card plans. However, during the preceding 12 months, the growth of bank credit cards slowed appreciably. Part of the slackening reflected the impact of the recession in the national economy; but it was also partly due to the maturing of the bank credit card network as most areas of the country are progressively covered.
- To a considerable extent, the credit card business continues to be concentrated among large banks. Yet, banks just below those in the top size category are also expanding their share of the market.
- In terms of geography, the slow-down in the rate of expansion in bank credit card use in the first half of 1971 was especially marked in several regions which had experienced rapid growth in the last few years. This was particularly noticeable in New England, the Southeast, and in part of the Midwest.
- The nationwide bank credit card systems have continued to expand. But here, also, the rate of expansion has moderated considerably. Moreover, during the first half of this year, the number of card-issuing banks which hold the receivables themselves shrank by more than 10 per cent, while the

number of agency banks rose by 6 per cent. Apparently the decision of a number of card-issuing banks to cease holding receivables was related to high operating loss rates.

- Apparently, bank credit cards are continuing to substitute for other types of revolving credit. This is especially true with respect to retail charge accounts and department store revolving credit. On the other hand, oil company cards are also offering a stronger competitive thrust.
- Losses on bank credit card operations are continuing at a high rate. The banks which reported in the informal Federal Reserve survey last August had a net loss on their credit card operations in 1970 equal to 1.8 per cent of their year-end outstandings. Their net credit charge-offs during the year amounted to 2.5 per cent, and fraud losses 0.63 per cent, of year-end outstandings. Fraud losses represented one-fifth of charge-offs, and they were particularly high in the Boston and New York Federal Reserve districts.
- Less than one-third of the banks in the canvass reported a net profit on credit card operations in 1970. However, a majority showed an improved net profit picture over the previous year.
- The profitability of bank credit card plans appears to improve noticeably with the passage of time. On the other hand, profitability seems to deteriorate as the scale of the credit card plan increases. In fact, the smallest plans seem to be substantially more profitable than the very large operations. Profitability also appears to be the highest among banks whose plans have expanded at a moderate rate; plans that have grown rapidly and those that have grown slowly have both performed less well.
- Plans offered by banks in metropolitan locations, on the average, do have higher fraud-loss rates than those located in smaller areas.

Each of these main conclusions is amplified more fully below.

Recent Growth of Bank Credit Card Plans

At the end of June, 1971, there were \$3.9 billion of bank credit outstanding under bank credit card plans (See Table 1, attached)<sup>4/</sup> This amounted to an increase of 28 per cent over the preceding 12 months. Such a gain represented a substantial slowdown in the rate of expansion of bank credit cards. Between June, 1968, and June, 1969, the rate of growth was 78 per cent, about the same as in the year ending in June, 1970. The marked slowdown last year apparently was mainly a reflection of the recession in the national economy, but the slower growth in the number of credit card banks was also partly responsible.

On the other hand, bank lending through credit cards continued to expand faster than other forms of lending to consumers. For example, at the end of June, bank credit card outstandings represented 3.8 per cent of total instalment credit and 7.6 per cent of all consumer credit at commercial banks. In June, 1969, the proportions were 1.8 per cent and 3.6 per cent, respectively. At the end of 1967, the corresponding ratios were 1.0 per cent and 2.0 per cent.

Credit card plans were being offered by 1,514 banks at the end of last June.<sup>5/</sup> This represented an increase of just over 10 per

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4/ Statistics are from the Call Report for June, 30, 1971.

5/ These banks carried the receivables on their own books. Almost 10,000 banks offer credit cards, but more than 80 per cent of these are agency banks -- offering the card but not holding the outstandings themselves.

cent in the number of banks in the preceding year. This represented a noticeable slowing in the rate at which banks entered the credit card business. Between June 30, 1968, and June 30, 1969, the number of banks rose by 68 per cent. During the following year, the increase was 94 per cent. To some extent, the slackened pace of expansion undoubtedly reflects the shrinkage in the number of large banks without a credit card, since these are the banks with the capacity to carry receivables. But the slower growth may also reflect the increasingly cautious approach of many banks to credit cards. This growing caution in turn has been generated by the accumulating evidence suggesting that the profitability of credit cards is much below that indicated by some of the early projections.

The previously noted tendency for bank credit cards to expand more rapidly than check credit plans is continuing. At the end of last June, 1,282 banks were offering check credit plans, and they had outstanding balances of \$1.4 billion (Table 2). So, while banks offering check credit represented about 45 per cent of the total number of banks (2,796) offering the two types of credit plans, they held only 26 per cent of the total outstandings on June 30 of this year. The share of the market held by check credit has declined steadily over the last four years. In September, 1967, banks with check credit plans accounted for almost three-quarters of the total number, and they held about two-fifths of the outstanding balances. By June, 1969, these banks were only three-fifths of the total number, and their market share had declined to somewhat more than one-third.



As data in Table 2 indicate, the year 1969 saw an enormous expansion in bank lending to consumers via specialized credit plans. The number of banks offering such plans rose by almost three-fifths, and the amount outstanding rose by three-quarters. However, the vast majority (four-fifths) of the newly entering banks chose the credit card route as opposed to the check credit avenue. Reflecting this expansion, plus the rise in lending by existing credit card banks, over four-fifths of the increase in total outstandings in 1969 occurred at credit card banks. Since then, the erosion in the share of the market held by check credit has eased somewhat, but the downtrend is still evident.

In summary, the rate of expansion of bank credit cards slowed appreciably during the 12 months ending last June 30. Part of the slackening reflected the impact of the recession in the national economy. But part of the slower growth can also be traced to the maturing of the bank credit card network, since most areas of the country have already been covered.

#### Structure of Credit Card Banking

The extension of consumer credit via credit cards remains predominantly an activity of large banks. Nearly all of these are members of the Federal Reserve System, and among the latter national banks continue to have a disproportionate share of the market.

As of June 30, 1971, Federal Reserve member banks had \$3.5 billion of credit card receivables outstanding (Table 1). Thus, while member banks represented 61 per cent of the number of banks offering credit cards, they held 91 per cent of the volume. However, over the preceding three years, nonmember banks did improve their relative position. For example, in June, 1968, the nonmember banks constituted one-third of the total number, but they held only 5-1/2 per cent of the credit card receivables. By June of this year, they represented two-fifths of the banks, and they had raised their share of outstandings to 10 per cent. A considerable part of the growth among nonmembers occurred in 1969. In that year, they accounted for nearly two-fifths of the rise in the number of banks and for almost 10 per cent of the expansion in credit card balances. To a considerable extent, the expanded credit card activity of nonmember banks has centered in large institutions frequently located in suburban rings of metropolitan areas. Traditionally such institutions have been heavily oriented toward consumer lending, and the bank credit card was a natural extension of their regular business.

The disparity in relative size among Federal Reserve member banks and nonmember banks is also evident in the case of credit card volume. At the end of June, 1970, for banks offering credit card plans, the average amount of receivables outstanding per bank was \$2,249 thousand. For national banks, the average was \$3,268 thousand; for State member banks it was \$3,288 thousand, and for nonmembers it

was \$554 thousand. By June 30, this year, all of these averages had risen somewhat (by 10 per cent), with the average for State member banks rising slightly faster (12 per cent). The figures were: all banks offering credit cards, \$2,572 thousand; national banks, \$3,771 thousand; State member banks, \$4,011 thousand; and nonmembers, \$616 thousand.

The credit card business remains predominantly in the hands of large institutions, but the degree of concentration continues to lessen somewhat. For instance, as shown in Table 3, on June 30, 1971, there were 45 banks in the credit card business which had total deposits of \$1.0 billion or more. These same banks had total credit card receivables of \$1.7 billion. Thus, while they represented 3 per cent of all credit card banks, they held 45 per cent of the total receivables. Roughly four years earlier (September 30, 1967), there were 18 banks in the \$1.0 billion and over deposit category, with outstandings of \$405 million. So in that year, the largest group accounted for 10 per cent of the number of banks, but they held 64 per cent of total receivables. Just below the top size group are banks with total deposits between \$500 million and \$1.0 billion. On June 30, this year, the 61 banks in this size category accounted for 4 per cent of the banks, and they had 18 per cent of the credit card balances. Banks in this group improved their relative standing over the preceding four years, as their share of total balances rose (from 14 per cent) while their proportion of the total number

decreased (from 7 per cent). Banks in the \$100-500 million size bracket registered a similar improvement during the last four years. Their proportion of all credit card banks declined from 26 per cent to 16 per cent, but their share of total receivables expanded from 17 per cent to 26 per cent.

#### Geography of Credit Card Banking

As mentioned above, the geographic dimension of credit card banking changed significantly in the first half of this year. It will be recalled that banks in the Far West took the lead in the expansion of bank credit cards in the 1960's. These banks continue to have the largest amounts of such credit outstanding. In the last few years, however, banks in other regions began to close the gap at a rapid pace. For example, while banks in the Far West accounted for just under one-half of total credit card receivables in September, 1967, their proportion had decreased to slightly less than one-quarter by mid-1970. (Table 4.) Among other regions of the country, gains were most rapid in the Eastern part of the nation -- especially in New England -- and in part of the Midwest.

In the first half of this year, however, the slowdown in bank credit card growth varied considerably among different regions. In fact, the moderation was especially marked in several regions which had experienced rapid growth in the last few years. For instance,

between December 31, 1970 and June 30, this year, there was an actual shrinkage in the amount of outstanding credit card balances in four Federal Reserve Districts (Boston, Richmond, Atlanta, and St. Louis). While the use of bank credit cards shows a significant seasonal pattern, the effect of seasonal changes during the first half of the year has been seen mainly in a slower rate of expansion. The actual declines recorded in some districts this year seem to be traceable in part to the recession in the national economy.

#### Changes in Nationwide Credit Card Systems

The nationwide bank credit card systems have continued to expand. But here, also, the rate of expansion has moderated considerably. (Table 5.) Moreover, during the first half of this year, the number of card-issuing banks shrank, while the number of agency banks rose. The number of cardholder accounts declined appreciably, although the number and proportion of active accounts expanded somewhat. The average amount outstanding per active account also shrank moderately.

At the end of last June, there were 9,366 participating banks in the two major nationwide bank credit card systems (BankAmericard and Interbank). This represented a growth rate of 7 per cent in the preceding year and 3 per cent in the first half of 1971. However, between last December and June of this year, the number of card-issuing banks declined from 1,427 to 1,257, a decrease of 12 per cent. In the same period, the number of agency banks rose by 6 per cent. Apparently,

the decision of a number of card-issuing banks to cease holding receivables was related to high operating loss rates.

At the end of last June, 1,162 thousand merchants were members of the two leading credit card systems. This represented virtually no increase during the first six months of 1971. Furthermore, during the 12 months ending last June, there was an actual decline of 3 per cent in the number of participating merchants. The reason for the lag in merchant participation is not readily explained, but it may reflect the fact that many of the potential merchant candidates have already been recruited. It may also reflect the adverse impact of the recession on the national economy.

The effects of the recession undoubtedly explain a major part of the drop of nearly one-third in the number of cardholder accounts during the first half of 1971. In fact, the shrinkage apparently accelerated over the last year, for the decline in the 12 months ending last June was about 10 per cent. On the other hand, the number of active accounts continued to expand somewhat (by 3 per cent) in the January-June months of the current year. Yet, this was far short of the 18 per cent rise recorded from mid-1970 to mid-1971. The total amount of credit outstanding under the two major systems showed virtually no growth between December, 1970, and June, 1971. The average amount of credit outstanding per active account declined moderately (by 2 per cent).

Thus, it appears that the two principal nationwide bank credit card systems have also felt the adverse impact of the recession. While the outlook for a further widening -- and deepening -- of the nationwide

networks continues to appear favorable over the long run, they clearly are experiencing some hesitation in growth -- along with the rest of credit card banking.

#### Changing Pattern of Credit Card Use

Apparently, bank credit cards are continuing to substitute for other types of revolving credit. As shown in Table 6, there were \$16.9 billion of receivables outstanding under leading types of revolving credit plans at the end of last June. This amount was \$.7 billion (4 per cent) below the amount outstanding at the end of 1970. Bank credit cards accounted for about 23 per cent of the total outstanding on June 30, 1971. This proportion represented a further moderate rise in bank credit cards' share of the total. On December 31, 1970, the ratio was 21.4 per cent. In the last four years, bank credit cards have accounted for over one-half of the growth in the types of revolving credit shown in Table 6. As of December 31, 1967, they accounted for only 7 per cent of the total.

Among other types of revolving credit, oil companies have also improved their positions consistently over the last four years. Their relative share rose from 1.0 per cent in 1967 to 11.2 per cent at the end of June. The shrinkage in the share of retail charge accounts also continued during the first half of this year. The percentage represented by department store revolving credit rose somewhat. The traditional travel and entertainment cards continued to show no significant growth.

Survey of Bank Credit Card Plans, August, 1971

As indicated above, an informal survey of banks offering credit cards was undertaken during the summer of this year, with the main stress placed on the profitability of this phase of the banking business. The objective was to obtain a general impression of broad trends in the field rather than to provide a comprehensive assessment of developments based on the experiences of all banks offering credit card plans.

Moreover, it was recognized from the outset that the definition and measurement of profitability of credit card banking would pose a number of difficult issues. It was known in advance that banks vary greatly in the extent to which they identify and allocate separately and fully different cost components associated with their credit card operations. For example, some banks include indirect costs (such as overhead and cost of money employed in financing credit card receivables) as well as direct expenses (such as wages and salaries, data processing, advertising, credit charge-offs, fraud losses, etc.) in determining the amounts to be debited against gross income from their credit card plans. In general, taking all card offering banks as a group, nearly one-fifth of their direct credit card expenses consist of employee compensation; data processing represents about 5 per cent; credit charge-offs account for about one-seventh, and net fraud losses for around 3-1/2 per cent. There are



also variations among banks in the identification of income sources. On the whole, however, these appear to be less extensive than the differences in cost accounting. Again taking all card-issuing banks as a group, finance charges provide about two-thirds of total income while nearly one-quarter is generated by merchant discounts.

In an informal survey such as that undertaken last summer by the Federal Reserve Banks, no basic attack could be made on the resolution of these inherently difficult problems. However, the questions asked were sufficiently specific to obtain a great deal of uniform information on which an analysis of profitability of bank credit cards could be based. Each Reserve Bank was requested to canvass informally (preferably by telephone) a few commercial banks in its district offering credit card plans, carrying the receivables on their own books, and absorbing the credit losses. Thus, agency banks were not included in the survey. The aim was to check on the banks' experiences with the operation of their credit card plans with reference to credit charge-offs, fraud losses, and profitability (or losses). The Reserve Banks were asked to include banks in various sizes and in a variety of operating areas and to concentrate on those institutions known to have accounting and data processing systems which would allow ready retrieval of the information requested. It was suggested that a total of 54 banks be covered, the number within each district depending on the scope of credit card banking within the area. However, two Federal Reserve Banks (Cleveland and Chicago)

decided to expand the number appreciably to obtain a sample large enough to permit a separate analysis of experiences within their own districts. The net result was the receipt of 91 usable responses.

The Reserve Banks were asked to conduct the canvass during the month of August. In most Reserve Banks, the survey was carried out by economists in their Research Departments. The questions asked were:

1. Year bank started credit card program? (For banks having changed program, obtain date of original entry since which time some card program has remained continuously in effect.)
2. Total dollar amount of card credit outstanding 12/31/70?
3. Dollar amount of net charge-offs (after recoveries) in credit card accounts during calendar 1970?  
-- So far in 1971, have charge-offs continued at about the same rate (as a percentage of outstandings) as in 1970? improved? worsened?
4. Dollar amount of fraud losses included in net charge-offs (above)?  
-- So far in 1971, have fraud losses continued at about the same rate (as a percentage of outstandings) as in 1970? improved? worsened?
5. What appeared to be the major types of fraud losses encountered:  
--mail fraud; use of lost or stolen card; collusion with merchants; deliberate skips; other (please explain)? Did fraud appear to be part of a large scale "organized" crime operation?
6. Dollar amount of net profit/loss on credit card operations in 1970 (after allowance for overhead, cost of money, etc.)?  
-- So far during 1971, has profitability of plan continued at about same rate? improved? worsened?

7. During the next 12 months do you plan to:
  - (a) continue charge card plan in substantially present form?
  - (b) modify plan by: eliminating unprofitable merchant accounts; raising merchant discounts; discontinuing unprofitable customer accounts; raising customer loan limits; screening new accounts more carefully; reorganizing processing operations; other (specify)?
  - (c) discontinue card plan?
  
8. What was approximate average dollar balance in accounts with balances outstanding:
  - on June 30, 1970?
  - on June 30, 1971?(If 1971 data not available, ask if about same as mid-year 1970; larger; smaller.)

The responses to the survey have been analyzed with the assistance of several members of the Board's staff. Access to the Board's computer greatly facilitated the analysis. The results of this joint effort are presented below.

#### Summary Results of Bank Credit Card Survey

The overall results of the canvass are presented in Tables 7 through 10, indicating numbers of banks and dollar outstandings as well as net-income, charge-off, and fraud-loss rates for the banks participating in the survey. Figures are given for the total of survey banks and by Federal Reserve District and class of bank. A comparison is made between the 1970 net charge-off rates reported by the surveyed banks and charge-off rates reported by the universe of banks in the Supplement to the December, 1970, Report of Call. Finally, the effect on calculated income and charge-off rates of various possible methods of estimation is noted in Appendix A.

The numbers of banks and dollar outstandings, by Federal Reserve District, are indicated in Table 7. While the District Banks were not requested to survey the largest credit card banks, most did appear to focus on banks with substantial credit card outstandings. While only 6.4 per cent of the banks with amounts outstanding on December 31, 1970, were contacted, these banks accounted for almost 40 per cent of year-end outstandings. National, State-member, and nonmember banks were included in the sample (Table 8). However, the nonmember banks were relatively under-represented; only 2.4 per cent of the nonmember banks having credit card plans were surveyed, and these banks accounted for only 9 per cent of the nonmember bank outstandings.

For those banks reporting net income (9 banks reported "not available"), the ratio of total 1970 net income to year-end outstandings was -1.79 per cent (Table 9).<sup>6/</sup> In general, those Districts with the highest charge-off rates showed the lowest net income rates (highest loss rates). The fraud-loss rate for those reporting (one bank was unable to separate credit and fraud losses) was 0.63 per cent for the total and was relatively high in the Boston and New York Districts. Fraud loss as a percentage of charge-offs was also relatively high for these districts and averaged 20 per cent for the total.

The ratio of 1970 charge-offs to year-end outstandings for the total of member banks holding card credit was 3.39 per cent,

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<sup>6/</sup> See Appendix A attached at the end of the text tables.

while the ratio calculated for member banks in the survey was 3.19 per cent (Table 10). However, the ratio for national banks in the survey was below that for total banks in this class, while the survey ratio for State member banks exceeded that for the total of State member banks having plans. The ratio calculated for the nonmember banks in the survey was well below that for the other classes of bank in the survey.

#### Variations in Profitability of Bank Credit Cards

As one would expect, a considerable diversity of experience among banks with respect to credit cards does not show through the summary presented above. To obtain a sharper insight into the variety of such operating results the responses of the reporting banks were analyzed in somewhat greater detail. The conclusions from this examination can be presented under four headings: net profits (or losses), credit charge-offs, fraud losses, and planned adjustments in credit card programs. The figures supporting the analysis are shown in Tables 11 through 20.

Net Profit on Credit Card Plans: Only 30 per cent of the banks replying reported a net profit for 1970. (Table 11.) Almost three-fifths reported net loss rates higher than 2 per cent, while only one-sixth showed a net profit above 2 per cent. The majority of banks report an improved net profit picture so far in 1971. Three-quarters of the banks replying stated that the profit rate has risen in 1971, while only 8 per cent report a lower rate of profit.<sup>7/</sup>

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<sup>7/</sup> The statistics relating to 1970-71 changes in credit card plans have not been shown separately in the tables in order to economize on space.

The net profit rate seems to vary with the length of time a bank has a credit card plan. About 71 per cent of the banks starting plans in 1969 or 1970 report net loss rates greater than 2 per cent for 1970. In contrast, only 21 per cent of those starting in 1966 or before had net loss rates this high. Furthermore, 58 per cent of those in the latter group showed a net profit in 1970, as compared to only 17 per cent in the 1969-70 group. Of those starting in 1967 or 1968, 22 per cent showed a net profit.

On the basis of the figures summarizing the experiences of banks grouped into broad classes, the proportion of banks showing a net profit does not seem to vary with size of the credit card operation. For example, as shown in Table 12, 25-33 per cent of banks in each size-of-outstandings group reported a net profit for 1970. The largest-outstandings group did, however, contain the highest proportion (21 per cent) showing profit rates over 2 per cent. Furthermore, the proportion showing very high loss rates (above 6 per cent) tends to decline with size of outstandings, falling from about 50 to 20 per cent. The relationship between size and profitability of credit card plans is examined further below.

Net Charge-Offs and Credit Losses: About half (55 per cent) of banks replying reported net charge-off rates over 3 per cent, and only 9 per cent reported charge-offs less than 1 per cent of average outstandings. (Table 13.) Over two-fifths of the banks (42 per cent of respondents) report a worsened charge-off experience so far in 1971. A smaller proportion (37 per cent) report an improved charge-off rate. Of those starting in 1969

or 1970, 57 per cent reported a worsened charge-off rate; only 31 per cent of those starting in 1968 or before report a worsened rate.

Again, from the summary figures, a clear relationship between charge-off rate and length of time in plans is not apparent. However, those banks starting in 1966 or before do show the lowest proportion (27 per cent) with charge-off rates over 3 per cent. The few banks starting in 1970 and showing charge-off rates under 1 per cent probably either did not have a chance to charge off or had not yet formulated a charge-off policy. Nor does there appear to be a systematic (gross) relationship between size of credit card outstandings and the charge-off rate. (Table 14.)

Nearly three-fifths of the banks replying had a ratio of net credit losses (net charge-offs minus fraud losses) between 2 and 5 per cent. Roughly 18 per cent had credit-loss rates over 5 per cent. Of those starting plans in 1966 or before, only 17 per cent had credit-loss rates over 3 per cent. (Table 15.)

Fraud Losses: The majority (72 per cent) of banks replying reported positive fraud losses less than 1 per cent of average outstandings for 1970. About 11 per cent reported no fraud losses for 1970, while 17 per cent had fraud-loss rates over 1 per cent (Table 16). Only a slightly greater proportion (38 per cent) of respondents report an improved fraud-loss rate so far in 1971 than report a worsened rate (35 per cent). The fraud-loss rate seems to vary somewhat with length

of time in plans (leaving aside the few banks starting in 1970). For those starting in 1966 or before, only 17 per cent had fraud-loss rates over 0.4 per cent and 3.5 per cent had rates over 1 per cent. By contrast, 31 per cent of those starting in 1969 had fraud-loss rates over 1 per cent and 59 per cent had rates over 0.4 per cent.

"Lost or stolen cards" was the most common type of fraud loss among the banks surveyed, being mentioned by 91 per cent of respondents. "Mail fraud" was mentioned by 36 per cent of the banks, while "collusion with merchants" was mentioned by only 8 per cent. (Table 17.) The distribution of types of fraud loss mentioned varies with the seriousness of fraud losses. While "lost or stolen cards" was cited by all respondents with fraud-loss rates under 0.20 per cent, the proportion mentioning this type declined to 73 per cent for the group with fraud-loss rates over 1 per cent. The proportion of banks mentioning mail fraud rose steadily with the fraud-loss rate, from one-quarter in the less-than-0.2 per cent group to two-thirds for those with rates over 1 per cent. The majority (88 per cent) of respondents did not view fraud as part of a large-scale "organized" crime operation. However, the proportion viewing fraud as part of such an operation did rise with the severity of fraud loss -- from 4 per cent to 27 per cent. (Table 18.)

Adjustments in Credit Card Programs: About half (51 per cent) of the respondent banks expressed the intention to continue their credit card programs in substantially the same form over the following year. Just under half (47 per cent) plan to modify their programs while only 2 per cent



intend to discontinue their card plans. (Table 19.) Plans for credit card programs vary with the past profitability of programs. Among those with very high net loss rates in 1970 (over 6 per cent), nearly three-fifths expressed the intention to modify card plans. This group also contained the two banks planning to discontinue card programs. Of the banks showing a net profit in 1970, only 28 per cent expressed an intention to modify.

The pattern of intentions by 1970 charge-off rate is similar to that by net profit rate. For example, for banks with charge-off rates less than 2 per cent, only 12 per cent planned to modify; for those with charge-off rates over 4 per cent, well over half planned to make modifications. Among those expressing the intention to modify their card programs, four-fifths plan to screen new accounts more carefully and two-thirds plan to eliminate unprofitable merchant accounts. Plans to discontinue unprofitable customer accounts and to raise customer loan limits were each mentioned by half of those intending to modify. The lists of planned modification reported by those intending to modify do not appear to vary systematically with the net profit or charge-off rates of the banks concerned. (Tables 19 and 20.)

#### Statistical Analysis of Credit Card Profitability

As indicated above, several important factors affecting variations in credit card profitability are obscured when the analysis rests on summary figures alone. To explore these relationships more fully,

the profitability of bank credit card plans has been studied by means of statistical analysis of the survey data. We wanted to identify the net effects that several factors had upon profits. For this purpose, use was made of computer-based econometric techniques which are explained in Appendix B, which also contains a table showing the estimates obtained on the basis of regression analysis.

We particularly wanted to obtain estimates of the average net profit rates for various combinations of three important characteristics of credit card plans: size, rate of growth, and length of time in existence. Several major points stand out from this part of the analysis:

- We find that, on the average, the longer a bank has had a credit card plan the greater is its net profit rate. Such a result is what we would expect, since high start-up costs depress the profit picture in the early years of the plan. Furthermore, banks would be expected to reduce losses and eliminate bad accounts as the plan matured.
- The smallest plans appear, in general, to be the most profitable. The estimated profit rate for plans with total credit card outstandings of less than \$1 million is more than 4-1/2 percentage points greater than for ones with outstandings over \$1 million. This is possibly caused by the fact that in smaller trade areas, the banks are better able to eliminate improper use of their cards. Furthermore, we find no evidence that economies of scale are effective in improving profits. The category of the largest plans has the smallest estimated profit rate. It would appear that the larger plans are not able to control credit quality as well as small ones.

- We found that the estimated average profit rate was lowest for plans that had experienced extremely low (or negative) growth rates. Those plans that had an annual rate of growth of between 20 per cent and 40 per cent seemingly fared the best, and as the growth rate became larger, profitability declined. Those plans that more than doubled in size had estimated profit rates of two percentage points less than the 20 per cent to 40 per cent group. It may be that extremely rapid growth is sometimes accompanied by declines in credit quality or perhaps by higher average costs.

The results of statistical analysis of net fraud and credit losses were mixed and are not presented in detail here. Several points did, however, stand out:

- Aside from banks starting their plans in 1970, both the credit-loss and fraud-loss rates generally tended to improve with the length of time that the plan had been in existence. The banks with plans starting in 1970 had not had enough time for many charge-offs to occur. The estimated value of the credit-loss rate for plans started in 1969 was about three percentage points higher than that for banks beginning in 1966 or before. The corresponding difference in the fraud-loss rate was about one-half of a percentage point. Presumably, with time and experience, banks are able to eliminate bad cardholder and merchant accounts, take more care in the distribution of cards, etc.
- Plans of banks located in metropolitan areas had, on the average, higher fraud-loss rates than those outside of SMSA's. The estimated rate was about one-half of a percentage point higher for banks located in these major metropolitan areas. This may be because the degree of personal contact among the banker, the merchant and the cardholder is higher in less urbanized areas.

Table 1. Credit Card Plans by Class of Bank

(Amounts in millions of dollars)

	All banks		National banks		State member banks		Nonmember banks	
	Number having plans	Amount outstanding	Number having plans	Amount outstanding	Number having plans	Amount outstanding	Number having plans	Amount outstanding
September 30, 1967 <sup>1/</sup>	197	633	119	496	34	100	44	37
December 30, 1967 <sup>2/</sup>	390	828	187	636	50	145	153	47
June 30, 1968 <sup>2/</sup>	416	953	219	731	64	170	133	52
December 31, 1968 <sup>2/</sup>	510	1,312	272	1,019	65	210	173	83
June 30, 1969 <sup>2/</sup>	699	1,705	359	1,317	93	275	247	113
December 31, 1969 <sup>2/</sup>	1,207	2,639	618	1,960	155	470	434	209
June 30, 1970 <sup>2/</sup>	1,355	3,048	675	2,206	170	559	510	283
December 31, 1970 <sup>2/</sup>	1,432	3,792	704	2,727	175	709	553	356
June 30, 1971 <sup>2/</sup>	1,514	3,895	745	2,810	180	722	589	363

<sup>1/</sup> Federal Reserve Study, Bank Credit-Card and Check-Credit Plans, July 1968.

<sup>2/</sup> Federal Deposit Insurance Corporation, Report of Call.

Table 2. Credit Card and Check Credit Plans: Commercial Banks  
(Amounts in millions of dollars)

	Credit card plans		Check credit plans	
	Number having plans	Amount outstanding	Number having plans	Amount outstanding
September 30, 1967 <sup>1/</sup>	197	633	599	483
December 30, 1967 <sup>2/</sup>	390	828	732	522
June 30, 1968 <sup>2/</sup>	416	953	840	646
December 31, 1968 <sup>2/</sup>	510	1,312	975	798
June 30, 1969 <sup>2/</sup>	699	1,705	1,061	993
December 31, 1969 <sup>2/</sup>	1,207	2,639	1,128	1,081
June 30, 1970 <sup>2/</sup>	1,355	3,048	1,186	1,180
December 31, 1970 <sup>2/</sup>	1,432	3,792	1,228	1,336
June 30, 1971 <sup>2/</sup>	1,514	3,895	1,282	1,359

<sup>1/</sup> Federal Reserve study, Bank Credit-Card and Check-Credit Plans, July 1968.  
<sup>2/</sup> Federal Deposit Insurance Corporation, Report of Call.

Table 3. Credit Card Plans by Size of Bank

(Amounts in millions of dollars)

Size of Bank (Total deposits, in millions of dollars)	September 30, 1967 <sup>1/</sup>		December 31, 1968 <sup>2/</sup>		December 31, 1969 <sup>2/</sup>		June 30, 1970 <sup>2/</sup>		December 31, 1970 <sup>2/</sup>		June 30, 1971 <sup>2/</sup>	
	Number	Amount Outstanding	Number	Amount Outstanding	Number	Amount Outstanding	Number	Amount Outstanding	Number	Amount Outstanding	Number	Amount Outstanding
Under 5	2	(3/)	29	1.2	56	1.2	86	2.9	74	3.1	79	3.1
5-10	25	1.1	58	2.6	157	7.7	176	9.7	171	12.8	176	12.3
10-25	34	7.8	123	15.7	331	42.2	376	59.1	389	73.3	409	59.9
25-50	27	5.6	80	22.0	227	75.3	246	113.3	271	132.0	300	122.3
50-100	26	17.8	67	48.5	153	134.2	170	170.7	190	216.8	199	222.1
100-500	52	104.5	109	267.5	209	709.2	226	854.1	241	1,045.5	245	1,031.4
500-1,000	13	91.2	19	152.7	41	460.8	43	565.5	52	612.4	61	693.9
1,000 and over	18	404.9	25	801.3	33	1,208.1	32	1,273.0	44	1,695.7	45	1,738.8
All size groups	197	\$633.0	510	\$1,311.5	1,207	\$2,638.7	1,355	\$3,048.3	1,432	\$3,791.6	1,514	\$2,894.8

<sup>1/</sup> Federal Reserve Study, Bank Credit-Card and Check-Credit Plans, July 1968.<sup>2/</sup> Federal Deposit Insurance Corporation, Report of Call.<sup>3/</sup> Less than \$50,000.

Table 4. Bank Credit Card Plans by Federal Reserve District  
All Commercial Banks  
(Amounts in millions of dollars)

Federal Reserve District	Sept. 30, 1967 <sup>1/</sup>		Dec. 31, 1967 <sup>2/</sup>		June 30, 1968 <sup>2/</sup>		Dec. 31, 1968 <sup>2/</sup>		June 30, 1969 <sup>2/</sup>		Dec. 31, 1969 <sup>2/</sup>		June 30, 1970 <sup>2/</sup>		Dec. 31, 1970 <sup>2/</sup>		June 30, 1971 <sup>2/</sup>	
	Number with plans	Amount out-standing	Number with plans	Amount out-standing	Number with plans	Amount out-standing	Number with plans	Amount out-standing	Number with plans	Amount out-standing	Number with plans	Amount out-standing	Number with plans	Amount out-standing	Number with plans	Amount out-standing	Number with plans	Amount out-standing
Boston	14	21.8	16	27.9	20	36.9	21	57.5	29	74.3	155	133.4	163	186.9	172	236.2	173	330.0
New York	16	64.8	23	109.5	27	120.4	20	155.3	35	270.5	60	438.1	76	521.9	81	654.1	84	669.7
Philadelphia	6	12.3	10	11.2	12	14.0	9	25.4	9	22.3	12	26.4	26	41.0	32	63.0	34	74.4
Cleveland	6	26.9	14	31.2	26	36.1	48	63.7	71	83.1	186	176.1	222	233.9	230	309.0	233	318.3
Richmond	5	28.2	13	38.9	15	47.4	28	92.7	70	160.2	75	319.0	75	362.2	76	391.9	81	378.3
Atlanta	20	30.6	43	40.0	39	48.9	53	99.5	111	163.2	243	301.4	267	362.8	273	438.5	293	437.1
Chicago	35	126.2	86	153.2	92	153.0	107	181.6	124	189.6	152	246.6	168	267.6	197	350.8	225	359.8
St. Louis	10	12.3	36	22.2	39	26.2	57	52.8	62	66.5	69	91.6	74	99.9	73	121.6	76	117.3
Minneapolis	5	.1	25	1.8	24	1.4	11	1.0	8	3.7	11	7.3	15	8.6	16	10.1	26	13.5
Kansas City	6	6.4	19	10.2	15	12.3	19	32.5	32	58.1	75	123.8	90	141.3	94	206.6	97	215.6
Dallas	7	8.1	22	12.4	21	21.0	22	18.9	26	36.6	37	81.5	43	106.2	50	170.4	56	187.2
San Francisco	67	295.3	83	369.9	86	435.3	115	530.6	122	576.9	132	693.5	136	716.0	138	839.4	136	893.6
All districts	197	633.0	390	828.4	416	952.9	510	1311.5	699	1705.0	1207	2638.7	1355	3048.3	1432	3791.6	1514	3894.8

1/ Federal Reserve Study, Bank Credit-Card and Check-Credit Plans, July 1968.

2/ Federal Deposit Insurance Corporation, Report of Call.

Table 5.

## National Credit Card Systems\*

	June 30 1969	June 30 1970	Dec. 31 1970	June 30 1971	Percentage Change			
					6/30/69 to 6/30/70	6/30/70 to 6/30/71	12/30/70 to 6/30/71	6/30/69 to 6/30/71
Number of participating banks	6,135	8,782	9,111	9,366	+43	+ 7	+3	+53
Number of card-issuing banks	685	N.A.	1,427	1,257	N.A.	N.A.	-12	+84
Number of agency banks	5,450	N.A.	7,684	8,109	N.A.	N.A.	+ 6	+49
Number of merchant members(000)	900	1,198	1,137	1,162	+33	- 3	+ 2	+29
Number of cardholder accounts	33.0 M	36.8 M	47.6 M	33.0 M	+11.5	-10	-31	0
Number of active accounts	8.6 M	13.3 M	15.3 M	15.7 M	+55	+18	+ 3	+83
Per cent of total accounts	20	36	32	48	--	--	--	--
Amount of outstanding credit	1,560 M	N.A.	3,550 M	3,560 M	N.A.	N.A.	*	+128
Average amount outstanding per active account	\$182	N.A.	\$232	\$227	N.A.	N.A.	- 2	+25

\*BankAmericard and Interbank System.

N.A. - Not Available.

M - Million.

\*Less than 0.5 per cent.



Table 6.

Revolving Credit Plans  
Amounts Outstanding - Billions of Dollars

	<u>Dec. 31</u> <u>1967</u>	<u>June 30</u> <u>1968</u>	<u>Dec. 31</u> <u>1968</u>	<u>June 30</u> <u>1969</u>	<u>Dec. 31</u> <u>1969</u>	<u>June 30</u> <u>1970</u>	<u>Dec. 31</u> <u>1970</u>	<u>June 30</u> <u>1971</u>
Bank credit cards <sup>1/</sup>	0.8	1.0	1.3	1.7	2.6	3.0	3.8	3.9
Retail charge accounts	5.9	5.3	6.5	5.6	6.7	5.8	6.9	6.2
Dept. store revolving credit	3.5	3.6	3.7	3.8	4.2	4.0	4.6	4.5
Oil companies <sup>2/</sup>	1.0	1.0	1.2	1.3	1.5	1.6	1.8	1.9
Travel and entertainment <sup>2/</sup>	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
All other	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.3
TOTAL	11.5	11.2	13.0	12.7	15.3	14.8	17.6	16.9

1/ Excludes check credit plans.

2/ Consumer portion only.

Table 7.

SURVEY OF BANK CREDIT CARD PLANS  
August, 1971  
NUMBER OF BANKS AND AMOUNT OUTSTANDING, BY FEDERAL RESERVE DISTRICT  
(Amounts in Millions of Dollars)

FEDERAL RESERVE DISTRICT	<u>ALL COMMERCIAL BANKS<sup>1/</sup></u>		<u>SURVEY BANKS</u>		<u>SURVEY AS PERCENT OF TOTAL</u>	
	Number With Plans 12/31/70	Amount Outstanding 12/31/70	Number With Plans 12/31/70	Amount Outstanding 12/31/70	Number With Plans 12/31/70	Amount Outstanding 12/31/70
Boston	172	236.2	11	111.0	6.4	47.0
New York	81	654.1	4	191.9	5.0	29.3
Philadelphia	32	63.0	3	28.8	9.4	45.8
Cleveland	230	309.0	16	100.5	7.0	32.5
Richmond	76	391.9	4	34.6	5.3	8.8
Atlanta	273	438.5	7	70.5	2.6	16.1
Chicago	197	350.8	28	326.9	14.2	93.2
St. Louis	73	121.6	3	43.8	4.1	36.0
Minneapolis	16	10.1	1	8.2	6.3	81.2
Kansas City	94	206.6	3	16.3	3.2	7.9
Dallas	50	170.4	3	67.5	6.0	39.6
San Francisco	138	839.4	8	501.0	5.8	60.6
ALL DISTRICTS	1,432	3,791.6	91	1,501.0	6.4	39.6

Table 8.

SURVEY OF BANK CREDIT CARD PLANS  
August, 1971  
NUMBER OF BANKS AND AMOUNT OUTSTANDING BY CLASS OF BANK  
(Amounts in Millions of Dollars)

CLASS OF BANK	<u>TOTAL BANKS IN CLASS</u> <sup>1/</sup>		<u>SURVEY BANKS</u>		<u>SURVEY AS PERCENT OF TOTAL</u>	
	Number With Plans 12/31/70	Amount Outstanding 12/31/70	Number With Plans 12/31/70	Amount Outstanding 12/31/70	Number With Plans 12/31/70	Amount Outstanding 12/31/70
National Banks	704	2,727	55	1,131	7.8	41.5
State Member Banks	175	709	23	338	13.1	47.7
Nonmember Banks	553	356	13	32	2.4	8.9
<b>TOTAL BANKS</b>	<b>1,432</b>	<b>3,792</b>	<b>91</b>	<b>1,501</b>	<b>6.4</b>	<b>39.6</b>

<sup>1/</sup> Federal Deposit Insurance Corporation, Report of Call, December 31, 1970.

Table 9.

SURVEY OF BANK CREDIT CARD PLANS  
August, 1971  
NET INCOME, NET CHARGE-OFF, AND FRAUD-LOSS  
BY FEDERAL RESERVE DISTRICT

FEDERAL RESERVE DISTRICT	<u>1970 NET INCOME</u>		<u>1970 NET CHARGE-OFFS</u>		<u>1970 FRAUD LOSSES</u>		<u>FRAUD LOSSES AS PER CENT OF CHARGE-OFFS</u>	
	Number Reporting	As Percent Of Outstandings 12/31/70	Number Reporting	As Percent Of Outstandings 12/31/70	Number Reporting	As Percent Of Outstandings 12/31/70	Number Reporting	In Per Cent
Boston	11	-5.31	11	3.55	11	1.16	11	32.6
New York	4	-7.80	4	5.06	4	1.52	4	30.1
Philadelphia	3	-1.04	3	1.74	3	0.19	3	11.1
Cleveland	14	-3.42	16	3.03	16	0.41	16	13.5
Richmond	4	-15.36	4	10.48	4	0.29	4	2.7
Atlanta	6	5.00	7	2.56	7	0.17	7	6.7
Chicago	23	-2.19	28	2.15	28	0.27	28	12.3
St. Louis	3	-1.64	3	3.22	3	0.26	3	8.1
Minneapolis	1	-5.41	1	4.27	1	0.20	1	4.7
Kansas City	2	-3.28	3	2.80	3	0.51	3	15.3
Dallas	3	-0.76	3	2.67	2	0.25	2	18.3
San Francisco	8	1.64	8	2.79	8	0.65	8	23.1
<b>ALL DISTRICTS</b>	82	-1.79	91	3.17	90	0.63	90	20.0

Table 10.

COMPARISON OF CHARGE-OFF RATES  
August, 1971  
ALL BANKS AND SURVEY BANKS WITH CREDIT CARD PLANS  
BY CLASS OF BANK

CLASS OF BANK	TOTAL BANKS IN CLASS <sup>1/</sup>		AUGUST, 1971, SURVEY BANKS	
	Number With Plans	1970 Net Charge-Offs As Per Cent of Out- standings 12/31/70	Number With Plans	1970 Net Charge-Offs As Per Cent of Out- standings 12/31/70
National Banks	704	3.72	55	3.09
State Member Banks	175	2.17	23	3.56
All Member Banks	879	3.39	78	3.19
Nonmember Banks	553	N.A.	13	2.19

<sup>1/</sup> Special supplement to December 31, 1970 Report of Call. Charge-off data not collected from nonmember banks.

N.A. = Not Available.

Table 11.

NET PROFIT RATE ON BANK CREDIT CARDS  
BY YEAR PLAN WAS STARTED

1970 Net Profit Rate <sup>1/</sup>	Total		Year Plan Started <sup>2/</sup>					
	Number	Per Cent	1966 and before		1967 - 1968		1969 - 1970	
			Number	Per Cent	Number	Per Cent	Number	Per Cent
2.00 and Over	14	17.1	8	33.3	2	8.7	4	11.4
0.00 to 1.99	11	13.4	6	25.0	3	13.0	2	5.7
-0.01 to -2.00	9	11.0	5	20.8	--	--	4	11.4
-2.01 to -6.00	17	20.7	2	8.4	8	34.8	7	20.0
-6.01 and Over	31	37.8	3	12.5	10	43.5	18	51.5
Total	82	100.0	24	100.0	23	100.0	35	100.0

<sup>1/</sup> 1970 Profits (Net of Overhead, Cost of Money, etc.) as a per cent of average outstandings.

<sup>2/</sup> Date from which some card program has remained continuously in effect.

Table 12.

NET PROFIT RATE ON BANK CREDIT CARDS  
BY SIZE OF CREDIT CARD OUTSTANDINGS

1970 Net Profit Rate (per cent) <sup>1/</sup>	Size of Outstandings (dollar) <sup>2/</sup>									
	Total		Under 1,000,000		1,000,000 to 4,999,999		5,000,000 to 9,999,999		10,000,000 and over	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
2.00 and Over	14	17.1	3	15.8	4	16.7	2	13.3	5	20.8
0.00 to 1.99	11	13.4	3	15.8	2	8.3	3	20.0	3	12.5
-0.01 to -2.00	9	11.0	2	10.5	1	4.2	1	6.7	5	20.8
-2.01 to -6.00	17	20.7	2	10.5	5	20.8	4	26.7	6	25.0
-6.01 and Over	31	37.8	9	47.4	12	50.0	5	33.3	5	20.8
Total	82	100.0	19	100.0	24	100.0	15	100.0	24	100.0

<sup>1/</sup> See Table 11, n. 1.<sup>2/</sup> Average outstandings, 1970.

Table 13.

CHARGE-OFF RATE ON BANK CREDIT CARDS  
BY YEAR PLAN WAS STARTED

1970 Charge-off <sup>1/</sup> Rate (per cent)	Year Plan Started <sup>2/</sup>									
	Total		1966 and Before		1967 - 1968		1969		1970	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Less than 1.00	8	8.8	2	6.9	--	---	3	9.1	3	50.0
1.00 to 1.99	9	9.9	6	20.7	1	4.4	2	6.1	--	---
2.00 to 2.99	23	26.4	13	44.8	4	17.4	5	15.2	1	16.7
3.00 to 4.99	27	28.5	6	20.7	12	52.2	9	27.2	--	---
5.00 and over	24	26.4	2	6.9	6	26.0	14	42.4	2	33.3
TOTAL	91	100.0	29	100.0	23	100.0	33	100.0	6	100.0

<sup>1/</sup> 1970 charge-offs (net of recoveries) as a per cent of average outstandings.

<sup>2/</sup> Date from which some card program has remained continuously in effect.



Table 14.

CHARGE-OFF RATE ON BANK CREDIT CARDS  
BY SIZE OF CREDIT CARD OUTSTANDINGS

Charge-off <sup>1/</sup> Rate	Total		Size of Outstandings (dollar) <sup>2/</sup>							
			Under 1,000,000		1,000,000 to 4,999,999		5,000,000 to 9,999,999		10,000,000 and over	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Less than 1.00	8	8.8	6	26.1	1	3.7	1	7.1	--	---
1.00 to 1.99	9	9.9	1	4.3	3	11.1	1	7.1	4	14.8
2.00 to 2.99	23	25.2	5	21.7	9	33.3	1	7.1	8	29.6
3.00 to 4.99	27	29.7	4	17.4	6	22.2	8	57.2	9	33.3
5.00 and over	24	26.4	7	30.4	8	29.6	3	21.5	6	22.2
TOTAL	91	100.0	23	100.0	27	100.0	14	100.0	27	100.0

<sup>1/</sup> See Table 13, n. 1.

<sup>2/</sup> Average Outstandings, 1970.

Table 15.

CREDIT-LOSS RATE ON BANK CREDIT CARDS  
BY YEAR PLAN WAS STARTED

1970 Credit-Loss <sup>1/</sup> Rate (per cent)	Total		Year Plan Started <sup>2/</sup>							
	Number	Per Cent	1966 and before		1967 - 1968		1969		1970	
			Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Less than 1.00	12	13.3	4	13.8	--	---	5	15.6	3	50.0
1.00 to 1.99	12	13.3	7	24.1	3	13.1	2	6.3	--	---
2.00 to 2.99	29	32.2	13	44.8	7	30.4	8	25.0	1	16.7
3.00 to 4.99	21	23.4	4	13.8	9	39.1	7	21.9	1	16.7
5.00 and over	16	17.8	1	3.5	4	17.4	10	31.2	1	16.7
<b>TOTAL</b>	<b>90</b>	<b>100.0</b>	<b>29</b>	<b>100.0</b>	<b>23</b>	<b>100.0</b>	<b>32</b>	<b>100.0</b>	<b>6</b>	<b>100.0</b>

<sup>1/</sup> 1970 Net credit losses (net charge-offs minus net fraud losses) as a per cent of average outstandings.

<sup>2/</sup> Date from which some card program has remained continuously in effect.

Table 16.

FRAUD-LOSS RATE ON BANK CREDIT CARDS  
BY YEAR PLAN WAS STARTED

1970 Fraud-loss <sup>1/</sup> Rate (per cent)	Total		Year Plan Started <sup>2/</sup>							
	Number	Per Cent	1966 and before		1967 - 1968		1969		1970	
			Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
0.00	10	11.1	1	3.5	3	13.0	3	9.4	3	50.0
0.01 to 0.19	17	18.9	8	27.6	3	13.0	5	15.6	1	16.7
0.20 to 0.39	26	28.9	15	51.7	6	26.1	5	15.6	--	---
0.40 to 0.99	22	24.4	4	13.7	9	39.1	9	28.2	--	---
1.00 and over	15	16.7	1	3.5	2	8.8	10	31.2	2	33.3
TOTAL	90	100.0	29	100.0	23	100.0	32	100.0	6	100.0

<sup>1/</sup> 1970 net fraud losses as a per cent of average outstandings.

<sup>2/</sup> Date from which some card program has remained continuously in effect.

Table 17.

MAJOR TYPES OF FRAUD ENCOUNTERED  
BY FRAUD-LOSS RATE

	1970 Fraud-Loss Rate <sup>2/</sup>									
	Total <sup>1/</sup>		Less than 0.20		0.20 to 0.39		0.40 to 0.99		1.00 and over	
Number of Respondents <sup>3/</sup>	85		22		25		22		15	
Type of Fraud Mentioned	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Mail Fraud	31	36.5	5	22.7	8	32.0	8	36.4	10	66.7
Lost or Stolen Card	77	90.6	22	100.0	24	96.0	20	90.9	11	73.3
Collusion with Merchant	7	8.2	2	9.1	--	---	1	4.5	4	26.7
Deliberate Skips	11	12.9	5	22.7	2	8.0	2	9.1	2	13.3

<sup>1/</sup> Sum of the number reporting by fraud-loss rate does not equal total since not all indicating types of fraud indicated fraud-loss rate.

<sup>2/</sup> See Table 16, n. 1.

<sup>3/</sup> In each column, the sum of the types of fraud mentioned exceeds the number of respondents since more than one type of fraud could be reported.

Table 18.

APPEARANCE OF FRAUD AS "ORGANIZED" CRIME OPERATION  
BY FRAUD-LOSS RATE

Appearance of Crime as "Organized" Crime Operation <sup>1/</sup>	Total		1970 Fraud-Loss Rate <sup>2/</sup>							
			Less Than 0.20		0.20 to 0.39		0.40 to 0.99		1.00 and over	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
YES	11	12.2	1	3.7	2	6.3	4	18.0	4	26.7
NO	79	87.8	26	96.3	24	93.7	18	82.0	11	73.3
TOTAL	90	100.0	27	100.0	26	100.0	22	100.0	15	100.0

<sup>1/</sup> Banks were asked whether fraud losses in 1970-71 appeared to be part of a large-scale "organized" crime operation.

<sup>2/</sup> See Table 16, n. 1.

Table 19.

PLANS FOR BANK CREDIT CARD PROGRAM  
BY NET PROFIT RATE

Plans During Next 12 Months	Total <sup>1/</sup>		1970 Net Profit Rate						
			-6.00 and Over		-6.00 to -0.01		0.00 and over		
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	
Continue in Substantially Same Form	46	51.1	11	35.5	13	50.0	18	72.0	
Discontinue Card Plan	2	2.2	2	6.5	--	--	--	--	
Modify Plan	42	46.7	18	58.1	13	50.0	7	28.0	
<b>Total</b>	<b>90</b>	<b>100.0</b>	<b>31</b>	<b>100.0</b>	<b>26</b>	<b>100.0</b>	<b>25</b>	<b>100.0</b>	
<hr/>									
Banks Modifying Plan <sup>2/</sup>	Eliminate Unprofitable Merchant Accts.	23	63.9	6	50.0	12	92.3	2	22.2
	Raise Merchant Discounts	16	44.4	7	58.3	5	38.5	3	33.3
	Discontinue Unprofitable Customer Accts.	18	50.0	4	33.3	11	84.6	1	11.1
	Raise Customer Loan Limits	18	50.0	5	41.7	8	61.5	4	44.4
	Screen New Accts. More Carefully	29	80.6	7	58.3	12	92.3	5	55.5
	Reorganize Pro- cessing Opers.	21	58.3	5	41.7	10	76.9	5	55.5
	Other	12	33.3	1	8.3	6	46.2	6	66.6

<sup>1/</sup> Sum of the number reporting by profit rate does not equal the total since not all reporting plans indicated profit rate.

<sup>2/</sup> In each column, the sum of the indicated modifications exceeds the number of respondents indicating the intention to modify since multiple modifications were possible.

Table 20.

PLANS FOR BANK CREDIT CARD PROGRAM  
BY CHARGE-OFF RATE

Plans During Next 12 Months	Total		1970 Charge-off Rate						
			Less Than 2.00		2.00 to 3.99		4.00 and over		
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	
Continue in Substantially Same Form	46	51.1	14	88.2	17	47.2	15	39.5	
Discontinue Card Plan	2	2.2	--	--	--	--	2	5.3	
Modify Plan	42	46.7	2	11.8	19	52.8	21	55.3	
Total	90	100.0	16	100.0	36	100.0	38	100.0	
Banks Modifying Plan <sup>1/</sup>	Eliminate Unprofitable Merchant Accts.	23	63.9	9	75.0	6	54.5	8	61.5
	Raise Merchant Discounts	16	44.4	4	33.3	5	45.5	7	53.8
	Discontinue Unprofitable Customer Accts.	18	50.0	4	33.3	8	72.7	6	46.2
	Raise Customer Loan Limits	18	50.0	3	25.0	8	72.7	7	53.8
	Screen New Accts. More Carefully	29	80.6	7	58.3	11	100.0	11	84.6
	Reorganize Pro- cessing Opers.	21	58.3	8	66.7	9	81.8	4	30.8
	Other	12	33.3	4	33.3	5	45.5	3	23.1

<sup>1/</sup> See Table 19, n. 2.

Appendix A: Net Income, Charge-Off and Fraud-Loss Rates  
For All Survey Banks, Under Various Methods of Calculation

For analysis of relative (across types of banks, alternative uses of funds, etc.) profitability, charge-offs, etc., the flow for a period should be expressed as a percentage of average outstandings for the period. Total year-end credit card outstandings will exceed average outstandings for two reasons: (1) most plans grew substantially during 1970, (2) net of trend, year-end outstandings are high relative to other months due to seasonal factors (Christmas usage). Furthermore, the degree of understatement of average outstandings through use of the year-end figure will presumably vary across banks classified by, e.g., length of time in plans, since those recently starting generally show the highest growth rates. In an attempt to minimize these difficulties, two procedures may be employed for those banks starting before 1970: (1) avoid the trend problem by averaging Call Report figures for December 31, 1969, June 30, 1970, and December 31, 1970; (2) avoid the seasonal problem by averaging seasonally-adjusted figures for these three dates (seasonal factors based upon the monthly credit-card series). For purposes of comparability, partial-year flows for banks starting in 1970 should be converted to annual rates and expressed as a percentage of average (unadjusted or adjusted) outstandings for the period of operation. These procedures have been applied to the flows and outstandings of the survey banks, and the resulting differences in net-income, charge-off, and fraud-loss rates are shown in the following table. Use of an average of unadjusted outstandings for the three points raises substantially the absolute value of each ratio, while inclusion of the seasonal adjustment further raises the ratios.

<u>Method of Calculation</u>	<u>1970 Net Income Rate</u>	<u>1970 Charge-off Rate</u>	<u>1970 Fraud-Loss Rate</u>
1970 flow as a per cent of outstandings at 12/31/70 *	-1.79	3.17	0.63
1970 flow as a per cent of the average of unadjusted outstandings for 12/31/69, 6/30/70, 12/31/70**	-2.12	3.79	0.75
1970 flow as a per cent of the average of seasonally-adjusted outstandings for 12/31/69, 6/30/70, 12/31/70**	-2.20	3.92	0.78

\*For those banks starting plans during 1970, the partial-year flow was used as reported.

\*\*For those banks starting plans during 1970, flows were converted to annual rates and average outstandings for the period of operation were approximated

as December 31, 1970 outstandings (unadjusted or adjusted) ÷ 2.



Appendix B

Estimates of Average Net Profit Rates<sup>1/</sup> (Stated as Percentages) for Bank Credit Card Plans by Year Plan Started, Size of Outstandings, and Rate of Growth

Credit-card Outstandings <sup>3/</sup> (In millions of dollars)	Year Plan Started <sup>2/</sup>			
	1966 or before	1967-1968	1969	1970
	Growth Rate <sup>4/</sup> Less Than 20%			
Under 1.0	3.79	-1.77	- 7.09	
1.0 - 5.0	-0.84	-6.40	-11.72	
5.0 - 10.0	-1.13	-6.69	-12.01	
Over 10.0	-2.11	-7.67	-12.99	
	Growth Rate 20% - 40%			
Under 1.0	7.75	2.19	- 3.13	
1.0 - 5.0	3.12	-2.44	- 7.76	
5.0 - 10.0	2.83	-2.73	- 8.05	
Over 10.0	1.85	-3.71	- 9.03	
	Growth Rate 40% - 100%			
Under 1.0	7.37	1.81	- 3.51	
1.0 - 5.0	2.74	-2.82	- 8.14	
5.0 - 10.0	2.45	-3.11	- 8.43	
Over 10.0	1.47	-4.09	- 9.41	
	Growth Rate Over 100%			
Under 1.0	5.63	0.07	- 5.25	-10.56
1.0 - 5.0	1.00	-4.56	- 9.88	-15.19
5.0 - 10.0	0.71	-4.85	-10.17	-15.48
Over 10.0	-0.27	-5.83	-11.15	-16.46

<sup>1/</sup> A bank's net profit rate was calculated as 1970 profits (net of overhead, cost of money, etc.) divided by average outstandings.

<sup>2/</sup> Date from which some card program has remained continuously in effect.

<sup>3/</sup> Average of seasonally-adjusted levels of outstandings on 12/31/69, 6/30/70, 12/31/70.

<sup>4/</sup> Percent change in credit-card outstandings from 12/31/69 to 12/31/70. All banks with plans starting in 1970 were placed in the highest growth-rate class.

**Technical Note** The estimates in this table were obtained from an estimating equation of the form  $P = b_0 + b_1 Y_1 + b_2 Y_2 + b_3 Y_3 + b_4 C_1 + b_5 C_2 + b_6 C_3 + b_7 C^*_1 + b_8 C^*_2 + b_9 C^*_3$ , where  $P$  = calculated net profit rate,  $Y_i = i^{th}$  dummy variable for year plan started,  $C_i = i^{th}$  dummy variable for credit-card outstandings category,  $C^*_i =$  per cent change in  $C_i$ , and  $b_i =$  regression coefficient obtained by ordinary least squares. Each characteristic is represented by a set of three variables, since the estimation method requires that one group be omitted from each class. The omitted groups are accounted for by the intercept,  $b_0$ , and the remaining coefficients represent deviations from the intercept. The use of dummy variables avoided the restrictive assumption of linearity. While the use of interaction terms would be likely to strengthen the results, the size of the sample made this impossible.